XXIII. International Balkan and Near Eastern Congress Series on Economics, Business and Management

Plovdiv / Bulgaria

March 15-16, 2025

University of Agribusiness and Rural Development/Bulgaria

University "St. Kliment Ohridski" Faculty of Economics/Republic of North Macedonia

University “Isa Boletini”- Mitrovica, Faculty of Economics / Republic of Kosovo

IBANESS

PROCEEDINGS

Editors

Prof.Dr. Mariana IVANOVA

Prof.Dr. Dragica ODZAKLIESKA

Prof.Dr. Rasim YILMAZ

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FOREWORD

International Balkan and Near Eastern Congress Series brings together many distinguished social and behavioral science researchers from all over the world. Participants find opportunities for presenting new research, exchanging information, and discussing current issues.

We are delighted and honored to host the IBANESS Congress Series in Plovdiv / Bulgaria. Presented papers have been selected from submitted papers by the referees. Sincere thanks to those all who have submitted papers.

We hope that through exchange of the presented researches and experiences, the Congress will enhance communication and dissemination of knowledge in Balkan and Near Eastern Countries.

The Organization Committee
March 15-16, 2025

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EVALUATION PROCESS

All submitted articles have undergone a double-blind peer review process.

PARTICIPANT COUNTRIES (15)

Azerbaijan, Albania, Bulgaria, Croatia, Czechia, Greece, Hungary, Italy, Kosovo, Latvia, Moldova, North Macedonia, Romania, Slovakia, Türkiye

TOTAL NUMBER OF PAPERS: 159
THE NUMBER OF PAPERS FROM TURKEY: 48
THE NUMBER OF PAPERS FROM OTHER COUNTRIES: 111

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		Roshka PETRU	The Common Agricultural Policy in the European Union
		Enea QOSE Anila BOSHNJAKU	Determinants of Organic Farming Adoption: Insights from a Literature Review for Sustainable Agricultural Transition
		Adrian COJOCARU Liliana CIMPOIEŞ	Market Diversification and Export Competitiveness: Evidence from Moldova's Agri-Food Sector
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		Hikmet ASUTAY Ayşe Nur TELLİ	Uzaktan Eğitim Yoluyla Yabancı Dil Öğretiminde "Extra" Programının İncelenmesi
		Coşkun DOĞAN	Farklılıklar Arasında Dilsel İletişimin Anahtarı: Çeviri
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		Daniel BULIN	Navigating the Challenges of CMR For EV in the Clean Energy Transition
		Nurcan ÖZKAN	The Effects of Global Climate Change on Marine Creatures
		Nurcan ÖZKAN	Environmental Assessment of Paper Production and

			Recycling
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		Raşit GÜLTEKİN	Gümrük Vergilerinin Ekonomi Politiği: Ticaret Savaşı Özelinde Değerlendirmeler
		Selçuk TEKİN	Kurumlar İçin Bir Hayat Standardı Esası: Yurt İçi Asgari Kurumlar Vergisi
		Fatih CEYLAN	Para Politikası Belirsizliği Endeksi ile Türkiye'nin Döviz Piyasası Baskısı Arasındaki Dinamik Nedensellik İlişkisi
		Ali EROL	Deprem Vergisi & Deprem Fonu
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		Drita KRASNIQI	Challenges Affecting Economic Sustainability in the Country
		Natally STOYANOVA	Analysis of Sustainable Growth Through Energy-Efficient Production in the Agricultural Sector
		İsmail Bülent GÜRBÜZ	Are the Concepts of Sustainability and Circular Economy similar?
		Konstantinos G. PARCHARIDIS	The Imposition of Environmental Taxes and the Principle of Sustainable Development: Necessity or Not?
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		Derya DİNÇER GÜLTEKİN	Dijital Okuryazarlık ve Etik: Kavramsal Bir İnceleme
		İlhan EROĞLU Ülkü SATANER	Finansal Okuryazarlığın Hanehalkının Nakit Tutma Talebine Etkileri
		Ali Umut ÜNAL	Limanların Tehlikeli Yük Konteynerlerinin Elleçleme Operasyonlarına Yaklaşımları Üzerine Bir Çalışma
		Yağmur YAVUZ BÜYÜKÇINAR Burak GÜRİŞ Seyhun DOĞAN	Türkiye'de Gelir Dağılımının OECD Ülkelerine Yakınsama Analizi

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		Zaiga OZOLINA Biruta SLOKA	Mussel Farming Production Dynamic in the Baltic Sea Region
		Deniz ÜNAL ADIGÜZEL Süleyman BARUTÇU	Comparison of Local Agricultural Product Marketing Problems, Specific to Grow Cherry
		Klea NIKOLLA Etleva DASHI	The Role of Land Use Payments in Promoting Sustainable Land Management and Circular Economy in Albania
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		Aylin BAŞKAYA Fatih KOÇ	Online Alışverişte Teslimat İle İlgili Yaşanan Sorunlar: Suçlu Taraf Kim?
		Resül YAZICI	Kamu Politikalarının Şirketlerin İş Stratejileri Üzerindeki Etkileri Hakkında Çalışma
		Ruhangiz ALIYEVA	Azerbaycan'da Yeşil Pazarlamanın Sosyal Etkileri
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		Nesrina AHMED	From Vision to Reality: Green Innovation Strategies in Emerging Economies
		Orçun TOPRAKÇI Ozan Hikmet ARICAN	Analysing the Impact of LNG Fuelled Ships on Maritime Transport by Fuzzy Delphi Method
		Alexia RALUCA TURCENIUC	Human Capital and Climate Resilience: Fueling Sustainable Economic Growth in Sub-Saharan Africa
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		Chair Person: Prof.Dr. M. Engin SANAL	
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		Zeynep KUH	Kavramsal Çerçeve ve Dijital İşçi Kavramı
		Ayşenur ÖZTOP Ayşe DURGUN KAYGISIZ	Suriyeli Mültecilerin Türkiye'nin Makroekonomik Göstergeleri Üzerindeki Etkileri
		Fatih AKTEN	Türkiye'nin Gagauzya Politikası
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		Rama Mohammad ALZU'BI Enikő KONTOR	The Role of Green Marketing on Consumption Values- A Bibliometric Literature Review
		Aneta RISTESKA JANKULOSKA	SMEs Awareness for Green Practices in Supply Chain
		Erjola ÇEÇA (Shehu) Eda LUGA	Food-Related Lifestyle as an Innovative Approach in Food Processing Perception
		Kate LASE Biruta SLOKA	The Role of Income in the Context of Lifelong Learning for Older Adults
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		Sezgin SEZGİN	Çevre-merkezcilik ve İnsan-merkezcilik Yaklaşımları Perspektifinden Türkiye'de Sokak Hayvanları
		Faruk YAHŞİ	Cumhurbaşkanlığı Hükümet Sistemi Sonrası Kamuda İnsan Kaynakları Politikaları: Cumhurbaşkanlığı Yıllık Programları Üzerinden Bir Analiz (2019-2025)
		Hakan Sabri ÇELİKYAY	Bireysel Başvuru Süresinin UYAP'tan Öğrenme Tarihinde Başlatılmasına İlişkin Anayasa Mahkemesi Kararları Üzerine Bir Not
		Muhammet Murat MIDIK Hülya BAKIRTAŞ	Ortaokul Öğrencilerinin Siber Güvenlik Farkındalık Düzeylerinin Belirlenmesi ve Artırılması
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		Eda LUGA Gentjan MEHMETI	Assessing Consumer Behavior on Food Waste in Developing Countries

		Süreyya TEMELLİ	Assessing Regional Agricultural Trends in Turkey: Insights from LISA and BILISA Methods
		Irina MANOLESCU Mihai TALMACIU	Beyond the Big Cities: Effective Methods for Enhancing Tourism in Lesser-Known Urban Areas
		Martina HUDECOVÁ	Consumer Perspective on Drivers and Barriers of Sustainable Tourism: Insights from Slovakia
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		Elena HARKA	Tourism in Albania: Challenges and Development Dynamics During 2020–2024
		Alberta TAHIRI Idriz KOVAÇİ Diellza MISINI	Sustainable Tourism Development in the Sharr Mountains Region
		Denitsa GANEVA	Designing Package Tours within the Framework of the Experience Economy
		Blerina BYTYÇI Alberta TAHIRI Idriz KOVAÇI Diellza MISINI	Culture and Hospitality in the Dukagjin Region
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		Gökay ŞAHİNER Sibel TAN	Çanakkale Belediyesi Yerel Kalkınma Planları ve Kadın Kooperatifleri
		Havva ARABACI Duygu YÜCEL	Sağlık Sektörünün Ekonomik Kalkınmaya Etkisi Üzerine Bir İnceleme
		Fulya ATAK Murat ÇETİN	Yerel Yönetimlerin Bölgesel Ekonomiye Etkisi
		Erdal ARSLAN Muhammed Abdulkadir DEMET	21. Yüzyıldaki Küresel Enerji Krizleri ve Türkiye'nin Enerji Politikalarındaki Değişimler
		Sedat ASARCIKLI Nigar KÜÇÜKKUBAŞ	Basketbol Altyapı Oyuncu Seçmelerinde Fiziksel Uygunluk ve Antropometrik Özelliklerin Öneminin İncelenmesi
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		Chair Person: Assoc.Prof.Dr. Petra BARIŠIĆ	
		Cvetanka RISTOVA MAGLOVSKA	Sustainable Hotel Operations
		Petra BARIŠIĆ Ines SMRKINIĆ	The Role of Interior Design in Shaping the Overall Guest Experience within Hotels
		László Péter JUHÁSZ Anna DUNAY	ESG Compliance for Competitiveness in the Hospitality Sector: The Role of CS3D in Transforming Sustainability Practices Across CEE Hotels
		Lubov IVANOVA	The Tourist Product Through the Eyes of the Consumer: Generalizations from Practice
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		LL.M. Dafina VLAHNA	Challenge and the Importance of Economic Management in Kosovo
		LL.M. Dafina VLAHNA	Public Finance and Public Finance Management According to Law and Practice in Kosovo
		Rasim YILMAZ	The Trump Effect: Analyzing the Short-Term Economic and Financial Implications
		Rasim YILMAZ	Global Debt Trends in 2024: Surging Borrowing and Shifting Debt Ratios
		Drita KRASNIQI	Main Sectors in Economic Development in Kosovo Based on Current Practice
15:00 – 16:00	Parallel Session V	Hall 2 Chair Person: Assoc.Prof.Dr. Melinda Timea FÜLÖP	
		Eldar MARDANOV Inese MAVLUTOVA Biruta SLOKA	AI-Based Environmental Monitoring: A New Milestone for the Oil and Gas Industry
		Melinda Timea FÜLÖP Nicolae MĂGDAȘ George-Silviu CORDOȘ	AI and Audit: Efficient Tool or Indispensable Partner?
		Hacı Bayram İRHAN	The Impact of Artificial Intelligence on Labour Force and Gini Coefficient: An Assessment of Some EU/OECD Countries

		Megi MARKU Besa SHAHINI	Factors Influencing the Adoption of Big Data Analytics: Effects on the Performance of VIP Enterprises in Albania
15:00 – 16:00	Parallel Session V	Hall 3 Chair Person: Prof.Dr. Albana DEMI (Mosho)	
		Rădulescu COSMIN-SEBASTIAN	The Impact of Artificial Intelligence on Organizational Communication: A Survey-Based Study
		Natasha HODA Albana DEMI (Mosho) Hysen HODA	Artificial Intelligence and the Future of the Accounting Profession. The Case of Albania
		Petar PETKOV	Regarding Some Aspects of Use of Artificial Intelligence, In Relation to Economic Stability of Financial Systems
		Petar PETKOV	About Some Aspects of Cybersecurity as a Key Factor in Ensuring Digital Immunity of Central Banks
15:00 – 16:00	Parallel Session V	Hall 4 Chair Person: Prof.Dr. Aristidis BITZENIS	
		Paraskevi A. EVANGELOU Georgia K. BRONI	Digital Reformation and Evolution. Ministry of Culture's Monuments and Museums in Greece
		Ciocșan VIOLETA-DIANA Mihăilă COSMIN	The Impact of Digitalization on Accounting Education and the Challenges for the Accounting Profession
		Aristidis BITZENIS Nikos KOUTSOUPIAS Marios NOSIOS	Theoretical Advancements in Logistics: Digitalization, Big Data, and Machine Learning in Decision Making
		Mirela VÂLCEANU	Managing Digital Transformation in the Sharing Economy
		Ahmet AKTUNA	AI-Powered Logistics Optimization in Ports and Its Impact on International Trade
16:00 – 17:00	Parallel Session V	Hall 1 Chair Person: Prof.Dr. Biruta SLOKA	
		Szabolcs DIÓSI	The Rise, Challenges, and Implications of Generative AI
		Cristian Romeo SPĂTARU Cristian Constantin POPESCU	The Effects of Digital Transformations, Innovation, and AI on the Competitiveness of EU Member States
		Laura KERSULE Biruta SLOKA Iluta SKRUZKALNE	Personnel Management Aspects in Case of AI Presence in Telecommunication Company

		Cristina CRISTE Ciel BOVARY Oana-Ramona LOBONȚ Luca Magda MIHAELA	Digitalisation and Economic Growth in the European Union: A Catalyst for Prosperity?
		Sevgi EŞİYOK Mert DEMİRCİOĞLU	A Bibliometric Analysis of the Importance of Electricity Use in Bitcoin Production
16:00 – 17:00	Parallel Session V	Hall 2 Chair Person: Asst.Prof.Dr. Konstantinos SPINTHIROPOULOS	
		Kyriaki EFTHALITSIDOU Konstantinos SPINTHIROPOULOS Nikolaos SARIANNIDIS Vezou MARINA	The Role of Financial Derivatives and Funding in the Global Financial Crisis: A Critical Analysis of Securitization, Leverage, and Market Supervision
		Gabriela-Mihaela MUREȘAN Ana-Maria COLȚA Gavril-Claudiu SABADÂȘ	Literature Review of Uncertainty Risk in Finance
		Ionut-Adrian LAZAR Andreea-Roxana DANCI Gabriela-Mihaela MURESAN	The Financial EKG of an Entity. Behavior and Performance under Conditions of Uncertainty
		Andreea-Roxana DANCI Ionut-Adrian LAZAR Gabriela-Mihaela MURESAN	The Relationship Between Financial Manipulation and The Bankruptcy Risk of a Company
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		Ilir TOMORRI Joana SHIMA	Emerging Trends and Growth of Financial Technology (Fintech) in Albania
		Zoi ZOGRAFOU Dagmar ŠKODOVÁ–PARMOVÁ Labros SDROLIAS Stavros KALOGIANNIDIS	Managerial Accounting and Control Systems in Enterprises - Quo Vadis?: The Case of Biokarpet S.A. Group
		Ivan LUCHIAN Angela FILIP	The Particularities of Using Artificial Intelligence in Payment Systems

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		Emanuela ESMEROVA Ivan RAMOV Saso LAZAROSKI	Assessment of the Manager to Educate Employees as a Factor for More Successful Work
		Boglárka IPACS	The Role of Kaizen Philosophy in Sustainability
		Alexandra NOVAC	Human Capital: A Theoretical Perspective in the Context of Entrepreneurship
		Achilleas BARLAS Marios EMMANOUIL Yeoryios STAMBOULIS Valerio ROSCANI Eleonora LOMBARDI Lorenzo SCATENA Eugenia FERNANDEZ	Students' Confidence Boost and Knowledge Improvement After Attending a Venture Building Program
		Maria REPTSI	An Overview of the Factors That Affect Career Development

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		Svetlana APACHIȚA	Individual Vs Group Learning Strategies in English Learning Development
		Rahim ŞENTÜRK Handan KÖKSAL	The Role of Formative Assessment in Communicative Grammar Teaching: Opinions of German Teacher Candidates
		Era HOXHAJ Arjan SHUMELI Erion SHEHU Ervin HOXHAJ	The Demand for Language Skills in the Albanian Labor Market: A Study of Language Skills and Skill Pairings in Job Listings
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		Daniel BULIN	From Uncertainty to Vulnerability: The Development of the Global Economy in the Context of the Current Crises
		Symeon ARVANITOPOULOS	Evaluation of Debt Management and Innovative Financial Tools in Local Government Organizations During Economic Crisis
		Ilian PEHLIVANOV	The Financial Management of Secondary Schools through Delegated Budgets: Advantages, Disadvantages, and Survey Analysis
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			Transition
		Visar MALAJ Najada FIRZA	Corruption and Its Consequences in the Western Balkans: A Preliminary Assessment
		Gerti SQAPI Evis SHURDHA	Ineffective Rule of Law by Informal Rules, Norms and Networks: The Role of Political Parties in Hindering Democratization in Western Balkan Countries
		Flavian CLIPA Raluca Irina CLIPA	Assessing the Performance of Public Sector Participation in International Transactions
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Students' Confidence boost and Knowledge Improvement After Attending a Venture Building Program

Achilleas Barlas[1] Marios Emmanouil[2] Yeoryios Stamboulis[3] Valerio Roscani[4]

Eleonora Lombardi[5] Lorenzo Scatena[6] Eugenia Fernandez[7]

[1] University of Thessaly, abarlas@uth.gr, ORCID: 0000-0002-8266-0138

[2] University of Thessaly, maremmanouil@uth.gr, ORCID: 0009-0003-8844-2355

[3] University of Thessaly, ystambou@uth.gr, ORCID: 0000-0003-0122-4404

[4] E. Amaldi Foundation, valerio.roscani@fondazioneamaldi.it, ORCID: 0000-0003-1626-6666

[5]E. Amaldi Foundation, eleonora.lombardi@fondazioneamaldi.it, ORCID: 0000-0003-2772-4992

[6] E. Amaldi Foundation, lorenzo.scatena@fondazioneamaldi.it, ORCID: 0000-0002-4998-3859

[7] E. Amaldi Foundation, eugenia.fernandez@fondazioneamaldi.it, ORCID: 0009-0007-9683-6812

Abstract: Entrepreneurship education is considered instrumental in developing relevant skills and knowledge and in strengthening self-confidence (Cruz et al., 2009). Self-confidence is a crucial factor in doing business, as it is linked to risk management, strategic decision-making and adaptability to market conditions (Cho -Lee, 2018). Knowledge on fundamental areas such as financial management, business models, marketing and sustainability contributes to the success of young entrepreneurs (Imarhiagbe et al., 2017). Entrepreneurship education offers the required knowledge, and enhances students' perception of the opportunities and challenges of the business environment (Henry et al., 2017). Investment in education is crucial for attracting capital and managing financial resources for business sustainability (Fayolle and Gailly, 2015). Entrepreneurship education can therefore enhance the self-confidence and competences of young entrepreneurs and contribute to their readiness to enter the market.

In this study, 207 students from two universities in Greece and Italy, and from a Vocational training centre in Bulgaria, attended a six-month Venture Building Program, developed as part of the EU project ENTREPRENEDU. The Venture Building Program was designed with the aim to bridge academia and industry by engaging students with accelerators, companies, and industry initiatives. It nurtures entrepreneurial skills, industry collaboration, and commercialization of student innovations, through courses, mentoring, and interactive sessions focused on business model development, market validation, and fundraising.

A survey was designed to assess the effectiveness and impact of the ENTREPRENEDU Venture Building Program. It aimed to evaluate various aspects of the program, including curriculum quality, knowledge acquisition, mentorship effectiveness, and career impact. The survey consisted of multiple-choice, Likert-scale, and open-ended questions to capture a comprehensive understanding of participant experiences. 85 students completed the questionnaire after the completion of the program. The correlation analysis and the linear regression analysis showed statistically significant results. Specifically, the analysis revealed statistically significant differences among the students from the three countries regarding the confidence level. The correlation analysis revealed a strong correlation between knowledge gained in specific topics and confidence level at the end of the program. Regression analysis proved the positive effect of fulfilled expectations on confidence level. Entrepreneurship education enhances the confidence and skills of young entrepreneurs by providing knowledge in critical areas. ENTREPRENEDU has demonstrated the importance of mentoring and interactive learning, and of strengthening cooperation with industry. The analysis showed a positive correlation between knowledge and confidence, confirming the educational impact

Keywords: Entrepreneurship, Education, Skills, Venture building

1. INTRODUCTION

The ENTREPRENEDU Venture Building Program was developed as part of an EU-funded initiative to bridge the gap between academia and industry. This six-month program engaged 207 students from two universities in Greece and Italy, as well as a vocational training center in Bulgaria, with the aim of fostering entrepreneurial skills, industry collaboration, and the commercialization of student innovations. Through a combination of courses, mentoring, and interactive sessions focused on business model development, market validation, and fundraising, the program sought to prepare students for the challenges of the entrepreneurial ecosystem.

To evaluate the effectiveness and impact of the ENTREPRENEDU program, a comprehensive survey was conducted among participants. This study underscores the transformative potential of entrepreneurship education in enhancing the confidence and competencies of young entrepreneurs. It highlights the importance of mentoring, interactive learning, and industry collaboration in preparing students for entrepreneurial success. By demonstrating a positive correlation between knowledge acquisition and confidence, the findings affirm the educational impact of the Venture Building Program developed within ENTREPRENEDU project. Thε paper contributes to the growing body of literature on entrepreneurship education by providing empirical evidence of its role in fostering entrepreneurial readiness and bridging the gap between academia and industry.

The paper is structured as follows. Section 2 serves as the foundation, offering a comprehensive literature review to contextualise the study within existing research. This section is further divided into two key parts: the research background, which explores relevant concepts and previous studies in the field of entrepreneurship education, and an overview of the ENTREPRENEDU project, providing readers with essential information about the project's rationale. Section 3 delves into the methodological approach, detailing both the program design and the survey methodology employed in the study. This section is crucial for understanding how the research was conducted and allows access to the validity and reliability of the findings. The inclusion of sample characteristics provides transparency and helps readers judge the generalisability of the results. Sections 4 and 5 conclude the paper by presenting the Venture Building Program outcomes and their broader implications. The results section offers a detailed analysis of the collected data, while the conclusion synthesizes these findings, discusses their significance within the context of entrepreneurship education, and proposes directions for future research in this field.

2. LITERATURE REVIEW

2.1 Research background

Entrepreneurship education (EE) (Fellnhofer, 2019) can increase entrepreneurial intentions by inducing perceived increases in alertness, inspiration, social networks, knowledge and skills among participants (European Commission: Directorate-General for Enterprise and Industry, 2014; Stamboulis & Barlas, 2014; Thomas, 2023). Several studies have shown positive correlations between entrepreneurship education and students' entrepreneurial intentions and perceived behavioural control (Costin et al., 2022; Maheshwari et al., 2023; Rauch & Hulsink, 2015; Smolka et al., 2024). These findings suggest that entrepreneurship education plays a crucial role in shaping students' attitudes and beliefs about starting their own businesses. Furthermore, the impact of such education extends beyond mere intentions, potentially influencing students' actual entrepreneurial behaviors and increasing the chances of successful venture creation in the future.

Entrepreneurship education programs have mixed effects on actual entrepreneurship rates, but they do appear to enhance students' entrepreneurial skills and self-awareness (Bohlayer & Gielnik, 2023). Findings suggest that entrepreneurship education does not necessarily increase entrepreneurship rates directly (Overwien et al., 2024; Pocek et al., 2022; Sun et al., 2023). However, it's important to note that while these programs may not always increase entrepreneurship rates, they can help students better identify their potential as entrepreneurs and improve the quality of entrepreneurship (Eesley & Lee, 2021). Udeozor et al. (2025) suggest that "entrepreneurship education should align with students' personal and professional development stages to maximise its impact, rather than being treated as a generic requirement". Therefore, the primary focus of entrepreneurship education seems to be on enhancing students' self-awareness and entrepreneurial skills rather than directly increasing entrepreneurship rates. This integrated approach can boost students' confidence by providing hands-on experience in crafting new ventures (Wraae & Walmsley, 2020). However, the impact of entrepreneurship education on students' confidence and intentions may vary depending on the curricula and the students' initial entrepreneurial motivation and attitude (Barba-Sánchez et al., 2022).

Elevated self-confidence is correlated with an increased likelihood of entrepreneurial engagement and enhanced entrepreneurial performance (Asoni, 2011; Maczulskij & Viinikainen, 2023). Entrepreneurs with high levels of self-efficacy tend to set more ambitious goals, persist in the face of challenges, and exhibit greater resilience when confronted with setbacks. However, excessive overconfidence can lead to poor decision-making, underestimation of risks, and potential business failures (Hogarth & Karelaia, 2012; Van Ewijk, 2024). Striking a balance between self-confidence and realistic assessment of students' abilities is crucial for long-term entrepreneurial success (Syed et al., 2024).

Attending an entrepreneurship program is shown to significantly boost the confidence of senior students in several ways. Firstly, these programs provide students with practical knowledge and skills directly applicable to starting and running a business, enhancing their perceived competence (Maczulskij & Viinikainen, 2023). Through practical experiences like developing business models, pitching ideas and connecting with investors, students gain a sense of understanding over entrepreneurial tasks and objectives. This experiential learning they develop resilience and problem-solving skills, which are crucial for entrepreneurial approach helps bridge the gap between theoretical knowledge and real-world application, increasing students' self-efficacy (Costin et al., 2022). Additionally, exposure to successful entrepreneurs and mentors during the program can serve as a source of inspiration and observational learning, further bolstering students' belief in their own potential (Neck & Greene, 2011). The networking opportunities provided by these programs also contribute to increased confidence, as students build connections with like-minded peers and industry professionals. This expanded social network can serve as a support system and resource for future entrepreneurial endeavors (Kusumojanto et al., 2021). Moreover, as students' progress through the program and overcome challenges, success contributes to overall confidence in their abilities (Ghazali et al., 2021).

In conclusion, while venture building courses can generally boost students' confidence to undertake entrepreneurial activity, the effectiveness may depend on various factors such as course design, teaching methods, and individual student characteristics.

2.2 The ENTREPRENEDU project

The ENTREPRENEDU project aims to develop a highly scalable and replicable educational model tailored to European entrepreneurial ecosystems. To achieve this, its initiatives primarily focus on strengthening network connectivity within and between innovation ecosystems, fostering sustainable business growth with a meaningful societal impact. ENTREPRENEDU seeks to equip young individuals and aspiring startup founders with the necessary skills to overcome barriers to accessing finance and markets.

In this context, the project serves as a bridge between the education and business sectors while enhancing connections among European regions with varying levels of innovation. By carefully assessing the needs of these ecosystems and aligning them with potential investors, ENTREPRENEDU provides aspiring entrepreneurs with the tools and knowledge required to establish themselves in the market.

These tools include promoting technology transfer, expanding networking opportunities, and facilitating investor matchmaking, along with providing funding support. The project's ultimate objective is to create a Venture Building Program that fosters knowledge sharing and capacity building, thereby strengthening European entrepreneurial ecosystems.

To accomplish this ambitious goal and provide selected companies with optimal market-entry conditions, the project is structured into four key phases: The ENTREPRENEDU initiative followed four key phases to integrate education and business ecosystems. The Needs Identification phase assessed the requirements of educational institutions, SMEs, and public administrations, gathering best practices and engaging regional accelerators to address gaps in entrepreneurial skills. The Cross-Fertilization and Challenge Generation phase transformed these needs into challenges for three HackTheBusiness hackathons, engaging individuals and early-stage startups to generate 90 business ideas in deeptech, space, and sustainability. The Support for Selected Startups phase provided 12 selected startups with six months of structured mentoring, covering topics such as technology due diligence, financing, business models, and investment readiness. Finally, the Validation of the Venture Building Program phase established ENTREPRENEDU's methodologies within consortium institutions, with 205 students participating in an extracurricular program in the 2024-2025 academic year. ENTREPRENEDU prioritizes concepts and ideas that align with the Green Deal and Sustainable Development Goals (SDGs), while also promoting gender equality. The ultimate goal is for all selected finalists to develop concrete projects that contribute to a more sustainable and equitable world.

3. METHODOLOGY

3.1 The program

The Venture Building Program was strategically designed to bridge the gap between academia and industry. The program facilitated direct industry exposure, offering students access to resources and expertise essential for

understanding real-world entrepreneurial challenges and opportunities. A key goal was fostering long-term collaborations between students and industry stakeholders, encouraging the development of innovative solutions, new ventures, and economic impact. Through structured learning, mentorship, and hands-on experience, participants acquired practical skills in venture creation, enhancing their entrepreneurial competencies. The program's emphasis on experiential learning provided students with opportunities to network with industry professionals, gain exposure to entrepreneurial ecosystems, and receive practical guidance on bringing their ideas to market. To achieve these outcomes, the program implemented a comprehensive curriculum and mentoring framework for 205 students from Greece, Italy, and Bulgaria, covering essential aspects of venture building, including ideation, business model development, market validation, fundraising, and team building. The curriculum was structured into online and offline lectures, ensuring accessibility and flexibility, supplemented by high-quality teaching materials, such as recorded lectures, PowerPoint presentations, and supporting documents.

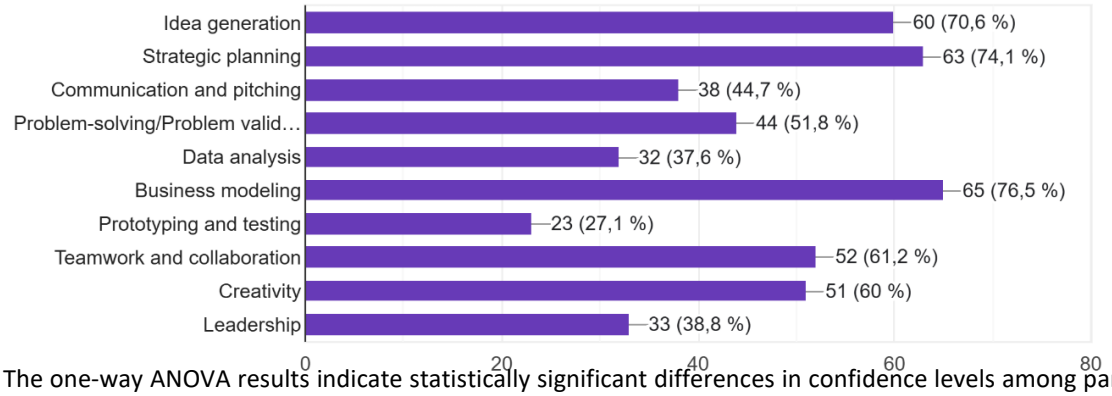
3.2 Survey design and Sample

A comprehensive survey was meticulously designed to evaluate the effectiveness and impact of the ENTREPRENEDU Venture Building Program and Venture Fellowship. The primary objective was to collect quantitative and qualitative data from participants to assess multiple dimensions of the program, including curriculum efficacy, knowledge acquisition, mentorship quality, and career impact. The selection of analytical criteria was deliberate and rigorous, aimed at ensuring the continuous refinement and optimization of the program. The survey employed a multifaceted approach, integrating multiple-choice questions, Likert-scale assessments, and open-ended responses to ensure a holistic understanding of participant experiences. The instrument was structured into several key sections. The Demographic and Background Data section captured participant diversity, prior entrepreneurial experience, and geographical distribution, offering insights into the composition of the cohort and potential influences on program engagement. The Program Evaluation section focused on assessing the quality of instructional materials, structural organization, and overall program design, providing critical feedback on pedagogical effectiveness. The Knowledge and Skill Development section measured participant progress in essential entrepreneurial competencies, including business model development, market analysis, financial literacy, and investment preparedness. The Entrepreneurial Confidence and Career Impact section investigated the extent to which participants felt equipped to initiate ventures or pursue entrepreneurial careers, offering insights into the program's long-term influence on professional trajectories. Lastly, the Challenges and Areas for Improvement section allowed participants to identify programmatic weaknesses and potential areas for enhancement, ensuring an iterative approach to curriculum and mentorship refinement. The survey was administered at the conclusion of the program, ensuring that responses captured a comprehensive post-participation perspective. A total of 85 responses were collected, with 51 participants from Greece, 25 from Bulgaria, and 9 from Italy. The demographic composition of respondents reflected the program's reach across multiple academic institutions and geographical regions. The majority of participants were enrolled in business and economics departments.

4. RESULTS

The preliminary analysis assessed the extent to which the program fulfilled participant expectations. 68.6% of Greek participants reported that it met their expectations, while 27.5% stated that it exceeded them, and only 3.9% felt that it partially met their expectations. A comparable pattern emerged in Bulgaria, where 60.0% felt the program met their expectations, 36.0% stated it exceeded them, and 4.0% felt it partially met their expectations. In contrast, Italy 44.4% stating that the program met their expectations, 11.1% reporting that it exceeded them, 33.3% indicating that it partially met their expectations, and 11.1% stating that it did not meet them at all. Participants also reported substantial improvements in core entrepreneurial competencies, with 76.5% noting significant progress in business model development and 74.1% in strategic planning (Chart 1). Beyond skill development, the survey also assessed career impact and professional development. Many participants reported feeling more confident in launching their own businesses post-program, with 60% indicating that they felt somewhat more confident and 20% feeling significantly more confident in their entrepreneurial abilities. Some respondents indicated that they had already secured employment (15%) or expanded their professional networks (30%) as a direct result of their participation. Moreover, 8% of participants had launched a venture immediately after completing the program.

Chart 1: Skills development during the program



The one-way ANOVA results indicate statistically significant differences in confidence levels among participants from Greece, Italy, and Bulgaria, $F(2, 82) = 9.647$, $p < 0.001$. Post hoc comparisons using the Scheffé test reveal that there is no significant difference in confidence levels between Greece and Italy ($p = 1.000$). However, Bulgaria shows significantly higher confidence levels compared to Greece ($p < 0.001$) and Italy ($p = 0.030$).

Furthermore, Pearson correlation analysis revealed significant relationships among key variables related to confidence levels and entrepreneurial competencies. Confidence level is positively associated with expectations met, business model development, financial knowledge, marketing, investment readiness, and sustainability. Additionally, expectations met were significantly correlated with all skill-based variables while business model development, financial knowledge, marketing, investment readiness, and sustainability are all highly interrelated, with financial knowledge. The correlation analysis (Table 1) highlights that confidence level is strongly linked to expectations met and various entrepreneurial competencies. The highest correlations are observed between financial knowledge and sustainability ($r = 0.753$, $p < 0.001$) and between financial knowledge and investment readiness ($r = 0.685$, $p < 0.001$).

Table 1. Pearson correlation matrix of key variables

Variables	***Prior Experience***	***Confidence Level***	***Expectations Met***	***Business Model Development***	***Financial Knowledge***	***Marketing***	***Investment Readiness***	***Sustainability***
Prior Experience	*1.00*							
Confidence Level	*-0.060*	*1.00*						
Expectations Met	*-0.009*	*0.437***	*1.00*					
Business Model Development	*-0.224**	*0.287***	*0.271**	*1.00*				
Financial Knowledge	*-0.125*	*0.398***	*0.469***	*0.569***	*1.00*			
Marketing	*-0.006*	*0.263**	*0.449***	*0.496***	*0.686***	*1.00*		
Investment Readiness	*-0.085*	*0.318***	*0.405***	*0.355***	*0.685***	*0.666***	*1.00*	
Sustainability	*-0.109*	*0.375***	*0.464***	*0.578***	*0.753***	*0.628***	*0.626***	*1.00*

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Finally, a multiple regression analysis was conducted to examine the extent to which various factors predicted confidence levels. The overall model was statistically significant, $F(6, 78) = 4.513$, $p = 0.001$, explaining 25.8% of

the variance in confidence levels ($R^2 = 0.258$, adjusted $R^2 = 0.201$). Among the predictors, "expectations met" emerged as the only statistically significant predictor ($\beta = 0.327$, $t = 2.863$, $p = 0.005$), indicating that participants who felt the program met their expectations reported higher confidence levels.

5. CONCLUSION

The study showed that ENTREPRENEDU's Venture Building programme had a significant impact on improving entrepreneurial skills and building student confidence. The statistical analysis showed a positive correlation between the acquisition of knowledge and the increase in participants' level of confidence, thus confirming the effectiveness of the programme. These findings are in line with existing literature, notably the work of Henry et al. (2017) and Costin et al. (2022), which highlight the importance of entrepreneurial education in skills development and labour market integration. The analysis also highlighted differences between the participating countries, with Bulgarian students showing stronger confidence-building than those in Greece and Italy. This disparity suggests that the impact of entrepreneurial education varies across economic and academic contexts, an observation consistent with the findings of Rauch and Hulsink (2015), which highlighted the influence of local environments on entrepreneurial learning. The regression analysis showed that meeting expectations was a key factor in increasing students' level of confidence, confirming that aligning the programme with participants' needs increases its effectiveness. Furthermore, the correlation between trust and skills in business modelling, financial management, marketing, investment and sustainability highlights the importance of a holistic approach in entrepreneurial learning. However, some areas, including financial literacy and investment, could be strengthened to maximise the impact of the programme. Finally, the evaluation of the programme confirmed the relevance of mentoring and interactive learning in entrepreneurial training, reinforcing the importance of collaboration between academia and economic actors. These results suggest that continuous adaptation of training programmes to students' expectations and market requirements is essential to maximise their effectiveness and foster the emergence of future entrepreneurs.

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Regulation and Supervision Of Credit Operations In The Financial-Banking System Under The Conditions Of Integration Into The European Union

Ada ȘTAHOVSCHI[1] **Olesea BUCUCI**[2]

[1]PhD in Economy, Associate Professor, State University of Moldova, astahovschi@gmail.com, ORCID ID: https://orcid.org/0000-0002-3415-9509

[2]PhD candidate, university lector, Ion Creanga State , Pedagogical University of Chisinau, obucuci@yahoo.com, ORCID ID: https://orcid.org/0009-0003-9734-4941

Abstract: Relevance of the Investigated Topic. In this article, the authors aim to highlight the particularites related to the organization of accounting, management regulation and supervision of banking operations. Contabilitaty in banking institutions is a regulated system designed to cocollect, record and synthesize information on the state of a bank's assets, passets, casets, income and expenses, ansuring a continuous and complete record of all economic and financial operations. The analysis of the banking market has thus become an essential tool of bank marketing, contributing to the efficiency of banking institutions' activities. In the Republic of Moldova, this aspect has not yet been sufficiently explored, however, as banking competition increases, the implementation of an effective system of quality management of banking products and services is becoming increasingly necessary.

Regulation and supervision of banking operations is a current problem in the banking systems of most countries. According to the normative acts, which represent the financial-banking system, the regulation of banking operations is a form of intervention of the central banks on the activity of the banking system, but a supervision can suffocate the banking activity by increasing bureaucratic bottlenecks.

Currently, the trend towards the separation of supervisory and monetary policy functions persists in more and more financial systems. In the context of the continued development of the financial-banking system, it will be necessary to choose the appropriate system of banking supervision, i.e. between the two existing approaches: the exercise of banking supervision functions by the central bank or by a separate financial sector supervisor.

Research Methodology. In drafting this article, the authors employed several research methods, including the analysis and study of various scientific sources related to the investigated topic; a comparative analysis of data regarding the development of financial-banking systems in certain European countries; analytical methods; as well as induction and deduction.

Research results. We consider that banking regulation and supervision represent the main prerequisite for promoting a stable and secure financial system, as well as a favorable environment for providing high-quality banking services in compliance with current legislation. Thus, banking regulations have made significant progress in adapting to the existing framework in European countries. First and foremost, we consider it essential to establish a prudential regulatory and supervisory framework for the main components of the banking system, which also serves as a fundamental condition for ensuring and maintaining the economic and financial stability of a country.

Keywords: bank management, bank accounting, banking services and products, bank loans, bank regulation, banking supervision, banking system, banking market.

JEL Classification: G2, G3, M1, M4

INTRODUCTION

The regulation and supervision of the activity of the financial-banking system is a way of translating central bank monetary and foreign exchange policies into reality. Banking regulation is represented by several laws and normative acts to be complied with by banks so that the monetary and foreign exchange policy of the central bank is effectively implemented, and the supervisory authority is responsible for checking the degree of compliance of banks' activity with the established rules. Monitoring the banks' compliance with prudential regulations facilitates the determination of the strengths and vulnerabilities of individual banks [11, p. 85].

In the context of the market economy and digitization, financial and banking institutions provide customers with a variety of products and services. However, not all banking products are always attractive to customers, and in some cases or after a period of time, they may no longer meet their needs [10, p.184-185].

In the Republic of Moldova, the issue of ensuring the quality of banking services and products has not yet been sufficiently studied, but as banking competition increases, the implementation of an effective system for managing the quality of products provided by financial-banking institutions becomes increasingly necessary.

Through this article the authors want to highlight the peculiarities of the organization of accounting, regulation and supervision of the quality of banking operations, including those of lending to individuals and legal entities.

MATERIAL AND METHOD

In the context of the elaboration of this article the authors analyzed the main problems and methods of improvement of the management of the organization of the records of credit operations, the quality of services and products provided by banking institutions, because with the intensification of banking competition the establishment of an effective system of management of the quality of products and services is becoming increasingly topical. In order to carry out the study, the views of various specialists in the field of accounting, quality management of banking products and services, supervision and regulation of banking operations, including lending, were examined.

MANAGEMENT OF THE ORGANIZATION, REGULATION AND SUPERVISION OF BANKING OPERATIONS

In the realization of measures aimed at creating the conditions for the development of market relations, an important role is played by the country's banking system, which represents all financial and credit institutions. The increase in the number of banks has led to the development of competition and awareness of issues related to the quality of banking services offered on the market, so that not only the quality desired and realized by the bank, but also the quality perceived by the customer is taken into account [9, p.156].

The quality of banking products and services, together with the methods of organizing their accounting, is a current method in the management of bank-customer relations, influencing at the same time the competitiveness and profitability of the banking institution. This is ensured through compliance with the specific regulations of the financial-banking sector, prudential rules set by the NBM, the requirements of international standards for financial services and internal regulations of financial institutions [10, p.147].

The implementation of the quality management system in the banking system according to the requirements of ISO 9001:2008 [8], according to many specialists in the field, must begin with the formation of a Quality Management System in the bank, to develop and implement policies and procedures related to the processes related to this system and certified products [10, p. 192-193].

BANKING REGULATION AND SUPERVISION

The activity of Central Banks, as the body regulating and supervising the activity of banks, is based on normative acts, which establish the competence, the main objective, the basic tasks of the Central Bank and its relations with financial institutions. In the financial-banking system in Moldova, the National Bank of Moldova, as the Central Bank of the State, in accordance with the provisions of the banking legislation, has created the mechanism of supervision and regulation of banking activity by establishing a number of specific requirements, stipulated in the normative acts of the National Bank of Moldova, which banks are obliged to comply with [11, p.124-125].

These requirements are constantly being refined to ensure consistency with the provisions of the legislation, generally accepted international principles and best practices, in particular the recommendations of the Basel Committee on Banking Supervision [1] and EU Directives [3].

The banking supervision function aims to ensure the proper functioning of the domestic financial system, based on a strong and competitive banking sector, oriented towards market relations and risk prevention. In this context, the National Bank of Moldova, in accordance with the powers and rights conferred by the legislation, carries out both remote and on-site inspections of banks.

The purpose of remote controls is to monitor and analyze the financial situation of banks in the period between on-site inspections in order to identify risks and possible problems in the bank's activity at an early stage and to take prompt action. The monitoring of the licensed banks is carried out: on the basis of the reports submitted by the banks in accordance with the NBM's requirements related to the FINREP financial statements and reports for prudential purposes, on the basis of the information obtained from the complex and thematic controls, as well as on the basis of the information of the external audit [5, 6].

The purpose of the on-site audit is to identify the bank's level of risk and to assess the ability of the bank's management to effectively control and manage this risk. Each bank is subject to such an audit on an annual basis. The on-site examination determines the bank's overall financial situation, the causes and factors affecting its safety. On-site supervision is closely interdependent with off-site supervision. The information obtained in the framework of off-site controls shall be used to determine the purpose and main objectives of on-site controls [4, p. 85-86].

The regulations developed by the NBM are in line with international standards and are consistent with both the general principles established by the Basel Committee on Banking Supervision and the EU Directives on the regulation of the activities of credit and financial institutions [5]. The importance of banking regulation and supervision is clear, as the examination of the situation of individual banks allows the supervisor to play an important role in ensuring a stable and safe banking system.

Because of the specific nature of banking, banking supervision is more important than that of other financial sectors, due to the higher vulnerability of banks to various instabilities. Banking regulation and supervision protects the interests of depositors (individuals and legal entities) and ensures the stability of the entire banking system [11, p.57].

Within the objective of ensuring the safety and stability of the banking system, it is envisaged that, through the application of banking regulations, these institutions should be sufficiently sound to perform all their functions normally.

According to the "Law on the National Bank of Moldova", the National Bank is the body that regulates, supervises and licenses the activity of financial institutions, including banks [5]. To this end, the National Bank of Moldova is empowered to issue the necessary normative acts and to take appropriate measures to exercise its powers and duties deriving from the legislation, by licensing financial institutions and developing standards for their supervision, to request information necessary for the exercise of its duties, to carry out, through its inspectors, checks on the activity of financial institutions in order to eliminate detected non-compliances, and to apply remedial measures and sanctions provided for by the "Law on Banking Activity". [6]

REGULATION OF BANKS' LENDING ACTIVITY

Considering that the basic operations of universal banks are credit operations, we would emphasize the advantage of these operations for the entire economy, the possibility of obtaining the necessary resources to operate and develop further. Banks are a specialized financial intermediary active in this field. The main role of the credit policy is to direct banking activity, including the accumulation and investment of credit resources and the development of credit mechanism. Thus, the credit policy of banks is the totality of principles, rules, procedures and general standards in accordance with which the lending activity is carried out, delimiting the framework and strategy in the system of credit risk management.

We find it explicable that bank credit is one of the main sources of income as well as of risk for financial institutions. However, this source continues to remain a key element in the banks' development and expansion strategy, as it participates in the financing of the economy in addition to actual investments.

Regulation and supervision of lending are important for maintaining financial stability and protecting consumers. They are carried out by financial and banking institutions, which set rules for credit institutions, monitor compliance and intervene in case of systemic risks.

The regulation of banks' lending operations involves setting the legal framework and requirements for financial institutions in terms of licensing procedures, application of prudential rules, consumer protection requirements, prevention of money laundering and other safeguards.

The supervision of lending operations involves monitoring compliance with regulations and managing the risks that may arise in the process of lending to individuals and legal entities. Supervision is done through the introduction of control and intervention mechanisms such as [11, p. 85-86]:

- ✓ *Inspections and audits* - Verification of regulatory compliance through regular controls.
- ✓ *Stress testing* - Simulations to assess banks' resilience to economic crises.
- ✓ *Corrective measures* - Imposition of sanctions, restriction of activities or withdrawal of license in case of irregularities.

Key benefits of digitizing lending:

- ❖ Reduced operational costs by eliminating physical documentation and automating processes.
- ❖ Increased accessibility which provides, that customers can apply for loans online, including through mobile apps.
- ❖ Increasing the speed and efficiency of performing lending operations by implementing automated data processing and enabling credit approval within minutes.

According to the "Law on Banking Activity", the granting of loans is carried out in accordance with the bank's internal regulations, which do not contravene the law and include at least the conditions of granting loans to applicants (customers, individuals, entrepreneurs and legal entities, bank administrators and employees), powers, duties and structure of the internal subdivision in charge of managing the operations related to granting loans (credit committee), the way of making decisions on granting loans, credit limits, the way of guaranteeing loans [6, art.32].

Regulation as an activity is not the only and surest way to achieve a high level of stability. Some regulatory provisions may have a beneficial effect in one country and no effect in another. Therefore, the application of certain rules and standards requires an in-depth analysis and knowledge of the real situation of the system at a given point in time in order to benefit from positive growth and a stable and secure banking system. Every year, the National Bank of Moldova demonstrates maximum involvement in everything related to the stability of the system, as well as the development and application of new methods and techniques in the field of regulation and supervision.

We therefore believe that banking regulation and supervision is the main premise in the process of promoting a stable and safe financial system and a favorable environment for the provision of high quality banking services in compliance with current legislation. Thus, banking regulations have taken important steps in adapting to the existing regime in European countries. First of all, we consider it appropriate to establish a framework for prudential regulation and supervision of the main components of the banking system, which is also an essential prerequisite for ensuring and maintaining the economic and financial health of a country.

CONCLUSIONS

Following the research carried out on the analyzed topic, we can conclude that the regulation and supervision of banking operations, including lending operations, is a form of direct intervention of the banking authorities on the banking environment.

The importance of banking regulation and supervision is obvious, since the examination of the economic and financial situation of each bank allows the supervisory body to play an important role in ensuring a stable and safe banking system.

Regulation and supervision of the banking system is the only way to implement the monetary and foreign exchange policies of the central bank. With regard to the supervision and regulation of lending operations, it is particularly important to comply with the cerpects on the qualitative aspect of information.

Over-regulation by financial authorities can stifle banking activity by increasing bureaucratic bottlenecks. Now that the whole economic and financial system is making extensive use of new information technologies in the conditions of intensified international cooperation, the need for international transmission of all kinds of information has arisen. Due to the implementation of electronic technologies all step-by-step operations become computerized and banks only need to acquire these software programs to create the infrastructure and train the staff, after which electronic systems will be introduced in most of the bank's services and products.

The digitization of lending is profoundly transforming the way financial institutions extend and manage credit. It involves using advanced technologies to automate processes, improve risk analysis and increase the accessibility of financial services.

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Market Diversification and Export Competitiveness: Evidence from Moldova's Agri-Food Sector

Adrian Cojocaru[1] **Liliana Cimpoieș**[2]

[1] PhD student, Academy of Economic Studies of Moldova, Independent Fruit Business Consultant, Chișinău, cojocaru.adrian.rwch@ase.md, ORCID: 009-0007-1221-892X, Corresponding author: cojocaru.adrian.rwch@ase.md

[1] Ph.D., associate professor, Academy of Economic Studies of Moldova, lcimpoies@ase.md, ORCID: 0000-0003-3709-9406

Abstract: In the context of a challenging external political landscape over the past two decades, policymakers in the Republic of Moldova have implemented strategic measures to diversify export markets for the country's agricultural and food products, which traditionally constituted nearly half of the country's exports. The degree of export market diversification serves as an important indicator of international competitiveness, particularly concerning agri-food products. This research aimed to determine the existence of a direct relationship between the degree of export market diversification and exports dynamics for several key Moldovan agricultural products. The analysis utilized the Export Diversification Index (EDI), based on the Herfindahl-Hirschman Index (HHI) methodology, and incorporated export data from 2011 to 2023 as published in the UN Comtrade Database. Results indicate that commodities such as sunflower seeds, wheat, and maize did not exhibit a high correlation between the EDI and export values. Nevertheless, a significant dependence of export growth on the level of market diversification in preceding periods for higher value-added products like fresh fruits and natural honey was observed. Furthermore, products with a higher EDI generally experienced greater export growth.

Keywords: agricultural competitiveness, export diversification, export growth, Export Diversification Index, Moldovan agricultural exports, Moldovan crop exports.

1. Introduction

In a globalised economy, nations confined to a single market for their exports are at risk of economic stagnation or downturn during periods of global or regional instability. The Russian Federation's wine embargo on Moldovan wines in March 2006 exemplifies the hazards associated with an economic sector reliant on a limited number of markets, particularly when one export market is overwhelmingly dominant. The embargo led to the cessation of operations for approximately half of the over 200 wineries and wine-exporting companies in Moldova, while the remainder significantly downsized, struggling to maintain financial stability (BIS, 2019). A similar situation in 2014 further underscored the necessity of export market diversification, not only for wines but also for other agri-food products, especially fruits.

In response, Moldovan policymakers, with the assistance of development partners, notably the EU Twinning program, USAID, World Bank/IFC, and SIDA, initiated comprehensive market diversification programs to enhance the resilience of the agricultural and food sectors. Aligning national legislation with EU standards became a priority, especially since 2009, with producers intensifying their efforts to implement the standards required by target markets. At the same time, Moldovan national stands have increasingly become a regular presence at the most prominent international specialized exhibitions.

Given that numerous authors, including Pathiraja (2022), consider market diversification a crucial component of agricultural competitiveness, this research aims to explore the relationship between the degree of export market diversification and the dynamics of exports for several of Moldova's most exported agricultural products.

2. Relationship between Export Market Diversification and Competitiveness in economic theory

The relationship between export market diversification and competitiveness has been examined in the economic literature by various authors, each offering different perspectives on this connection.

One of the earliest significant contributions to this area was the study conducted by Jean-Émile Denis and Daniel Depelteau in 1985, titled *Market Knowledge, Diversification and Export Expansion*. This research focused on small- and medium-sized manufacturing firms and investigated the influence of market diversification on export growth (Denis, 1985). By analysing the geographical distribution of markets and its role in export expansion, the

authors confirmed the positive impact of market diversification on export performance. The study underscored the critical role of market intelligence in facilitating export growth, emphasizing that information derived from business transactions had a more profound influence on export expansion than reliance on public or private information services. Consequently, the authors recommended that governments and export promotion agencies prioritize providing relevant market intelligence and support for small- and medium-sized firms to enhance their export capabilities. Furthermore, the study explored various international distribution methods, concluding that the choice of distribution channels significantly affects export performance at the level of individual commercial entities.

Another pivotal study in this domain was conducted by Cynthia A. Montgomery in 1985. Her work, *Product-Market Diversification and Market Power*, examined the interrelations between diversification, market structure, and firm performance at the microeconomic level (Montgomery, 1985). Contrary to the commonly held belief that increased market diversification correlates with enhanced competitiveness, her findings indicated that firms with extensive diversification often exhibited lower market power compared to less diversified firms. The evidence that firms that diversified into unrelated markets did not necessarily achieve higher profitability, emphasized the importance of specific market power over general market power. Finally, the conclusions of this study converge towards the idea that market diversification should fall within reasonable limits to ensure efficient exploitation of opportunities on target markets, especially in context of limited resources for market diversification.

A more recent research also confirmed the importance of correctly outlining the target markets, as the study found that high market concentration enhances firm performance when firms engage in related diversification, but, high market concentration reduces firm performance when firms engage in unrelated diversification (Bose, 2025).

The relationship between export market diversification and competitiveness has also been analysed at the mezzo and macro levels. Research has highlighted the positive correlation between export diversification and economic growth, emphasizing that expanding both the range of exported products and geographic markets can enhance economic performance. This approach reduces reliance on a limited number of export commodities and markets, contributing to greater economic stability and resilience (Mejía, 2011).

Another study revealed the importance of market diversification strategies in enhancing the competitiveness of cocoa bean exports, emphasizing the need for a continuous improvement approach to quality to meet the evolving requirements of end markets. Additionally, the research highlighted the opportunity to boost global competitiveness by adding value to exported products, such as producing chocolate and other cocoa-based goods (Montes Ninaquispe, 2025).

3. Methodology

Depending on the purpose of their researches various authors apply different methodologies in assessing market diversification. Some methods are more descriptive like Geographical Market Analysis, or Value Chain Analysis, while the others are mostly focused on identifying certain indexes that can allow a meaningful comparison across various objects of a particular the research, from which is seems that the Herfindahl-Hirschman Index (HHI) has a wider application.

The Herfindahl-Hirschman Index was initially proposed for measuring the market concentration within an industry and was calculated by summing the squares of the market shares of all firms in the industry:

Equation 1: Calculation of Herfindahl-Hirschman Index (HHI)

$$HHI = \sum_{i=1}^{N}\left(s_i^2\right) \quad (1)$$

Where:

- N is the number of firms in the market
- s_i is the market share of the i-th firm, expressed as a percentage

Considering that the market shares are expressed as percentage this index can range from 0 to 10000. Thus a lower value of the index denotes a competitive market with low concentration and a value closer to 10000 signify that a single firm or a small group of firms dominate the market.

Based on this methodology the Export Diversification Index (EDI) was developed, which has been evolving over time with contributions from various researchers and institutions. One notable early contribution was made by the International Monetary Fund (IMF) in their working paper titled "Export Quality in Developing Countries" by Henn, Papageorgiou, and Spatafora in 2013. This paper introduced the EDI as a measure to assess the variety of goods and services a country exports, providing insights into economic resilience and diversification.

More often EDI is calculated to understand how diverse is the export portfolio of a country when assessing its resilience, or vice versa the vulnerability to this country to global market fluctuations. In our case we used this indicator to understand the extent to which Moldova's exports are diversified across different export markets. For this we used the following formula:

Equation 2: Export Diversification Index (EDI)

$$EDI = 1 - \sum_{i=1}^{N}\left(s_i^2\right) \quad (2)$$

Where:

- *N* is the number export markets considered in the analysis
- s_i share of a particular product exported on the market *i* in total exports of that product from Moldova

According to this formula, the EDI values range from 0 to a theoretical maximum approaching 1. A value equal to or close to 0 indicates a country's heavy reliance on a single or limited number of export markets, while a value approaching 1 reflects a high level of diversification across multiple export markets.

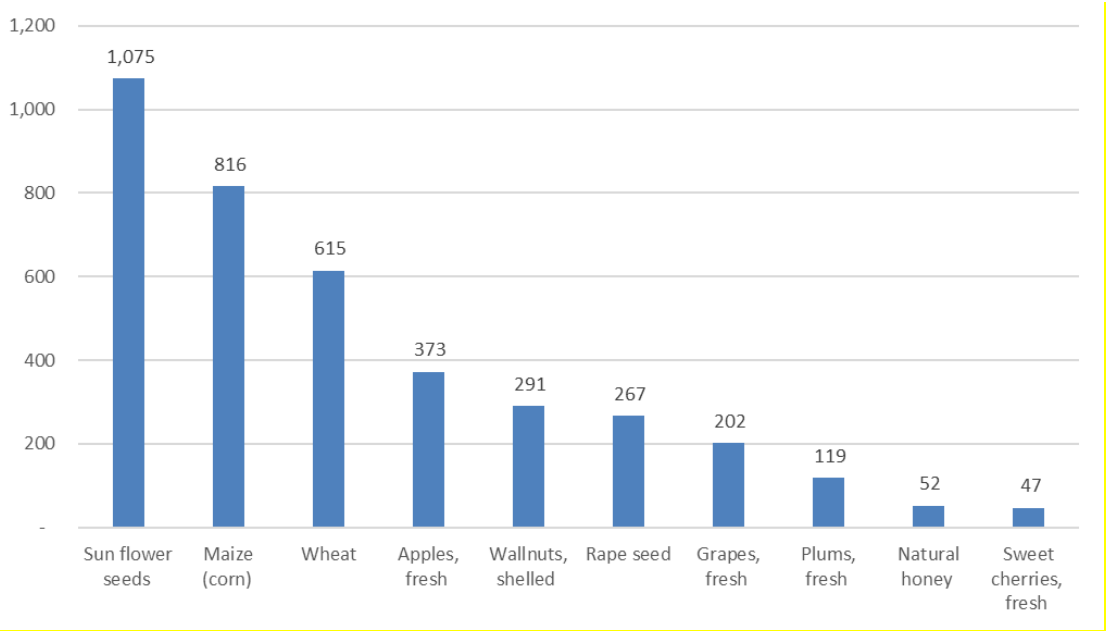
In this study, we analysed the export shares of the top five export destinations, counting that these figures provide sufficient insight into the degree of diversification or concentration of the country's export markets and if there are any dominant export markets. Even if exports are relatively evenly distributed across these markets, the EDI is expected to tend to 0.8, signifying a sufficient diversification level to reduce risks associated with market-specific fluctuations. At the same time, by virtue of the ideas developed in the previous section, having five key export markets, none of which is dominant, may represent an optimal balance (or "golden mean" in other words), ensuring sufficient diversification to reduce the risks related to a particular market, while suggesting greater market power in a few key markets compared to the alternative in which smaller export quantities are dispersed across a larger number of markets.

For this analysis, we utilized export data from 2011 to 2023, published by UN Comtrade, focusing on some of the country's most exported agricultural products. After calculating the Export Diversification Index (EDI) for all selected products, we compared the resulting values with export growth over the same period, expressed as a percentage to ensure comparability across different products. The base year for the analysis was set as 2011, and the number of export markets for each analysed period was also considered to identify potential correlations between these parameters.

4. Findings

Given the severe downturn experienced by the livestock sector in Moldova (Cimpoies, 2024), honey is the only product of animal origin among the top ten most exported agricultural commodities over the past five years, as corroborated by internationally validated statistical data and displayed in the Figure 1.

Figure 1: Top 10 of the most exported agricultural products during 2019-2023, million USD



Source: Authors' research, based on UN Comtrade Database, 2024

In the present research, we analysed the most exported field crops, specifically sunflower seeds, maize, and wheat. Additionally, we examined a list of high-value-added products, specifically comprising fruits such as apples, plums, and grapes, in addition to honey.

According to the data related to the products considered in our research, field crops exhibited relatively high Export Diversification Indices (EDI) throughout the analysed period, with most values exceeding 0.8 (Table 1). Interestingly, an atypical situation was observed in the case of sunflower seed exports, which displayed a lower average EDI compared to wheat and maize, despite a notably higher number of export destinations. This observation may suggest that sunflower seed exports are excessively dispersed. Indeed, the data confirm that exports to certain markets occur in limited quantities and are often sporadic.

Table 1: Number of Export Markets (NEM), Export Diversification Index (EDI) and Export Growth (EG) for the most exported field crops from Moldova during 2011-2023

Period	Sunflower seeds			Wheat			Maize		
	NEM	EDI	EG	NEM	EDI	EG	NEM	EDI	EG
2011	31	0.88	100%	13	0.84	100%	25	0.90	100%
2012	28	0.87	59%	7	0.69	92%	12	0.80	35%
2013	35	0.86	110%	20	0.88	379%	16	0.78	72%
2014	42	0.85	85%	23	0.92	468%	23	0.92	211%
2015	36	0.73	116%	22	0.89	302%	20	0.86	113%
2016	41	0.80	144%	23	0.91	556%	15	0.91	118%
2017	39	0.76	160%	31	0.88	606%	21	0.90	138%
2018	46	0.81	161%	22	0.83	540%	25	0.87	283%
2019	40	0.74	173%	30	0.87	562%	31	0.87	322%
2020	35	0.75	153%	21	0.86	158%	20	0.86	205%
2021	40	0.76	159%	24	0.81	1196%	23	0.86	328%
2022	39	0.68	272%	16	0.51	335%	27	0.75	875%
2023	39	0.62	112%	20	0.53	1289%	19	0.65	371%
Average	38	0.78	139%	21	0.80	507%	21	0.84	244%

Source: Authors' research, based on UN Comtrade Database, 2025

The statistical analysis of the figures above show that none of these products exhibit any meaningful correlation between the EDI and the export growth, however with a correlation coefficient around 0.46 for sunflower and maize and 0.51 for wheat we can see a moderate linear relationship between the export growth (value) and the number of the export markets, which seems absolutely reasonable (Table 1).

By opposite the data sets for the higher added value crops suggest a strong correlation between the main export indicators, like trade value, export growth and the number of export markets and EDI. Comparing the data related

to the trade indicators for most exported high-added-value agricultural products (Table 2) we can see that higher diversification resulted in higher average export growth. Plums and Honey exhibiting a higher Export Diversification Index (0.88 and 0.84) benefitted from a highest average export growth (285% and 703% respectively).

On the other side, the exports of apples that habitually had the least diversified markets, with an average EDI of 0.27 for the analysed period, were quite unstable and suffered the most during the shocks on the end markets. The embargo in 2014 and the invasion of Ukraine in 2022, affected dramatically export figures considering that the Russian Federation, usually took over 95% of all Moldovan apple exports.

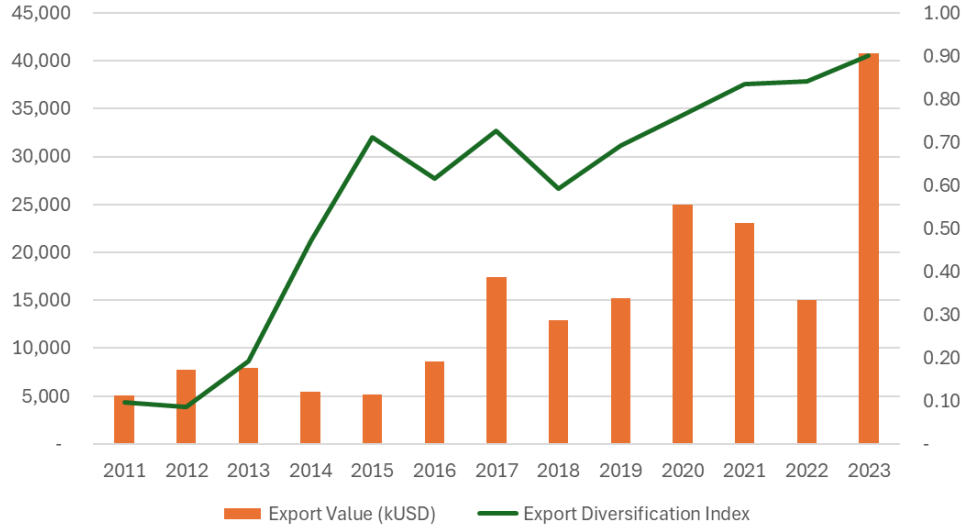
Table 2: Number of Export Markets (NEM), Export Diversification Index (EDI) and Export Growth (EG) for the most exported Moldovan high-added-value agricultural products during 2011-2023

	Apples			Plums			Grapes			Sweet Cherries			Honey		
Period	NEM	EDI	EG	NEM	EDI	EG	NEM	EDI	EG	NEM	EDI	EG	NEM	EDI	EG
2011	12	0.17	100%	4	4.00	100%	9	0.33	100%	3	0.24	100%	11	0.77	100%
2012	6	0.12	68%	7	0.09	152%	10	0.40	83%	3	0.17	121%	11	0.80	187%
2013	11	0.17	82%	5	0.19	155%	9	0.41	97%	2	0.28	151%	15	0.84	263%
2014	19	0.67	43%	14	0.47	107%	17	0.58	115%	2	0.43	129%	17	0.83	785%
2015	20	0.69	31%	14	0.71	101%	18	0.72	96%	5	0.04	243%	20	0.87	770%
2016	16	0.19	43%	14	0.62	169%	15	0.68	116%	2	0.49	29%	22	0.84	716%
2017	20	0.11	80%	18	0.73	341%	21	0.69	220%	2	0.38	66%	23	0.84	1137%
2018	23	0.05	83%	15	0.59	253%	18	0.68	143%	5	0.35	103%	15	0.89	950%
2019	15	0.04	93%	21	0.69	297%	26	0.75	169%	5	0.36	60%	21	0.85	937%
2020	11	0.03	135%	21	0.76	488%	20	0.67	153%	9	0.39	101%	21	0.92	709%
2021	20	0.05	152%	26	0.84	450%	21	0.72	206%	6	0.43	70%	26	0.88	1066%
2022	36	0.47	157%	26	0.84	294%	23	0.83	243%	8	0.47	172%	24	0.88	1039%
2023	49	0.68	108%	33	0.90	798%	34	0.82	378%	14	0.83	344%	28	0.74	487%
Average	20	0.27	90%	17	0.88	285%	19	0.64	163%	5	0.37	130%	20	0.84	703%

Source: Authors' research, based on UN Comtrade Database, 2025

An interesting observation is that the level of export diversification within certain period may have an impact on export growth in the following years. Analysing the dynamics in the Figure 2 we can see that fresh plum exports patterns generally followed the ones of the EDI, but with a certain lag. The analysis of statistical data identified a correlation coefficient between these parameters exceeding 0.5, the maximum being 0.74 in the case of a 3-year lag suggesting the existence of a strong dependence of export values on the level of diversification in previous years.

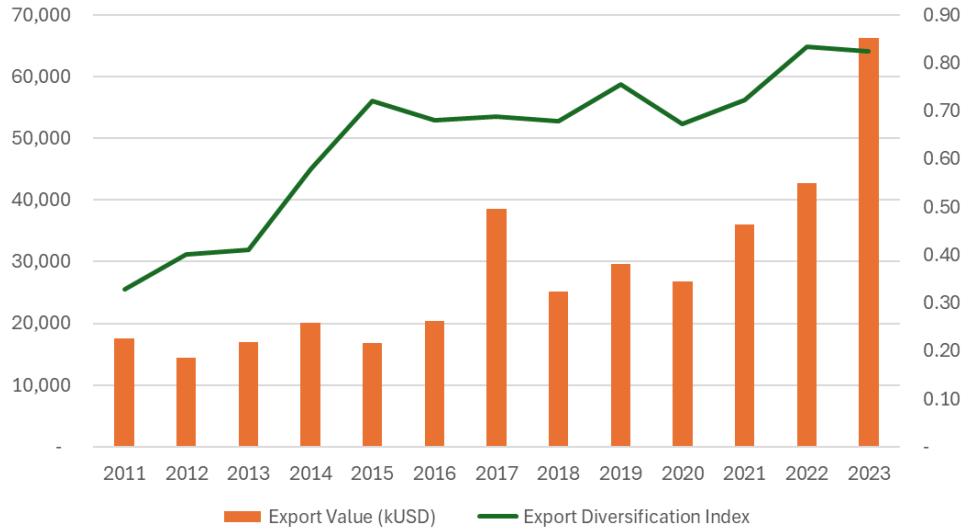
Figure 3: Evolution of Moldovan plum Export Values and the Export Diversification Index in 2011-2023



Source: Authors' research, based on UN Comtrade Database, 2025

A similar relation was seen for grapes, but in this case the highest correlation coefficient (0.70) was observed in case of 1 year lag.

Figure 4: Evolution of Moldovan plum Export Values and the Export Diversification Index in 2011-2023



Similar to the field crops, high-added-value products demonstrate a linear relationship between the number of export markets and the export value. Moreover, for these products, the correlation is even more pronounced, with coefficients ranging from 0.63 for honey to 0.88 for grapes. Apples deviate from this pattern, exhibiting a lower correlation coefficient of 0.31. This can be attributed to the fact that apple exporters most often approached alternative markets only as a response to difficulties in accessing their main export market, the Russian Federation, with market diversification activities not being considered in a strategic and consistent manner.

5. Conclusions

Market diversification and economic competitiveness are deeply connected. More diversified markets for certain products brings more stability of exports, as negative fluctuations or turbulences on particular export markets have a higher chance to be tempered by the evolutions on the other markets, thereby cushioning the adverse effects.

Besides risk mitigation, diversification drives adaptability, innovation, and market reach, fostering stronger economic relationships. These factors collectively enhance the economic competitiveness at the level of entire sectors and or even at the national level. By embracing diversification, nations can build a robust and resilient economy, well-tuned to face the challenges and opportunities of an interconnected world.

By opposite reliance on a singular market for exports can spell difficulties if that market faces economic difficulties, changes in trade policies or is not accessible from various reasons. In this context, the dependence of Moldovan apple exports on the Russian market is a telling example about the vulnerability of a such situation, when any turmoil related to that market significantly affected not just the overall export figures, but also the abilities of many producers to keep their businesses alive.

At the same time, selling on a higher number of markets per se speaks about the ability to meet the requirements of these markets, suggesting a higher degree of competitiveness of the products that are sold. When a country engages with multiple international markets, it exposes its industries to a variety of consumer preferences and standards. This exposure drives innovation, quality improvement and competitive pricing. Firms that compete in multiple markets are often more resilient and adaptable, gaining a competitive edge not just internationally, but also within their domestic markets (Jaya, 2021).

On the other hand, and efficient market diversification requires a strategic approach because higher market diversification does not always mean greater profitability of export operations, especially if it concerning to unrelated markets. This study also demonstrates that in case of commodities like wheat, sunflower seeds or maize, higher market diversification did not always result in higher exports. This may suggest that the stability of the markets is more important than their number, meaning fewer stable markets from which none is dominant can be better than a high number of more volatile markets.

A balanced level of market diversification can contribute to better use of resources related to exploring new markets, creation of logistic infrastructure, or distribution channels. Companies often achieve synergies by focusing on related markets or products. Vast diversification might limit the ability to leverage these synergies. Moreover, exports to a higher number of markets may bring managerial complexity and be more resource-intensive. This can lead to inefficiencies and difficulties in maintaining control and oversight, especially in case of unfamiliar markets, varied regulatory environments and customer needs.

The Moldovan fresh fruits sector has benefited of a particular attention from the country's authorities for the last 2 decades, market diversification being one of the most important aspect considered especially since the Russian embargo in 2014. However, it looks like these activities need to be more focused, prioritising the target markets considering at least criteria like buying power in the respective countries, stability, including political stability, existent or potential to build an efficient logistic infrastructure, abilities to comply to local legal requirements and customers' needs, possibility to implement meaningful marketing activities, presence of other Moldovan products on those markets, that can allow a synergic effect of marketing campaigns. Thus, focusing on fewer, but better markets can boost a higher presence on the respective markets translated into more market power, and due to scale effect, more efficient export operations.

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Changes in Recruitment Systems in the 21st Century

Adrienn Bartha[1] **Szilárd Malatyinszki**[2]

[1] John von Neumann University Doctoral School of Management and Business Administration, Hungary, 6000 Kecskemét, Izsaki str. 10. JTVR3O@hallgato.nje.hu, ORCID: 0009-0009-0843-8641

[2] Kodolanyi University, Faculty of Economics, Hungary, 8000 Szekesfehervar, Rákóczi str. 25., e-mail: malatyinszki.szilard@gmail.com, ORCID: 0000-0002-1624-490

Abstract: In the age of digital technology and enterprise management systems, recruitment systems in the world of human resource management have changed significantly. Recruitment tools have evolved that take full advantage of digitalisation and use artificial intelligence to have a significant impact on both recruitment and the management of the selection process. With the entry of today's Generation Z and their unique information processing habits and digital footprints, they have radically changed the way we used to think about the employment relationship and the way we work. The need for rapid and continuous development, collaboration and cooperation has become paramount. Selection systems have changed and digital tools have taken over the core tasks that support HR professionals. In our research, based on literature and our experience, we explore what new tools employers are using in their selection processes and what opportunities employees have to be more successful in the labour market. Our research presents tools for employers to successfully and effectively recruit, improve their efficiency and reach out more effectively to the Generation Z community.

Keywords: recruitment systems, labour market, digitalisation, Generation Z

1. INTRODUCTION

By the 21st century, the labour market has changed significantly. It is not necessarily a labour market, but a market for the supply of activities. Whereas in the labour market there are workers and they perform the tasks with their physical and mental skills, knowledge and experience, there are now a significant number of substitutes. Industry 4.0/5.0 and digitalisation have transformed our thinking about the workforce to such an extent that employers and organisational leaders are perhaps thinking first about how technology and innovation can replace and reduce the activities of workers rather than the staffing needs. Digitalisation tools, enterprise management systems and digital processes can significantly reduce the need for live labour. Heavy physical work was replaced in the 20th century by machines, then by advanced technologies and highly collaborative systems, and today by computer networks, software and storage facilities, replacing paper-based documentation that once seemed indispensable. With the completion of digitisation, the volume and quality of data is such that processing and analysing it has given rise to a new industry. Data-driven decision-making will of course also play a role in recruitment and selection processes.

The economic crisis of 2008, the COVID 19 virus crisis and its effects have shown economic actors that new thinking is needed. The scarcity of financial resources forced workers to move from renting large office buildings to smaller, more modest rented premises and properties, and to carry out part of their work at home. It was not possible to do personal work in communal spaces, large open-plan offices or even in any way in companies during the virus outbreak. To this end,) have been developed and strengthenedthe IT and management methods (recruitment, selection, placement, monitoring and motivation systems) that support teleworking (, enabling workers to work and create value away from the workplace. With the end of the crises, these cost-effective solutions have been maintained and even developed, as employers have realised that it can be in the interests of employees to support home working as a means of maintaining a family/work balance. Of course, there are still jobs that require presence in production, and not all workers and life situations are suitable for teleworking.

Coming back to recruitment processes, as soon as technology allowed the paper CV to be replaced by e-mail cover letters, CVs or online applications, employers introduced these systems to make their job easier. Subsequently, new software was needed to filter and analyse the incoming data, and today, with access to information on the internet, it is possible to fully inform both the employee and the employer on the basis of the data in the digital space.

2. MATERIAL AND METHOD

On the one hand, our research uses secondary source analysis to examine the concepts and terms that have helped human resource managers to adopt digital tools. On the other hand, we provide examples of tools that

have appeared in practice and assisted both employers and employees. We also identify empirically the strengths and weaknesses digital tools.that emerge with the introduction of On the employer side, we conducted interviews on the organisational and functional maturity with which these tools are already emerging and the effectiveness with which they have been rolled out.

3. OUTCOME AND DISCUSSION

3.1. Digitalisation in the organisation

Digitalisation is an elusive concept for many. They understand that phones and computers are constantly changing and they accept that they now have to manage a process through software, but it is difficult to translate for them why this is happening. Digital transformation is 'the development of unique and integrated organisational capabilities, building on the capabilities of pervasive, readily available technologies, that make an organisation receptive to continuous change in the environment' (Sebastian, I. M., Ross, J. W., Beath, C., Mocker, M., Moloney, K. G., Fonstad, N. O. 2017). Digitalisation means the digitisation of content, processes and objects that were previously physical or analogue concepts. Digital transformation is at a higher level, as it is a commitment to fundamentally transform the way an organisation works. Transformation is not about a company investing in a new technology or developing and incorporating it. Digital transformation transforms the way value is created (Csedő Z., Zavarkó M., Sára Z. 2019)

If a company wants to digitise its processes, it can target several levels. The first level is to move away from paper documents and capture them digitally, with the advantage of searchability and more secure storage (digitisation). The second level is the digital mapping and tracking of processes, which allows for process optimisation, an example of which is the Order-to-Cash process. Level three the firstcan occur after two levels have been reached - this is the automation or robotisation of processes. At this level, the human factor is replaced by algorithms to process structured data sets. Robotic Process Automation (RPA) is now able to perform more complex tasks with uncertain outcomes. In the next step, software robots can work in the usual user interface of IT applications, mimicking workers. It is possible, for example, that invoices are processed by a software robot after full automation (sorting, processing, accounting). The fifth level is the application of learning systems. These systems already use artificial intelligence and have the potential for continuous improvement, can prepare decisions and make forecasts (Marcziniak R., Móricz P., Baksa M. 2020)

The advantage of robotisation is that the robot can operate 24 hours a day with a lower error rate. The freed-up resources can be used by the employer for more creative tasks and the motivation to diversify the workload is much higher than monotonous work.

Changing market needs and the spread of new generations of consumers and online channels also require new customer experiences. The change in the processes of organisations (digitisation, digitalisation and digital switchover) naturally brings with it a change in organisational culture. Not everyone is enthusiastic about the fact that a previously analogue process (e.g. moving a paper-based satisfaction survey to an online space) is being done and is provoking resistance from many employees, even if we look at municipalities, and negatively affecting the customer experience (KPMG 2022). Identifying stakeholders, assessing needs is a key element of digital strategy making and it is also advisable to 'evolve' the organisational culture along with digital development.

In the long run, the employee pays for it, and recruitment opportunities are scarce and costs high. While unemployment used to be 10-15%, employers had much more choice, nowadays in more developed regions unemployment is almost frictional. In many places, companies are bidding against each other with ever higher wages to lure workers. This is a positive process in the interests of the workers, but the future competitiveness of firms is almost only possible by attracting workers from Ukraine, Romania, Serbia or even further afield.

3.2. Changes in recruitment processes

Traditionally, recruitment used to be done on signs outside the factory gates, and then newspaper articles and word of mouth took over. Today, when someone is looking for a job or changing jobs, they browse social networking sites, websites or send their CV to a headhunting company. Traditionally, there has been a generational divide in strategies for finding a job. Generation X is still almost digitally illiterate, rarely looks for jobs online and asks their children or government employees to help them with their CVs. Generation Y members have already had to learn about online job opportunities, online platforms, cloud storage and video calling. It is true that mobile phones were a novelty for today's adults when they were young, but they have learned and are

forced by life to process and create digital content (Tarki A. - Kanara K. 2019). Today's young people's recruitment strategies are dominated by internet portals, social networking sites and personal networks (Fromm J. 2018). Members of Generation Z have not lived without the world of the internet. They now prefer to look for a job on social networking sites and post on a community group when they are looking for a job. Yes, a job, not a job. They are not keen to work in a fixed job, they take on jobs as self-employed, freelance, or join an online business as part-timers. They don't think much about traditional manual work anymore. They want to create, but not with physical tools. In the online space, organising a community, selling products and services through an online store, trading, or doing marketing and graphic design. The perspective described is a bit narrow, but the fixed space and time connection to a workplace is becoming increasingly difficult for them to manage. They would like to work when they get out of bed and with as little travel as possible... from home if possible.

The lower-skilled groups of older generations X and Y are finding it increasingly difficult to find work - especially in the communities of multinational companies - while the younger generations would be in great demand but would much rather be freelancers. This is one of the contradictions of the 21st century. Today, there is a growing demand for skilled workers in Hungary. There is also a governmental and chamber of commerce effort in Hungary to get more and more people who have graduated from high school to learn a trade, while the second trade has also become free. Companies are paying ever higher wages in order to find skilled workers. The minimum wage for people with vocational qualifications is rising. the above, As a result of we are confident that in the long term, the prestige of skilled manual work will be strengthened and that a growing proportion of those with experience and working abroad will return home.

Generation Z people now choose their own jobs, not the other way around. Headhunters in managerial roles and IT are already earning commissions per employee. In the recruitment profession, pre-screening software and competency testing programmes have replaced interviews. Live interviews are rare in the first one or two rounds, with online tests replacing tests and questions. significant

There is a trend in job advertisements to rely more on competency level descriptions than on qualifications and degree requirements. The content associated with each occupation is changing so rapidly that vocational training and higher education are less and less able to reflect this. Instead of defining content, the focus has shifted to skills and competences - measured by input tests alongside motivation and placement opportunities.

3.3. AI-based platforms in job search

Artificial intelligence is now emerging from both the employee and employer sides. A well-chosen software can save a lot of time on both sides and a professional who is good at using the software is a great advantage in human resource management (Bokodi, M. 2019).

3.3.1. Software that jobseekers can use

Based on AI is able to collect personalised job offers. The advantage of this is that the candidate does not have to deal with offers that are not relevant - it saves time - and on the other hand, we can specify in the parameters what type of jobs we do not want to fill. Such automatic job search bots are LinkedIn Easy Apply Chrome Extenxsion, job bot, lazyapply, etc. There are also programs that can optimize your CV for the expected needs after a proper analysis. Such software are:an uploaded CV, skills and experience, Rezi, Kickresume, Teal, Sobscah, VisualCV. It is able to suggest how the jobseeker should adapt his/her CV to the specific position. If you specify the company for which you want to create a cover letter, it can generate one automatically. It is useful, however, to review this generated content and add individual thoughts, suggestions for improvement and vision-building plans.

In addition, AI also provides support for interview simulations. Chatbots and AI assistants can simulate job interviews, helping you fine-tune your answers. Such programs include, but are not limited to, Linkedin, HireVue, ChatGPT, Glassdoor, Indeed, ZipRecruiter, Upwork, Pymetrics, CareerBuilder, etc. More and more companies are using AI-based video interviews for initial screening, and HireVue is one of the most popular such platforms. Essentially, you answer pre-recorded questions into a camera, and the AI analyses your body language, speaking style and responses. It's a good idea to be prepared for this, because if the AI doesn't think you're convincing enough, you might not even get to the HR person (https://www.hirevue.com). You can ask for support on a relevant job offer via LinkedIn or other platforms, and AI can even provide you with contacts who can help you get close to the companies. And if that's not enough, AI can also help analyse speech, body language and how confident a candidate is (https://www.myinterview.com).

Jobscan helps you avoid ending up in the ATS (Applicant Tracking System) bin. It is an automated filtering system that looks through CVs and ranks them according to the keywords you enter in the job advertisement. Jobscan helps by comparing your CV with the job advertisement and showing you what keywords to include so that you don't end up in the "Not Suitable" pile (www.jobscan.co).

Another tool that can help is ResyMatch, which analyses your CV and compares it with the job advertisement. It shows how well your CV matches the position and highlights missing keywords. It's good that there's a free version (www.resymatch.io). There's also already available to a job search dashboard help those who have submitted tens of applications and you can track where the candidate is in the process on Teal. It supports follow-up and provides alerts if something is forgotten.

3.3.2. Tools for employers and recruiters

AI has the ability and capacity to quickly and without subjective elements review applications, CVs, cover letters and highlight the most suitable candidates based on the parameters. In addition, it can analyse candidate profiles and predict a candidate's suitability based on past data, skills and specific experience. It can also be a huge help that chatbots can conduct preliminary interviews with candidates. This can save HR professionals and managers a huge amount of time and money. From the candidates' side, it is also cost-effective as it supports efficient time management and environmental awareness by reducing and eliminating travel time Czeily, T. 2024).

Employers can be supported by trend analysis software that can model what skills will be in demandthe next period, based on trends. in each region over. They can then use this to shape the development plans of individual sites or change their vision for telework. AI can also support employee satisfaction with existing employees by involving them in performance appraisals, satisfaction surveys, suggesting promotions and thus reducing turnover.

3.4. Gamification, or choosing conveniently

HireVue is not only good for video interviews, it also offers gamified assessments. For some positions, you get games that test how good your problem solving is, how you handle complex situations or how analytical you are. The system automatically scores your performance, and the employer sees how well you fit into the role.

Arctic Shores is another gamification-based assessment platform that measures skills in a unique way. It is not a classic test but uses interactive tasks to assess how people make decisions, behave in stressful situations and their problem-solving skills. It allows companies to better assess whether someone is a good fit for their culture (https://www.arcticshores.com). gamified AI-based HR selection is a completely new system. Knack is an AI-based gamification selection platform that also offers small interactive games to candidates. These games measure not only logical skills but also creativity, teamwork and individual decision-making mechanisms. The more of these exercises one goes through, the more one can see which job one would do best in (www.knackapp.com). In addition to this, there are also serious psychological tests available for experts to use. Pymetrics is a selection system that measures candidates' competences through psychological and neuroscience-based games. Instead of taking a dry test, you have to go through different mini-games that measure the candidate's skills such as risk-taking, decision-making, attention or even emotional intelligence. The AI then compares the results with those who have already been successful in the position (Czeily, T., & Dajnoki, K. 2022)

4. CONCLUSION

The value of human resources has changed completely with the technological advances of our time. The role of the former manual worker is increasingly being pushed into the background as their tasks are automated and replaced by robots and software. The thinking, creative workforce, today's Generation Z, requires a completely different working environment and a different management approach. Workers' attitudes to the workplace have changed; they demand telecommuting, working from home, advanced technologies and young people no longer think at all about working eight hours a day in an office if they can spend it in a pleasant environment. To create this working environment, completely different workplaces need to be created, or workers need to be allowed to work from home, with different control systems and motivation systems. Digitalisation and data-driven decision-making has also changed recruitment systems. Employees can easily find and filter job offers that are relevant to them using software, AI and bots, while optimising their digital profiles, CVs and cover letters to match. Employees a cost-effective way, according to the job role and skills required, in a style that matches the organisational culturecan produce job offers in. After a software pre-screening process, the applications received can be selected using digital video chat software, so HR professionals only need to meet the candidates they find

most valuable. Processes can be fully optimised and in the end, the best candidate for everyone wins the job. Technology goes beyond this; we are able to 'predict' a candidate's success within the organisation, within the organisational culture.

The above process is rather impersonal, it does not reflect the specificity of the job applicant's personal interview to consider whether he/she wants to work with the boss in the long term in the given organisational culture. Today in Hungary, more than 50% of jobs are filled through personal contacts. Are digital tools necessary or is management experience enough? Will the digital world make recruitment and selection better or more impersonal? If it is true that automated processes are being solved by technology and digitalisation and that there is an increasing need for creative, highly educated workers who can work with machines, do we not want to know them as people? If people are the most valuable "productive asset", then isn't getting to know their creativity, their creative drive, their motivation worth the investment to listen to them in person?

The recruitment systems of the future are likely to emerge from the consolidation of these two processes, but it is almost certain that Generation Z will be a digitally savvy, remote working community working cooperatively. In the new world, it will be the expected outcome, not the job, that will matter, and employers and customers will measure performance not by time spent at work, but by the extent to which value is created.

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Grape And Fruit Wine Treatment And Taxation In Different Economies Of Europe

mg.oec. Agris Raipalis[1] **dr.oec. Biruta Sloka[2]**

[1] University of Latvia, Faculty of Economics and Social Sciences, Department of Management and Business, agris.raipalis@lu.lv, ORCID: 0009-0004-6687-4998

[2] University of Latvia, Faculty of Economics and Social Sciences, Department of Management and Business, biruta.sloka@lu.lv, ORCID: 0000-0003-2129-053X

Abstract: This study examines the treatment and taxation of grape and fruit wines within the European economic landscape, focusing on the past decade, particularly the last five years. It aims to compare the taxation policies applied to these distinct wine categories and analyze their respective roles in European economies. Through a combination of literature review, policy analysis, and quantitative data analysis, specifically examining excise tax directives and trade statistics, the research reveals a significant disparity in industry development and economic impact. Role of fruit wines as raw material for grape wine substitute products is not well noticed and lacks in research field. Grape wines, benefiting from a longer history and established infrastructure, exhibit a broader industrial footprint across Europe, including in regions with traditional fruit and berry wine production. Findings indicate that while grape wine enjoys consistent policy support, fruit wine taxation and regulation vary significantly across member states, hindering its potential for market expansion. This study underscores the need for harmonized level policies of Europe to address the unique challenges and opportunities presented by the fruit wine sector. The study concludes that historical precedence and established supply chains contribute to the enduring dominance of grape wines, despite the growing recognition and economic potential of fruit wines in certain European markets.

Key Words: Fruit Wine, Excise Tax, Berry Wine

1. INTRODUCTION

History of wine is long and it's a topic with ongoing research and evolving understanding. The earliest chemically confirmed alcoholic beverage comes from Jiahu, a Neolithic village in the area of Yellow River Valley of China. Residues found in pottery indicate a mixed fermented drink of rice, honey, and hawthorn fruit or grapes, dating back to approximately 9 thousand years from today. This discovery and research was done by team of Patrick McGovern, published in PNAS, 2024th. Their work on "Fermented Beverages of Pre- and Proto-historic China" provides valuable insights and moves whole history of alcohol away from Middle East and Africa. It is also known fact that in a cave near Haifa in modern day Israel, researchers have found residue of 13 thousand year old beer, but it has no chemically confirmed alcohol presence and it is not a wine. Many cultures worldwide independently developed fermented beverages using local resources, climatic conditions and nature. It's important to remember that natural fermentation occurs spontaneously: therefore it is likely that humans discovered alcoholic beverages long before they intentionally started to produce them. For example, overripe fruit will naturally ferment and humans in case of interest could use this practice. Scientific researches show as the very first alcohol to be produced fermented beverages what do not require additional procedures: easy to produce, close to natural circumstances. And in these findings grapes are not the first and not the only ingredients of wine. Even in findings of Patrick McGovern in China it is not clear is it hawthorn fruit or grape what has been used. In popular literature for various reasons and mainly for sake of grape wine industry lobby it is stated that the very first alcohol is grape wine. Although grape wine in ancient history was rarely, if ever, purely made out of grapes as it is in the modern sense. For reasons of preservation, transportation, flavoring and enhancing there were always additives to the wine: honey, resins, spices, herbs, and other fruits were added to enhance or alter the flavor of wine. It took many millennia to achieve technology of winemaking where grapes can be used as the only raw material. And long way has been went to develop grape varieties for corresponding level of sugar content and other characteristics that are necessary for wine making. But this development has created misleading image of grape wine as the very first, the very best and the most important among alcoholic beverages due to vast and even enormous industry of winemaking around the world and especially in Europe where it is one of leading agricultures.

Fruit wines deserve their place in history, science and production as not only and not particularly grapes were the first to produce fermented beverages. Even today many countries continue fruit wine production for various reasons – climate, traditions, economic advantages, production preferences, taxation privileges and other reasons. Grape wine prestigious status makes several European economies mistreat fruit wines and to have less supportive attitude in various ways. It should be researched further.

1. FRUIT WINES IN REGULATORY FRAMEWORK

Regulatory framework corresponding to alcohol taxation in European Union is under Directive 92/84/EEC. This Directive regulates only 4 major alcohol categories:

a) alcohol and alcoholic beverages,

b) intermediate products,

c) wine,

d) beer.

Nowhere in this Directive is mentioned description of each of these categories: it provides improvisation opportunities. So we assume that alcohol and alcoholic beverages are based on distilled alcohol, intermediate products assume blend of fermented and distilled alcohol where first should be dominant, beer as product corresponding to particular type of production and fermentation based on grain malt, while wine undermines all traditionally fermented alcoholic beverages. So in this group should be both grape wines and sparkling wines, also fruit and berry wines, including ciders and beverages based on fruit wine that do not carry characteristics of raw material, but excluding several types of fruit based beers as production method differs from wine making. So according to this logics all wines and similar to them fermented beverages in European Union are treated equally and are released from excise tax application. So far treatment of fruit wines seems to be fair and equal to grape wines. Also treatment of all alcohol excise taxation groups is equal in terms of transportation (Excise Movement and Control System [EMCS]) as each member state (MS) is entitled to provide taxation above minima stated by the Directive – therefore even with excise tax rate at zero requires treatment as to goods with excise tax.

Each MS of European Union interprets these excise taxation groups of alcohol in their own way. Even though often excise tax is equal for fruit wines and grape wines, legally for local statistics there can be one or several excise taxation groups separately for fermented beverages that undermine fruit wines. It is well seen in Eurostat data which gathers information from all MS and then places into frame of only 4 or sometimes 5 groups where sparkling wines may be separate from still wines: and then by additional explanations we see remarks on several MS – of what kind of products are included in which group. For example, Romania notes that in wine category includes also still fermented beverages, United Kingdom noted that sparkling wines included sparkling fermented beverages, but now still wine includes all sparkling wines and beverages. Such exceptions are many – it refers to diversity of interpretation of previously mentioned Directive. There are states that may provide European and international analysts with unprecise data as well – by providing consumption data only of those beverages that bear excise tax, as only about taxed beverages data has been collected. For example, Portugal provides data of wine which includes only other fermented beverages or to say: only fruit wine based, without data of grape wine. There is the same with sparkling wine: data issued is only about other fermented beverages, not about sparkling grape wines as they do not bear excise tax what is allowed in European Union. It clearly states that fruit wines in some countries are not only treated, but also taxed different from grape wines.

If fermented wines have issues, then intermediate products have even more of discrimination – in various countries in order to avoid advantages of excise tax rates intermediate products are related to strong alcohol and correspondingly taxed what causes also difficulties with statistics as intermediate products sometimes are included in strong alcohol category reports. For this research it is important due to the fact that in many economies raw material for intermediate products is fruit wine, rather than grape wine due to price differences. By this we can state that fruit wines are usually to be found within groups of wine and intermediate products in Eurostat and other international reports.

Due to the fact that each MS has their own regulatory framework and they have such rights, it is not an easy task to track down fruit wines. Also diversity of alcoholic products that use fruit wine as raw material make this task complicated. And general character of laws and other legal material both gives opportunities to producers, but also shows that state does not follow up fast development of the market and alcohol production industry. It causes not only difficulties and challenges for researchers, but also and mainly for final consumers to have opportunities to evaluate their choices. It also limits the country's economy from control over the industry what may lead to unnoticed opportunities and necessities to be supported or limited. Easier it is with more easy trackable fruit wines – ciders. These apple wines have centuries long history, in some areas strict laws for production and marketing. Due to low alcohol content ciders in some countries have benefits to have no excise tax rate or to have it lower than other fermented beverages. In several European countries it is used also to

support production of beverages that use locally grown typical fruits and berries, but no success has been observed. In several countries are results to reach health indicative results by promoting usage of lower alcohol content beverages that usually are not convenient for grape based products.

Few countries have legal definition on fruit wines, the same as on many other types of alcohol. But the main confusion is when fruit wine is used as raw material while taxation is related particularly to it, not to the alcohol type. Fruit wines as basic raw material we can find both in pure fruit and berry wines of various taste pallets, also in light fermented beverages like ciders and similar to them products, including ready to drink (RTD) or fermented alcoholic beverages (FAB), in grape still wine and sparkling wine substitute products, in grape fortified wine substitute products. The range is wide and due to various taste, aroma and color opportunities both consumers and analysts may be misled to which alcohol category product should be related. This is shortage of regulatory framework as it does not grant consumers and even retailers of their rights to be fully informed about the product.

2. Glorious grape wine and cousin fruit wine

Appellations and other marketing tools have granted prestigious role for grape wines in Europe and abroad already for more than century. It started as a tool to promote particular wines of France and has ended as mass protection of European grape wine industry both for inner market and for global protection. Since new global alliances and trade agreements advantages given by the names of several types and Appellations of grape wines have ended as Europe has gained power for what they have invented and promoted. For example, there is no more Chablis wine produced in Australia, never the less it used to obtain higher popularity than the original from France, and there is no more Medoc from Chile, never the less unlike in Europe, where phylloxera eliminated all vineyards, in Chile are still growing original grapes that used to create Medoc style of wine. There is separate industry for grape wines that deals exclusively with promotion, and especially it is for European grape wines – something similar may be seen in the United States and Chile, but not of that scale. This is one instrument what attempts to make grape wines glorious compared to any other fermented beverages, and even among grape wines as such.

Story telling plays major role for image of people and wine is not an exception. Biblical scenes and religious rituals along with legends from Ancient world serve as granted promotion for wine and particularly for red wine. It is so strong that not only in medieval times, but even nowadays red wine is recommended by medics for pregnant woman and breastfeeding mothers: as a source of minerals and especially iron, and also as a stimulator of processes in body along with revitalization of blood and increase of blood pressure. Such partially scientifically approved arguments are given and they work as a marketing for grape wine. Even brandy which is produced by distillation of grape wine is promoted as good for health unlike any other strong alcohol. It is important to be conscious of such a practice when we evaluate available information on grape and fruit wines as about the others there is not met such a story telling and marketing. Even though marketing arguments are not always based in hard evidence, from economic point of view it has strong influence and requests to be taken into account when we evaluate treatment and taxation of different raw material wines. But to be correct and objective in each market and economy towards each individual industry it is necessary to make calculations and evaluations by taking into consideration both hard facts like economic impact, statistical evidence like health indicators and also subjective factors like reputation that might play crucial role in politics.

Here is provided simplified model using a Public Choice Theory framework, incorporating James M. Buchanan's insights, and focusing on the state's decision-making process regarding grape wines versus fruit wine support.

a) State Gains (G) (economic impact, tax revenue, employment rates, agricultural importance etc.):

G_g: Gains from the grape wine industry.

G_f: Gains from the fruit wine industry.

b) Reputation (R) (historical perception, consumer preference, local traditions and habits):

R_g: Reputation of grape wine in the state.

R_f: Reputation of fruit wine in the state.

c) Alcohol Reduction Preference (A):

A: variable representing the state's preference for reducing alcohol consumption. Higher A values indicate a stronger preference.

Variables and Model:

State Utility (U):

U = W_g * (G_g + k1 * R_g) + W_f * (G_f + k2 * R_f) - A * (Avg_g - Avg_f)

Weights (W):

W_g: Weight assigned to the grape wine industry.

W_f: Weight assigned to the fruit wine industry.

W_g + W_f = 1 (This means the weights must be in balance, up to 1)

Gains (G):

G_g and G_f are measured in monetary terms or a comparable unit.

Reputation (R):

R_g and R_f are assigned a value based on public perception and historical context. This could be a scaled value, for example, from 0 to 1, or a value based on market research.

k1 and k2 are constants which modify the impact of reputation on the overall state utility.

Alcohol Reduction (A):

A is a policy parameter set by the state.

Avg_g: The average alcohol content of grape wine.

Avg_f: the average alcohol content of fruit wine.

Explanation: the first part of the utility function (W_g * (G_g + k1 * R_g) + W_f * (G_f + k2 * R_f)) represents the state's gains from both industries, adjusted for their respective reputations.

The second part of the utility function (- A * (Avg_g - Avg_f)) represents the cost to the state of higher alcohol consumption. If the state strongly prefers alcohol reduction (high A), it will favor the industry with lower average alcohol content.

The weights (W_g and W_f) reflect the state's political priorities and the influence of interest groups.

The State will choose the weights W_g and W_f that maximize the utility function U.

This is a simplified model what does not capture all the complexities of the real world. The values of some variables, such as reputation, are subjective and difficult to measure. The model assumes the state acts as a single, rational actor, which may not always be the case. This model provides a framework for analyzing the state's decision-making process using a Public Choice lens. It highlights the importance of considering political factors, interest group influence, and the state's own objectives. It allows to measure in each state separately necessary politics to be taken for taxation and treatment among grape wines and fruit wines as each industry provides different opportunities, preferences and risks.

3. Production of fruit wines and production with fruit wines

Market data shows that pure fruit wines are rather niche products. Lobby of grape wines with glorious image has pushed out fruit wines from mainstream consumption in majority of markets. Especially in markets which are considered to be wine production economies, mainly southern and central part of Europe. There fruit wines and even fruit wine based beverages are rare to be met. In Eastern Europe, Far East Europe (Armenia, Azerbaijan, Georgia, Ukraine), Northern Europe and South-East Europe have traditions and ongoing production of fruit and berry wines – both for varietal still and sparkling wines, fortified wines, dessert wines, liqueur wines, digestives, wines of particular region with strict rules and traditions, sparkling beverages with additives different from raw material. Both producers and consumers do not feel ashamed to consume other wines than made from grapes only, quit opposite – some of these wines are not only popular, but also rather prestigious and of high price level. As fruit and berry wines include various varieties, obviously it gives advantages and wider range of production

compared to grapes while grapes have big yields and high sugar level for alcohol production. Grape wine industry has gained both massive production scale that improves price and also state and European Community subsides what both together combined give high economic advantage versus fruit and berry wine industry. In Table 1 are shown opportunities of production from grape wine and fruit wine raw material:

Table 1. Grape and fruit wine raw material production capability comparison in 2025

Products	Grape wine	Fruit wine
Varietal wine		
Appleation wine		
Table wine		
Dessert wine		
Varietal sparkling wine		
Appleation sparkling wine		
Regular sparkline wine		
Sparkling beverage with additives		
Cider		
FAB		
RTD		
Vermouth and similar beverages		
Fortified wine		
Liqueur wine		

Source: Created by Agris Raipalis, data source: open access information.

Cider is the only fermented beverage that is not technically possible to be produced from grape wine, FABs are produced from grape material, but it small amount, while RTD is produced in even smaller amount due to price efficiency reasons. There are few Appellations or similar to them conditions for fruit and berry wines and sparkling wines, but they do exist and do not make any competition to grape wine Appellations. By Table 1 we see that technologies allow both for grapes and fruits to substitute each other in wine production. The main question is on perception of retailers and consumers – do they demand one or another product to be made particularly of one or another raw material.

Here rises question – to produce fruit wines of products with fruit wine content: what gives more advantages to economy? In Eastern Europe already for decade or more sparkling wine category is changing and going closer to fruit wine industry rather than grape wine. Depending on economic circumstances reasons may vary – price efficiency or production advantages as apple wine is usually cheaper and more neutral in taste and it leaves only to add necessary flavors and additives to reach requested taste and aroma characteristics. Apple wine is very elastic in terms of alcohol content – it allows to produce both stronger wine up to 15% of volume or up to 6% as necessary for cider. It allows to use advantages of different excise tax rates and regimes what usually are not available for grape wines which have standards, regulations and above all – consumers perception on what kind should be grape origin product and what is appropriate for non-grape fermented beverages. So here we gain an answer – to produce fruit wines is niche business wile production with fruit wine is conventional business with options for high scale production as final product substitute mass product.

4. Climate driven opportunities

Even though early historical researches state Georgia and Armenia along with Azerbaijan as cradle for grape wine culture, these three countries are important fruit wine producers as well. Also Israel is famous for their fruit wines, especially for pomegranate wines that are famous for their antioxidant characteristics, great taste, natural sweetness and other advantages. Right aside is Turkey and Greece where there are no such fruit wine popularity and production not only due to historical heritage, but mainly due to different landscape and climate. Also in Balkans fruit wines are of high popularity due to mountains and therefore cooler climate what limits planting grapes as grapes need particular soils, particular hillside slopes, particular temperature regimes. Grapes would grant better yields that would provide more juice to produce wines, but grapes are picky and need a lot of sunlight and particular temperature regimes. Also in France and Germany not in all Northern regions grapes are cultivated exactly due to climate conditions. In Northern Europe grapes are rarely cultivated, the most Northern country in Europe for that is Latvia, but vineyards there are only in one small area and production is not of reasonable significance. Therefore obviously in Northern Europe fruits and berries for wine production are

cultivated and this industry is developed despite lobby of grape wine industry which is reaching even outside wine growing regions.

One thing is sun, but another is economic climate – subsidiaries in European Union for grape wine industry are playing key role. Subsidies are not only on EU level, but also MS level to support local producers if necessary. And this economic climate is regulated not only by financial subsidiaries, but also by previously mentioned rules and restrictions that rise value of grape wines, to make them so to say more prestigious and to limit competition. But there is one more instrument to influence economic climate for grape industry and these are vineyard quotas across the Europe. It allows to limit both grape production withing Europe in general, and in particular states, regions and subregions. This way is stabilized price of European wine – both to secure farmers of Europe and also status of European wine globally. Elsewhere around the globe such restrictions and quotas or limits are not much seen what gives opportunities for imported wines in Europe, but transportation and other obstacles do not make imported wines a threat to European wines due to their dominant position not only globally (around 65% of the world wine production), but mainly in Europe (60% of global wine consumption).[1] It is similar as with fruit wines – perception of retailers and consumers create third type of climate that gives advantages to European grape wines in Europe, which exports around 70% of wine produced within Europe. And this could be called wine propaganda what creates this important climate for consumption. Grape wine is associated with glory of Ancient World, aristocracy and even healthy living – it promotes grape wine as source of wisdom, good manners, vitamins and minerals for health. In opposition is stated everything that is not made out of grapes and therefore fruit and berry wines are treated as not good enough: as produced for less good people or barbarians, as containing less healthy ingredients and definitely lacking prestige. This is the reason why Israel for decades has been creating their marketing for pomegranate wines to make them less fruit wine and more as good as grape wine or even better.

Climate year by year gets hotter and hotter what causes also alcohol consumption habits to change along with new generations of consumers who are not willing anymore as strong alcohol as their ancestors, even in countries with deep wine traditions. As more hot is weather as less attractive is strong alcohol and even grape wines with typical amplitude of 10% - 15% of alcohol content become on the edge of preferences. Here beer and cider with half lower alcohol content start to take place, but also appear new trends for fruit wines and blends of grape and fruit wine that satisfies conservative countries like France, Italy, Germany and Spain. It lies fundament for new era of grape wines with blend of fruit wine where new taste patterns are obtained to satisfy new generation consumer and alcohol content dictated by climate. It goes beyond Europe – for decades low alcohol blend of grape wine and other fermented beverages produced in Italy by Bosca is exported to the United States of America and other markets under brand Verdi and others, and competitors follow as this is new trend: taste and low alcohol content caused lightness of palette.

Also in Northern Europe compared data show decline for strong alcohol and rise for light alcohol what might be connected also for regular excise tax increase, but it is also caused by climate and change in behavior of consumers and their generations. Also by economic climate as for example in Baltic states is especially stipulated consumption of low alcohol content fruit wines and alcoholic beverages produced from fruit wines that can support local agriculture. And especially in Northern Europe where is positive perception towards fruit wine based beverages is flourishing this raw material usage for wide range of products, but mainly for low alcohol content what aligns with climate stated changes and also trends caused by new generations of consumers.

5. CONCLUSIONS

1. European Union legal framework treats wines equally despite raw material used for production, but it obviously is not taking fruit wines into account as reasonable competitor for grape wines as Directive suggests no excise tax for wines as significant agricultural industry of Europe, while in scale of European economy fruit wines do not produce significant volumes and impact.

2. Member states of EU treat differently fruit wines, but generally taxation does not differ strongly from grape wines, with few minor exceptions in both directions.

[1] Katunar, J., Grdinić, M., Maradin, D. (2022). EU Tax and Agricultural Policy in the Wine Sector. Real and Financial Sectors in Post-Pandemic Central and Eastern Europe. Contributions to Economics. Springer, Cham, pp. 109-120.

3. Scientific literature of research clearly indicates leading industry in wine production – there is noticeable gap of literature on fruit wines and especially on fruit wine usage as raw material in modern production of alcoholic beverages.

4. Each state has it's natural and economic climate – for decision making on which industry to support more by politics is suggested to make calculations and evaluations by usage of Public choice theory.

5. Both climate of nature and modern society of new generations have ongoing impact on consumers behavior in favor of lower alcohol content beverages that might impact grape wine consumption in future or already it has happened.

6. New trends of consumption and information assumption may lead both industries to mingle together by creating new tastes and new products.

7. Attempts to push out of the market or at least to limit entrance of fruit wines into the markets of wine producing countries seem to be historically successful: protectionism of the market.

8. Attempts to support fruit wine production by stipulating industry with lower taxation rates has not shown reasonable results in markets where has been stated out aim to support local industry.

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Reforming the Insurance Framework in Albania

Prof. Asoc. Dr. Albana Demi (Mosho)[1] **Dr. Endri Balla[2]**

[1] Professor "Aleksander Moisiu" University of Durres, Albania, albanamosho@uamd.edu.al, ORCID: https: https://orcid.org/0000-0003-2205-5443

[2] Head of Public Administration Department, "Aleksander Moisiu" University of Durres, Albania, endriballa@uamd.edu.al, ORCID: https: 0009-0006-1361-4505

Abstract: In this research, the insurance sector in Albania will be considered an essential part of the economy. Globalization enhances the quality of life globally by expanding job opportunities and promoting economic strength through technology and free trade agreements. However, it also has both positive and negative outcomes. Social policies remain crucial for governments to operate effectively in economic transformations and countries seeking EU membership. Key characteristics include increased free trade, smoother capital movement, and increased foreign investments. However, globalization has both advantages and disadvantages, encompassing both economic and political aspects.

The financial contributions of this sector will be examined as one of the most significant challenges in the structural reform process aimed at enhancing and stabilizing the system. The configuration of the market in this sector, along with the regulatory framework, has a considerable impact on efficiency and performance outcomes. This study offers a perspective on risk insurance and the advancement of this market in Albania.

The paper examines the efficiency of the insurance sector in Albania, focusing on the regulatory framework and its structural developments. Data from the annual financial reports of insurance companies are used to calculate an index and to assess the impact of the market. The insurance sector involves identifying and accepting insurable risks, managing them, providing compensation and addressing potential losses. The authors describe the evolution of the sector, emphasizing the importance of understanding the economic theories surrounding risk and insurance. They also emphasize the role of insurers in predicting social, environmental and economic risks, as well as the need for technological tools and the production line.

Keywords: insurance market, reforms, challenges, development, contribute, performance.

1. INTRODUCTION

Budgetary funds are the financial resources that are planned, approved and used by a public entity, such as a government, public institution or organization, to fulfill its objectives and responsibilities. These funds are part of the budget, which is a financial document that forecasts income and expenses for a specified period, usually a financial year. Social sector is key to promoting broader policy goals, such as economic growth and development, and to addressing the causes of multiple deprivations and poverty. Economic growth and development can be maximized when society mobilizes all of its resources, both human and physical, to engage in productive activities. Social protection policies in Albania have so far focused on very basic elements of social insurance and assistance. In this regard, it is worth mentioning the initiative to reform the pension system, the comprehensive economic assistance, and the reform of vocational education.

Given the classification of measures before and after the labor market effect (presented earlier), social policies in Albania are mainly focused on the operation of the labor market, in the form of social assistance or unemployment benefits.

Social policies cover all provisions and measures that aim to prevent, eliminate or alleviate situations of poverty and social problems, at the individual or collective level, or that seek to favor the well-being of the most vulnerable groups of society.

In the narrow sense, social policy defines measures that directly serve the fight against poverty or its prevention, primarily social insurance and social assistance, as well as other payments depending on available resources. In the broad sense, other areas are also included in social policy, such as labor market and employment policy, education, health, housing policy, or even fiscal policy.

The challenges of social policies are: work, employment, vocational training, social protection and health insurance, education, people in difficulty (beggars, homeless, etc.), elderly people. In addition to general social policies, in a number of countries, specific interventions have also been developed targeting people in difficulty. The fight against exclusion has led to the development of social assistance policies (support is mandatory if

people meet the criteria set for a beneficiary) and social action policies (support is optional). The right to social security is thus complemented by the right to social assistance.

2. Social policies

Theories and studies have explored the factors causing this trend. Evidence shows a negative relationship between income inequality and economic growth, with unequal distribution slowing growth. Social exclusion and women's inclusion are crucial for promoting economic development, as they hinder productive and entrepreneurial populations.

2.1 Social protection

The socio-economic changes in the last 30 years in Albania have affected pensioners. We can mention here that those born during World War II or under the socialist regime faced turbo-capitalism in 1991, leaving them unemployed, their children on the run, and their pensions also declining. The financial instability of social protection schemes in Albania is a concern due to the state budget funding a large portion, and the high number of retirees compared to the young population. The pension expenditure in Albania is lower than in the EU and Western Balkan countries. High unemployment, undeclared work, and non-participation in the scheme by the self-employed in agriculture will also burden society.
According to the OECD, "An effective social policy helps individuals live without anxiety and adapt to new opportunities for economic growth. On the contrary, a bad social policy is synonymous with remaining in poverty or exclusion."

The Albanian government's intervention in economic flows through social policies is justified to avoid obstacles to the well-being of society. The management of social security policies plays a crucial role in budget decisions, balancing economic growth with social problems. The aging population makes it difficult to finance pensions. Social security guarantees social protection, urban and rural pensions, unemployment payments and economic assistance.

Efficient management of funds and transparency in resource allocation are crucial for the pension system. With the aging population, sustainable measures are needed to ensure a stable income for future retirees. Government investment management offers universal life insurance, retirement planning, and group savings plans. Legal guidelines are being developed, and Albanian law is analyzed to protect tax-payers. Regional or EU pension schemes are evaluated, and new investments and policies are created to address needs and increase transparency.

2.2 Social contribution by branches

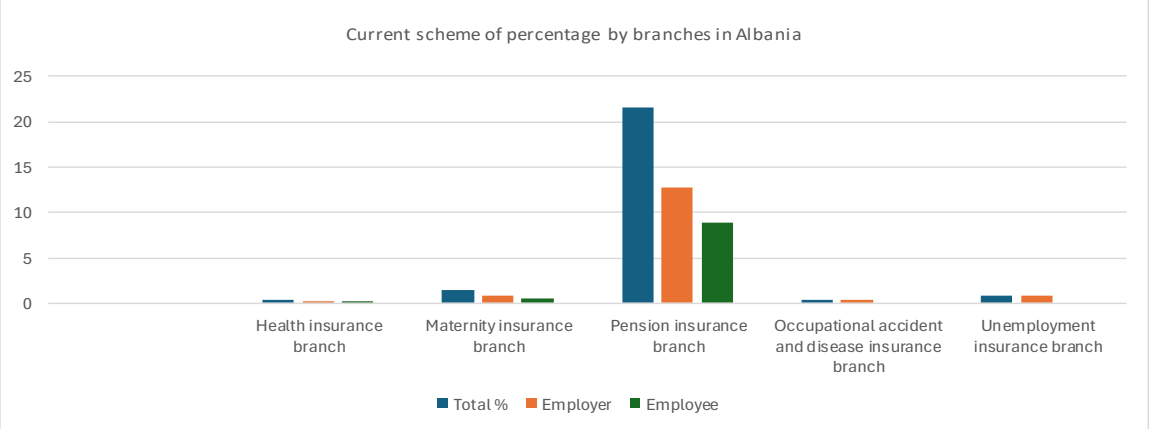
In Albania, rural and urban employees are treated equally, all are covered by the system and some level of poverty reduction is achieved for people who are unable to work due to age or illness. However, benefits will be significantly reduced, leaving the public pension system unable to provide individuals with a means to smooth consumption between periods of employment and unemployment in life, in general. Such an instrument could be provided separately by a voluntary pension system, ideally managed by the private sector, but regulated and supervised by the state, with fiscal advantages for this long-term form of savings provided by the government.

Table 1: Current scheme of percentage by branches in Albania

No	Insurance percentages	Total %	Employer	Employee
1	Health insurance branch	0.30	0.18	0.12
2	Maternity insurance branch	1.40	0.83	0.57
3	Pension insurance branch	21.60	12.79	8.81
4	Occupational accident and disease insurance branch	0.30	0.30	0.00
5	Unemployment insurance branch	0.90	0.90	0.00
	Total Social insurance amount	24.5	15.00	9.50
	Total Health insurance amount	3.40	1.70	1.70

Source: Author’s work

Graphic:1 Current scheme of percentage by branches in Albania



Source: Author's work

3. Economic development in Albania

Albania's economy, is a biodiversity key point in Europe. Income inequality is one of the most talked about topics, and the reason for this has been partly the financial crisis, which has contributed significantly to the increase in inequality on a global scale. Current tools and studies on inequality show that after the 1980s, an increase in the level of inequality was observed worldwide. Therefore, many different theories and studies have tried to analyze the factors that have caused this trend, as well as the most appropriate tools to assess it. There is sufficient evidence to show that there is a strong negative relationship between income inequality and economic growth - the more unequal the distribution of income in a country, the slower its economic growth rate. The greater the number of people who are denied access to these services as a result of social exclusion, the less likely it is for the country to have a productive and entrepreneurial population, and the lower the growth rate will be. Empowering women and their inclusion in economic and social life is also an important factor in promoting economic development.

Albania is implementing structural reforms to support growth, increase productivity, create jobs, and improve governance. The government focuses on sustainable growth, tourism, agriculture, digitization, and climate change. Albania opened accession talks with the EU in October 2024, focusing on judiciary, fundamental rights, freedom, security, and procurements.

According to INSTAT in 2024, Albania's economic growth reached 4%, with tourism, FDI, and remittances contributing to the positive year. However, the domestic currency's appreciation and overvaluation hindered exports. The low fiscal deficit and solid economic growth reduced public debt to 56% of GDP. Inflation remained stable at 2.6%, and the Central Bank cut interest rates in November 2024. The expansion of credit for real estate purchases has increased, raising concerns and calls for tighter lending criteria. Albania became a member of the Single Euro Payments Area in November 2024, enhancing its investment potential.

4. CONCLUSION

The current pension scheme in Albania is expected to provide lower benefits than average wages, leading to fiscal deficits and a lack of participation from the working-age population. The situation worsens due to depopulation, informality, poor labor laws, lack of unions, and inadequate policies. The reforms undertaken in Albania have aimed to regulate and operate the pension system, implement the principle of social justice, as well as develop the private pension market and provide better protection for citizens. The pension system in Albania is influenced by many factors, which have made it difficult for this scheme to function properly. Among these factors, we mention demographic factors, which have had a significant impact, such as the decrease in birth rate, the aging population, the increase in the life expectancy of the population, emigration, which accelerates the aging process of the population, informality, unemployment, affecting the payment of contributions, as well as worsening the relationship between contributors and beneficiaries. The pension system reforms relate to changes in pension plans, in the way pension funds are managed and regulated, and in the regulation of the activities of pension institutions. The reforms undertaken and approved in the pension system made a change in terms of contributions, as well as in the retirement age.

The government should take measures and raise awareness regarding the proper functioning of the pension system, by increasing the financial sustainability of the pension scheme, reducing poverty in old age, encouraging individuals to participate in pension plans, and increasing the amount of benefits from social security systems.

This research study recommends the following guidelines for the government and policymakers:

1. Strengthening measures for the legal implementation of the payment of social security contributions:

• Improving methods to identify, control and punish cases of legal non-compliance.

• Implementing appropriate penalties in cases of evasion.

2. Reforming the current system through:

• Better linking contributions and pensions.

• Improving the administration of the scheme by strengthening control over social security payments and overall changing the image of social security, by raising awareness in the implementation of the laws that regulate the system.

• Licensing institutions with sufficient and safe capacities to invest pension funds.

• Creating and strengthening a modern supervisory system for the performance of pension fund investment institutions.

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Deprem Vergisi & Deprem Fonu

Dr. Öğr. Üyesi Ali Erol[1]

[1]Kırklareli Üniversite / İktisadi ve İdari Bilimler Fakültesi, Maliye Bölümü, ali.erol@klu.edu.tr, ORCID:0000-0002-8273-9444

Özet: Türkiye aktif fay hatları üzerinde bulunan bir ülkedir. Bu nedenle tarihimizde ve yakın geçmişte önemli büyüklükte depremler yaşanmıştır. 2023 Kahramanmaraş depremleri, 2020 Elazığ ve İzmir depremleri, 2011 Van depremi, 1999 Marmara depremleri gibi. Bu büyük depremler önemli kayıplara neden olmakta ve bu kayıpların telafisinde kamu kaynaklarına gereksinim artmaktadır. 1999 yılında meydana gelen depremler sonrasında, felaketin yaralarının sarılabilmesi ve meydana gelecek büyük bütçe açığının kapatılabilmesi için ek ve geçici vergiler vergi sistemimize eklenmiştir. Bu geçici vergilerden biri Özel İletişim Vergisidir. 26.11.1999 tarih ve 4481 sayılı Kanun'la geçici olarak yürürlüğe konulmuş ve bir süre daha geçici olarak alındıktan sonra 2004 yılında kalıcı bir vergi haline getirilmiştir. Deprem nedeniyle sistemimize eklenen bu vergi kamuoyunda "Deprem Vergisi" olarak adlandırılmaktadır. Fakat bu doğru değildir. Çünkü; vergilerin adem-i tahsis ilkesi gereği herhangi bir özel konu için vergilerin toplanma durumu söz konusu değildir. Bildiride Özel İletişim Vergisi'nin Türk vergi sistemindeki yeri ve işlevi incelenmiştir. Deprem için kullanılabilmesinin yolları ve sonuçları tartışılmıştır. Deprem gerçeğiyle yaşayan Türkiye'nin "Deprem Fonu" gibi kalıcı çözümler üretmesi tavsiye edilmiştir.

Anahtar Kelimeler: Özel İletişim Vergisi, Deprem Vergisi, Deprem Fonu

Abstract: Turkey is a country located on active fault lines. For this reason, earthquakes of significant magnitude have been experienced in our history and recent past. Such as 2023 Kahramanmaraş earthquakes, 2020 Elazığ and İzmir earthquakes, 2011 Van earthquake, 1999 Marmara earthquakes. These major earthquakes cause significant losses and the need for public resources to compensate for these losses increases. After the 1999 earthquakes, additional and temporary taxes were added to our tax system in order to heal the wounds of the disaster and to close the large budget deficit. One of these temporary taxes is the Special Communication Tax. Law No. 4481 dated 26.11.1999 was put into effect temporarily, and after a period of temporary taxation, it was turned into a permanent tax in 2004. This tax, which was added to our system due to the earthquake, is referred to as the "Earthquake Tax" in the public opinion. However, this is not correct. Because; in accordance with the principle of non-allocation of taxes, there is no situation of collecting taxes for any specific issue. In this paper, the place and function of the Special Communication Tax in the Turkish tax system is analyzed. The ways and consequences of its use for earthquakes are discussed. It is recommended that Turkey, living with the reality of earthquake, should produce permanent solutions such as "Earthquake Fund".

Keywords: Special Communication Tax, Earthquake Tax, Earthquake Fund

1. GİRİŞ

Vergi ve benzerleri kamu gelirini oluşturur. Ancak vergi, bunlar içinde düzenli ve asli olan kamu geliri kaynağıdır. Devletler vergi vasıtasıyla sınırsız kamusal mal ve hizmet ihtiyacı nedeniyle meydana gelen kamu harcamalarını finanse eder. İktisat ve maliyenin temel sorunlarından biri olan bu sınırsızlık kamu hizmetlerinin görülmesinde de bir tercih yapılmasını zorunlu kılar. Diğer bir ifade ile, sınırsız kamu harcamaları vardır ve sınırlı bir kamu geliri vardır. Dolayısıyla bir denge ve bütçeleme gerekmektedir. Devletler çeşitli vergiler ile vergi sistemlerini kurar. Tarih boyunca vergiye yüklenen anlamların değişmesiyle birlikte vergi sistemleri de değişmiş ve evrilmiştir. Örneğin maliye literatüründe "tek vergi sistemi" de vardır "karma vergi sistemi" de vardır. Ancak günümüz modern dünyasında karma vergi sistemi uygulanmakta ve bu vergi sistemleri gelir vergileri, harcama vergileri ve servet vergilerinden oluşmaktadır. İhtiyaç halinde vergi sistemindeki vergiler artmakta, değişmekte ve azalmaktadır.

Devletlerin olağan kamu harcamaları için vergi sistemleri çözüm olmaktadır. Yürürlükteki vergiler kamu harcamalarını karşılayabilmektedir. Ancak herhangi bir olağanüstü durum olduğunda, doğal afet, ekonomik ve siyasi kriz gibi, mevcut vergilere ek ve geçici vergilerin eklenmesi kaçınılmaz olmaktadır.

1999 yılında Marmara Bölgesi'nde Ağustos ve Kasım aylarında büyük depremler yaşandı. Bu depremler sonucunda önemli insani kayıplarımız yaşandı. Bunun yanında alt yapı, iş gücü, çevre, ve birçok alanda zararlar yaşandı. O dönemki Bayındırlık ve İskan Bakanlığı'nın açıkladığı raporlara göre 17.479 vatandaşımız hayatını kaybetmiş ve 43.953 kişi de çeşitli yaralanmalar yaşamıştır. 300 binin üzerinde yapı hasar almıştır. Sadece bu rakamlar bile bu depremlerin ülke ekonomisine büyük külfet getirdiğini göstermektedir. (Demirkılıç ve Yıldız, 2022: 109).

Kısa ve uzun vadede çözülmesi ve telafi edilmesi gereken bu kayıplar için kamu gelirlerinden vergiye başvurulmuştur. Ancak 1999 yılındaki mevcut vergiler belli bir bütçe açıklığı da dahil olmak üzere sınırlı bir katkı sunmaktaydı. Dolayısıyla ek ve geçici vergilere başvurulmuştur. Ek vergiler şu şekilde sıralanabilir: Ek gelir vergisi, ek kurumlar vergisi, ek emlak vergisi, ek motorlu taşıtlar vergisi. Bu vergilerin kanuni dayanağı ise 4481 Sayılı 18.9.1999 ve 12.11.1999 Tarihlerinde Marmara Bölgesi ve Civarında Meydana Gelen Depremin Yol Açtığı Ekonomik Kayıpları Gidermek Amacıyla Bazı Mükellefiyetler İhdası ve Bazı Vergi Kanunlarında Değişiklik Yapılması Hakkındaki Kanun'dur. Çalışmada 4481 sayılı Kanun'la Türk vergi sistemine giren vergi ve etkileri incelenmiştir.

Tablo 1: Deprem Vergileri ve Unsurları

Verginin Adı	Verginin Konusu	Verginin Mükellefi	Verginin Matrahı	Verginni Oranı/ Miktarı
Ek Gelir Vergisi	Gelir	1998 mali yılındaki gelir vergisi mükellefleri	1998 yılı vergi matrahı	%5
Ek Kurumlar Vergisi	Kazanç	1998 mali yılı kurumlar vergisi mükellefleri	1998 yılı kurumlar vergisi matrahları	%5
Ek Emlak Vergisi	Bina, arsa ve araziler	1999 mali yılı emlak vergisi mükellefleri	1999 yılı emlak vergisi matrahları	Aynı vergi oranı veya miktarı
Ek Motorlu Taşıtlar Vergisi	Kayıtlı olan motorlu taşıtlar	Tescil ve kayıt ettirilmiş taşıtlar	MTV ek cetvellerindeki tarifeleri	Aynı vergi oranı veya miktarı
Özel İletişim Vergisi	Cep telefonu işletmecileri tarafından tesis, devir, nakil ve haberleşme hizmetleri	Cep telefonu işletmecileri	Katma değer vergisini oluşturan unsurlar	%25
Özel İşlem Vergisi	4306 Sayılı Kanunun geçici 1'nci maddesinin (A) fıkrasında yer alan işlem ve kağıtlar	Verginin konusunu oluşturan işlem ve kağıtlar için eğitime katkı payı ödeyenler Verginin konusunu oluşturan hesapların sahipleri	…	Her bir hesap için 1.000.000 TL

Kaynak: Hayrullahoğlu, 2022: 106.

Tablo 1'de getirilen ek ve geçici vergilerden sadece Özel İletişim Vergisi günümüze kadar gelebilmiş ve bu durum her deprem olduğunda gündeme gelmesinin nedenini oluşturmaktadır.

2. ÖZEL İLETİŞİM VERGİSİ

Özel İletişim Vergisi, iletişim ve haberleşme hizmetlerinin vergilendirilmesini amaçlayan harcamalar üzerinden alınan bir vergidir. İlk abonelik ve tüketim sürecinde alınır. Sağladığı vergi gelirleri bakımından önemli bir yeri olmayan özel iletişim vergisi gerekli bir vergidir (Mıynat ve Keskin, 2021: 118). Özel İletişim Vergisi, özel, objektif ve dolaylı bir harcama vergisidir (Oktar, 2022: 269). Verginin özel olması sadece iletişim unsurlarına sahip olan veya kullananların vergi mükellefi olmasından kaynaklanmaktadır. Diğer bir ifade ile herhangi bir iletişim aracı kullanılmaması durumda bir mükellefiyet doğmayacaktır. Verginin objektif olması ise mükellefin herhangi bir ayırt edici kişisel özelliğinin dikkate alınmadığıdır. Özel veya tüzel kişi olması, bekar ya da evli olup olmaması veya engelli olup olmaması vergi oranı veya miktarında herhangi bir değişiklik ya da avantaj sağlamayacaktır. Son olarak Özel İletişim Vergisinin dolaylı olması, fiyat mekanizm ası yoluyla vergi yükünün tüketiciye yansıtılabilmesinden kaynaklanmaktadır.

Maliye literatüründe genel kabul görmüş bir ilke vardır. Kamu harcamaları ve doğal olarak kamu gelirleri zamanla artar. Bu artışın sürekli ve genel olduğunu ileri süren kişi Wagner'dir. Bununla birlikte kamu harcamaları ve kamu gelirlerinin sıçramalı bir şekilde arttığını öne sürenler de iki İngiliz iktisatçı Peacock ve Wiseman'dır. Bu iktisatçılara göre deprem, kriz gibi olağanüstü bir durum olduğunda kamu harcamalarına olan talep olağanüstü şekilde artar ve bunun neticesinde kamu gelirlerinin artırılması yönünde baskı yapılır. Bu olağan üstü süreç bittikten sonra ise kamu harcamaları ve kamu gelirleri eski seviyesine geri dönmez (Uçar ve Tosun, 2023: 267). Özel İletişim Vergisi, Peacock-Wiseman'ın "Sıçrama Hipotezi"nin gerçekleştiğini gösteren çok güzel bir örnektir. Bir olağanüstü hal olan deprem ile kamu harcamaları artmış, bu artışı karşılamak için bu vergi gelmiş ancak depremin ilk ve yıkıcı etkisi geçtikten sonra vergi yürürlükten kaldırılmamıştır.

2.1. Özel İletişim Vergisinin Asli Unsuları

Bir verginin asli unsurlarından kasıt, o verginin konusu, mükellefi, oranı, vadesi gibi olmazsa olmaz unsurlarıdır.

Özel İletişim Vergisi 13.7.1956 tarih ve 6802 Sayılı Gider Vergileri Kanunu'nun üçüncü bölümünde 39'uncu maddesinde düzenlenmiştir. Mezkur maddede verginin konusu şu şekilde düzenlenmiştir.

"a) Her nevi elektronik haberleşme işletmeciliği kapsamındaki tesis, devir, nakil ve haberleşme hizmetleri,

b) Radyo ve televizyon yayınlarının uydu platformu ve kablo ortamında iletilmesine ilişkin hizmetler

c) Kablolu, kablosuz ve mobil internet seviş sağlayıcılığı hizmeti

d) a, b, ve c betleri kapsamına girmeyen diğer elektronik haberleşme hizmetleri"

Özel İletişim Vergisinin mükellefi birinci maddede sayılan verginin konusuna giren işlemleri yapan kişilerdir. Örneğin; kablolu veya kablosuz internet hizmeti sağlayanlardır. Mükellefler sundukları hizmetin için Özel İletişim Vergisi'nin oranı olan %10'luk payı katarak hizmetlerinin bedelini belirlerler. Daha sonra, bir sonraki ayın 15'inci gününe kadar beyan eder ve öderler. Günlük yaşamdan bir örnek verirsek bir internet hizmetinin aylık bedeli TL olsun. Bu hizmet bedeline önce özel iletim vergisi ve daha sonra katma değer vergisi eklenir.

İlk hesaplama 400x0.15= 60 TL özel iletişim vergisi hesaplanır. Daha sonra %20 KDV hesaplanır ve hizmetin toplam bedeli 552 TL olur. Müşterinin ödeyeceği fiyat 552 TL'dir. Bu hizmeti sağlayan mükellef ise gelecek ay vergi dairesine giderek, daha önce kestiği 60 TL Özel İletişim Vergisi, 92 TL de KDV'yi öder.

2.1. Özel İletişim Vergisinin Bütçeye Katkıları

Süreli olarak yürürlüğe giren ve daha sonra devamlı bir vergi olan Özel İletişim Vergisi vasıtasıyla 25 yıldır tahsilat yapılmaktadır. Aşağıdaki Tablo 1'de Özel İletim Vergisinden tüm yıllarda elde edilen tahsilat ve toplam vergi içindeki payı gösterilmektedir.

Tablo 2: Özel İletişim Vergisi tahsilatı ve tüm vergi gelirleri içindeki payı

Yıllar	Özel İletişim Vergisi tahsilat tutarı (Bin TL)	Toplam vergi içindeki payı
1999	5.000	0,0148
2000	420.073	0,0159
2001	598.053	0,0199
2002	852.250	0,0186
2003	1.048.050	0,0212
2004	1.900.095	0,0201
2005	3.043.578	0,0198
2006	3.593.234	0,0251
2007	4.222.061	0,0260

2008	4.565.689	0,0256
2009	4.274.732	0,0247
2010	4.127.672	0,0195
2011	4.420.621	0,0174
2012	4.477.310	0,0160
2013	4.567.282	0,0139
2014	4.658.132	0,0131
2015	4.744.942	0,0116
2016	4.990.373	0,0108
2017	3.865.892	0,0071
2018	3.447.265	0,0055
2019	4.014.000	0,0059
2020	4.448.000	0,0053
2021	6.618.000	0,0056
2022	9.298.000	0,0039
2023	16.650.000	0,0037
2024	30.271.000	0,0041

Kaynak: T.C. Hazine ve Maliye Bakanlığı Aylık Bütçe Uygulama Sonuçları kullanılarak yazar tarafından oluşturulmuştur.

Tablo 2'de görüldüğü üzere özel iletim vergilerden elde edilen hasılatın sürekli artmaktadır. Yirmi dört yılda 100 milyar TL'nin üzerinde bir vergi hasılatı elde edilmiştir. Toplam vergi gelirleri içindeki payı kısmında ise, 2017 yılından itibaren önemli bir değişim gözlenmektedir. Önceki yıllarda vergi gelirleri içinde özel iletişim vergisi tahsilatı oranı yüzde bir ve iki arasında değişirken; 2017 yılından günümüze kadarki sekiz yıllık sürede bu oran binde üç beş arasında değişmektedir.

3. AFET FONU

Fon, belirli bir amacı ya da amaçları gerçekleştirmek üzere gelirlerin toplandığı ve giderlerin yapıldığı özel bir hesaptır. Bütçe içi olabileceği gibi bütçe dışı da olabilir (Susam, 2016:160). Fonun kurulmasının iki temel gerekçesi vardır. Bunlar, mevcut bütçe kanunlarındaki kısıtlamalar ve yeni mali kaynaklara ihtiyaç gerekliliğidir (Beydemir, 2025: 72).

Fon ülkemizde 1980'li yıllarda önemli bir kamu geliri kaynağı idi. Siyasi, ekonomik ve idari açıdan kullanılması vergiye göre daha kolay bir kaynaktır. Ancak, fon kamu hesap düzenine tam olarak entegre olamayan bir kalemdir. Bu nedenle günümüze geldiğinde fonun niteliği ve niceliğinde önemli azalmalar görülmüştür (Akdoğan, 2009:114). Özellikle 1990'lı yıllarda sayısı 104'e çıkan fonlardan sürekli bir şekilde vazgeçme yaşanmıştır. Günümüze gelindiğinde fonların sayıları çok düşük rakamlara ulaşmıştır (Susam, 2016:207).

Deprem başta olmak üzere ülkemizde çeşitli afetler meydana gelmektedir. Özellikle 2023 yılında Kahramanmaraş depremleri sonucunda ülke genelinde büyük bir üzüntü yaşandı ve kalıcı çözümler alınması konusunda karar kılındı. Bu çözümlerin yapılabilmesi için en büyük engel finansmanının sağlanmasıdır. Bu sebeple 7441 Sayılı Afet Yeniden İmar Fonunun Kurulması Hakkındaki Kanun yürürlüğe girdi. Bu kanun 6.3.2023 tarihinde TBMM'ye sunulan "Afet Yeniden İmar Fonunun Kurulması ile Kamu Finansmanı ve Borç Yönetiminin Düzenlenmesi Hakkındaki Kanunda Değişiklik Yapılması Dair Kanun Teklifi" ile kanunlaşmıştır.

Bu kanunun ilk maddesinde amaç ve kapsam şu şekilde belirtilmiştir. "Bu Kanunun amacı, doğal afetler nedeniyle genel hayata etkili afet bölgesi ilan edilen alanlarda; imar, altyapı ve üstyapı çalışmaları için gerekli kaynağın sağlanması, yönetilmesi ve ilgili kamu kurum ve kuruluşlarına aktarılması amacıyla Afet Yeniden İmar Fonu (Fon) kurmak, Fonun yönetimi ve faaliyetlerine ilişkin usul ve esasları düzenlemektir.

Kanun'un devam eden maddelerinde bu fonun ayrı bir tüzel kişiliğinin olduğu ve Hazine ve Maliye Bakanlığına bağlı olduğu belirtilmiştir. Fonun yönetim kurulu, Hazine ve Maliye Bakanı başkanlığında, Çevre, Şehircilik ve İklim Değişikliği Bakanı, Enerji ve Tabii Kaynaklar Bakanı, Tarım ve Orman Bakanı, İçişleri Bakanı, Ulaştırma ve Altyapı Bakanı ile Strateji ve Bütçe Başkanından oluşur. Fonun kaynakları ve finansmanı (7441 Sayılı Kanun, m. 4):

Yurt içi ve yurt dışı kaynaklı ver nevi bağış, yardım, hibe ve kredilerden,

Bütçeye bu amaçla konulacak ödenekten,

Fon tarafından kurum ve kuruluşların mevzuatındaki her türlü kısıtlamalardan muaf tutularak yurt içi ve yurt dışı sermaye ve para piyasalarından sağlanan finansman ve kaynaklardan,

Diğer gelirlerden oluşur.

7441 Sayılı Kanun'un yürürlüğe girmesinden sonra, Hazine ve Maliye Bakanlığı 2.2.2024 tarihinde Afet Yeniden İmar Fonunun Yapısı ve İşleyişi Hakkında Yönetmeliği yayımladı. Bu yönetmelik ilgili kanunun daha genişletilmiş bir açıklaması halidir. Özellikle fonun dış finansman ve fonun denetimi konusunda hükümleri dikkat çekmektedir.

Hem kanun hem de yönetmelik afet sonrası yaraların sarılması konusuna dikkat çekmektedir. Dolayısıyla afet fonunun, afetlere hazırlıktan ziyade afet sonrası gerekli harcamalar için bir kaynak olduğu düşünülmektedir. Diğer bir eleştiri, fonun kullanılabilmesi için bir bölgenin "afet bölgesi" olarak ilan edilmesi zorunluluğudur. Mikro ya da küçük ölçekli afetler nedeniyle bir kayıp ve zararın giderilmesinde bu afet fonunun kullanılma ihtimali olmayacaktır.

2023 Kahramanmaraş depremlerinin finansmanına fayda sağlaması amacıyla getirilen vergiler Anayasa'ya aykırılık teşkil etmektedir. Özellikle vergileme ilkelerinden belirlilik ilkesinin zedelendiği görülmektedir. Bu sebeple bir afet fonunun kurulmasının aleyhindeki görüşleri ortadan kaldırmasına yol açmıştır (Beydemir, 2025:72).

4. ÖZEL İLETİŞİM VERGİSİNİN DEPREM İÇİN KULLANILMASI

Mevcut hukuk kuralları çerçevesinde özel iletişim vergisinden elde edilen hasılatın deprem ve diğer herhangi bir konu için kullanılması mümkün değildir. Çünkü 5018 sayılı Kamu Mali Yönetimi ve Kontrol Kanunu'nun 13'üncü maddesi ademi tahsis ilkesini ortaya çıkarmaktadır. Bu madde hükmü "Belirli gelirlerin belirli giderlere tahsis edilememesi esastır" şeklindedir. Dolayısıyla özel iletişim vergisi vasıtasıyla elde edilen gelirler deprem için kullanılamaz. Başka bir örnek vermek gerekirse, dijitalleşme çağındayız ve dijital ortamda meydana çıkan vergiyi doğuran olayların vergilendirilmesi konusunda bir Dijital Hizmet Vergisi alınmaktadır. Ancak bu vergi de diğer vergiler gibi Hazineye, diğer bir ifade ile havuza, aktarılmaktadır. Kısacası Dijital Hizmet Vergisini, siber güvenlik, dijital ortamın geliştirilmesi ve iyileştirilmesi için kullanılsın diyemeyiz.

Adem-i tahsis genellik ilkesinin altında yer alan bir ilkedir. Genellik ilkesi ile devletin tüm gelir ve giderleri bütçede ayrı ayrı ve tek tek gösterilir. Belirli gelir belirli giderlere tahsis edilmeyerek denetimin zayıflamasına engel olunur. Sonuç olarak hazine birliği sağlanır. Adem-i tahsis ilkesi gereğince deprem için yürürlüğe giren vergilerin sadece deprem için kullanılmaları söz konusu olamaz (Beydemir, 2025:70).

Yine 5018 Sayılı Kamu Mali Yönetimi ve Kontrol Kanunu'nun 6'ncı maddesine göre, "Merkezi yönetim kapsamındaki kamu idarelerinin gelir, gider, tahsilat, ödeme, nakit planlaması ve borç yönetimi hazine birliğini sağlayacak şekilde yürütülür" hükmü bulunur.

5018 sayılı Kanunun yürürlüğe girmesiyle adem-i tahsis ilkesinin daha net bir şekilde hükmedildiği ve işlediği söylenebilir (Kurt, 2023: 209).

Özel iletişim vergisinin de içinde olduğu genel bütçe içerisindeki bütün vergiler özel bir amaca tahsis edilmeden genel bütçeye eklenmektedir. Dolayısıyla, kamuoyunda deprem vergisi olarak anılan özel iletişim vergisinin sadece deprem harcamalarında kullanılması vergileme ve bütçeleme ilkelerine aykırıdır (Kurt, 2024: 202).Toplanan **vergilerle oluşan kamu gelirleri daha sonra hükümetin siyasi tercihleri çerçevesinde kullanılmaktadır. Örneğin herhangi bir iktidar savunma harcamalarına ağırlık verir ve kamu gelirlerini çoğunlukla bu yönde kullanabilirken; başka bir iktidar eğitim veya sağlık harcamalarını arttırır ve kamu gelirlerini bunlara tahsis eder. Dolayısıyla mevcut hukuk kuralları çerçevesinde yapılması gereken iki şey vardır. Birincisi, afet fonunun işlevliğini arttırmaktır. İkincisi ise, hükümetlerin kamu kaynaklarını isteyerek doğal afetlere ilişkin kullandırmaktır.**

5. SONUÇ

Her deprem felaketinden sonra deprem vergisi konusu gündem olmaktadır. Yıllardır deprem vergisi toplanıyor, bunların etkisini faydasını görmüyoruz şeklinde yorumlar yapılıyor. Kamuoyunda "Deprem Vergisi" olarak adlandırılan vergi "Özel İletişim Vergisi"dir. Aslında bu vergi bir yıllığını getirilmişti. 4481 sayılı Kanun'un 8'inci maddesi hükmüne göre "…31.12.2000 tarihine kadar uygulanmak üzere" denilerek süreli bir vergi kanunu olduğu belirtilmiştir. Ancak bu vergi 31.12.2000 tarihi geldiğinde 2002 yılının sonuna kadar daha sonra da 2003 yılının sonuna kadar olmak üzere süresi iki defa uzatıldı. Daha sonra Gider Vergileri Kanunu'na eklenerek günümüze kadar aralıksız yürürlükte kaldı ve hükümleri devam etmektedir.

İletişim çağında olmamamızın bir sonucu olarak telefon, internet ve iletişim harcamalarının vergilendirilmesi zorunlu bir durumdur. İletişim sektöründe meydana gelecek harcamalardan kaynaklanan vergiyi doğuran olay Özel İletim Vergisi ile kavranmış olacaktır. Türkiye'de günümüzde on milyonlarca telefon ve internet aboneliği bulunmaktadır. Dolayısıyla Özel İletişim Vergisi ile bunların kavranması bir zorunluluktur.

Özel İletişim Vergisinin depremler sonucunda hayat bulduğu ve depremlerde sonra devam eden tek bir vergi olması nedenleriyle bunun bir "Deprem Vergisi" olduğu düşüncesinde olanlar vardır. Ancak kanaatimizce vergi teorisi açısından bu doğru değildir. Bir verginin tek ve özel bir amacı olamaz. Bu durum 1982 Anayasası'nın amir hükmünde de düzenlenmiştir. 1982 Anayasası'nın "Vergi Ödevi" başlıklı 73'üncü maddesinin ilk fıkrasında "Herkes, kamu giderlerini karşılamak üzere vergi ödemekle yükümlüdür" hükmü bulunmaktadır. Buradaki "kamu giderlerini karşılamak" bir anayasal vergilendirme ilkesidir ve anlamı vergilerin tüm kamu giderlerinin karşılanması için bir havuzda toplanacağıdır. Toplanan bu vergiler, mutlaka kamu harcamaları için kullanılmalıdır. Örneğin, vergi ile toplanan kaynaklar, başka bir ülkeye borç verilemez, başka bir ülkeye hibe edilemez, veya Türkiye'deki ya da diğer ülkelerde bankalarda değerlendirilemez.

Sonuç olarak Özel İletişim Vergisi, Türk vergi sistemindeki diğer vergiler gibi genel kamu harcamalarında kullanılmak üzere alınan bir harcama vergisidir. Bir verginin özel bir alan için kullanılması imkansızdır. Bunun yolu bir fon oluşturmaktır.

2023 yılında doğal afetlerde kullanılmak üzere kurulan afet fonunun kanununda düzenlendiği üzere belirli periyotlarla çalışmalarının ve toplanan fon miktarının geniş halk kitlelerine ulaşacak şekilde bildiriminin yapılaması, tanıtımının yaygınlaştırılması ve bu fon kaynaklarının düzenli bir şekilde arttırılmasını sağlayacak mali kaynakların bulunması gerekmektedir.

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Limanların Tehlikeli Yük Konteynerlerinin Elleçleme Operasyonlarına Yaklaşımları Üzerine Bir Çalışma*

Öğr.Gör.Dr. Ali Umut ÜNAL[1]

[1]Kocaeli Üniversitesi, Karamürsel Denizcilik Meslek Yüksekokulu, Deniz Ulaştırma ve İşletmeciliği, Kocaeli, ORCID: 0000-0002-2575-6379

Özet: Tehlikeli yüklerin denizyolu ile taşımalarında payları, başta ekonomik nedenler olmak üzere güvenlik ve sınırlı erişimden dolayı dünya çapında artmaktadır. Denizyolu taşımacılığında tehlikeli yüklerin, multimodel taşımacılığa olan uyumları, ambalaj maliyetlerinin azalması, yine güvenlik nedenlerinden dolayı konteyner taşımalarına ciddi bir eğilimleri bulunmaktadır. Ayrıca konteyner taşımaları denizyolu haricinde, karayolu, demiryolu ve sınırlı sayıda havayoluyla ile taşınmalarından dolayı tüm dünya üzerinde kapıdan kapıya taşımada en uygun taşıma türüdür. Tehlikeli yük taşımalarında, tehlikeli yüklerin genel yapılarından kaynaklı mevcut tehlikelerin kontrolü ve sınırlandırılmasının kolay olması için kapıdan kapıya taşımalar tercih edilmektedir. Tehlikeli yüklerin denizyolu taşımalarındaki paylarının artışından dolayı da uluslararası düzenlemeler güncellenmekte ve geliştirilmektedir. Tehlikeli yüklerin, konteyner taşımalarında dolum işlemlerinin bir kısmının başlangıcı kara tarafındaki depolarda ve antrepolardan başlamakta olsa bile büyük kısmı güvenlik endişeleri ve kurallara uygun lashing operasyon ihtiyacından dolayı liman sahalarında yapılmaktadır. Limanlara özel güvenlik önlemleri altında karayoluyla veya demiryoluyla getirilen tehlikeli yükler, limanlara alınarak özel sahalarda elleçleme operasyonları ile konteynerlere yerleştirilmekte ve konteyner operasyonları başlatılmaktadır. Aynı şekilde limanlara gelen tehlikeli yükler yine özel alanlarda tahliye edilmekte ve karayolu veya demiryoluyla özel güvenlik önemleri altında limandan ayrılmaktadır.

Bu çalışmada Türkiye'de faaliyet gösteren limanların tehlikeli yüklere verdikleri elleçleme operasyonları ve elleçleme operasyonlarının öncelikleri incelenmeye çalışılmıştır. Konteyner operasyonlarında elleçleme operasyonları diğer operasyon türlerine göre en yüksek riskleri barındırmaktadır. Bu riskler arasında konteynerlerin hasar alması, düşmesi, hatalı yüklenmesi veya hatalı tahliye edilmesi esnasında yaşan kaza riskleri bulunmaktadır. Yapılan araştırmada uluslararası düzenlemeler incelenerek elde edilen literatür ile limanlarda uygulanması istenen elleçleme operasyonları güvenlik yönetimleri belirlenmeye çalışılmıştır. Belirlenen elleçleme operasyonları güvenlik yönetimi kapsamında belirlenen öncelikler, limanlara uygulanmış olan anketlerle kayıt altına alınmaya çalışılmıştır. Elde dilen veriler AHP yöntemiyle analiz edilerek öncelik sırasına göre belirlenmeye çalışılmıştır. Ulaşılan sonuçlara göre limanların elleçleme operasyonlarında güvenlik yönetimi önceliklerini birbirlerinden farklı uyguladıkları ve elleçleme operasyonlarında farklı güvenlik yönetimleri ile mevcut risklerde farklı öncelikleri öne çıkardıkları görülmüştür.

Anahtar Kelimeler: Deniz Ulaştırma Mühendisliği, Deniz İşletmeciliği, Tehlikeli Yükler, Elleçleme Operasyonları.

1. GİRİŞ

Konteyner limanları, yüklerin gemiler ve kara taşımacılığı arasında aktarıldığı tedarik zincirinde kritik düğümler olarak hizmet vererek küresel ticarette önemli bir rol oynamaktadır. Konteyner limanlarının gelişimi, özellikle otomasyon alanındaki teknolojik gelişmelerden önemli ölçüde etkilenmektedir. Operasyonel özellikleri verimlilik, çevresel performans, rekabet ve teknolojik gelişmeler gibi çeşitli faktörler tarafından şekillendirilmektedir. Operasyonel açıdan konteyner limanları, büyük hacimli yükleri verimli bir şekilde elleçleme kabiliyetleriyle öne çıkmaktadır. Konteynerleşmenin ortaya çıkışı, liman operasyonlarında devrim yaratarak, verimi artıran ve geri dönüş sürelerini azaltan standartlaştırılmış kargo elleçleme süreçlerine olanak sağlamıştır. Xu ve diğerleri, konteyner limanlarının yalnızca kargo elleçleme tesislerinden küresel liman ve nakliye tedarik zincirinin temel bileşenlerine dönüştüğünü vurgulayarak, ticareti ve ekonomik büyümeyi kolaylaştırmadaki önemlerinin altını çizmektedir (Xu vd., 2019).

Tehlikeli maddeler olarak da bilinen tehlikeli yüklerim genel özellikleri, insan sağlığı, mülk ve çevre için önemli riskler oluşturan çok çeşitli fiziksel, kimyasal ve biyolojik özellikleri kapsar. Bu yüklerin sınıflandırılması, güvenli bir şekilde elleçlenmeleri, taşınmaları ve depolanmaları için gereklidir. Birleşmiş Milletler Tehlikeli Yüklerin Taşınması Özel Komitesi'ne göre, tehlikeli maddeler patlayıcılar, gazlar, yanıcı sıvılar, yanıcı katılar, oksitleyici maddeler, toksik ve bulaşıcı maddeler ve radyoaktif maddeler dahil olmak üzere dokuz farklı sınıfa ayrılır (Saffarinia vd., 2021). Bu sınıflandırma sistemi, her bir tehlikeli madde türüyle ilişkili belirli risklerin tanımlanmasına yardımcı olur ve bunların taşınması ve depolanması sırasında gerekli önlemler hakkında bilgi verir. Bu zorlukların üstesinden gelmek için çeşitli risk yönetimi ve güvenlik protokolleri geliştirilmiştir. Akıllı

* *Bu çalışma, İstanbul Üniversitesi Fen Bilimleri Enstitüsü Deniz Ulaştırma İşletme Mühendisliği Anabilim Dalında tamamladığı ''Konteyner Limanlarında Tehlikeli Yük Güvenlik Yönetimi ve Bir Liman Sistematiği Örneği'' isimli doktora tezinden üretilmiştir.

ulaşım sistemlerinin entegrasyonu gibi teknolojideki ilerlemelerin tehlikeli madde taşımacılığının güvenlik yönetimini geliştirmesi önerilmiştir (Yang vd., 2019). Kapsamlı acil durum müdahale planlarının oluşturulması da tehlikeli maddelerin karıştığı potansiyel kazaların etkilerini azaltmak için kritik öneme sahiptir (Aini vd., 2001).

Limanlardaki yük elleçleme operasyonlarının karmaşıklığı, risk yönetimi, ekipman verimliliği, çalışan eğitimi ve çevresel sürdürülebilirlik gibi çeşitli faktörleri entegre eden kapsamlı bir yaklaşım gerektirmektedir. Tehlikeli yük elleçleme operasyonlarının değerlendirilmesi ve iyileştirilmesine yönelik sağlam bir çerçevenin geliştirilmesi, liman performansının artırılması ve personel ile çevrenin güvenliğinin sağlanması için elzemdir (Đelović, 2024). Bu çerçeve mevcut uygulamaların değerlendirilmesini, iyileştirme alanlarının belirlenmesini ve tehlikeli maddelerin yarattığı özel zorluklara göre uyarlanmış en iyi uygulamaların hayata geçirilmesini kapsamalıdır. Öncelikle, limanlardaki tehlikeli yük operasyonlarının güvenlik değerlendirmesi son derece önemlidir. Tehlikeli yüklerin ilk elleçleme aşamalarında tespit edilebilmesinin, operasyon zincirinin ilerleyen aşamalarındaki olumsuz sonuçların önlenmesi açısından hayati önem taşıdığını vurgulamaktadır (Tseng ve Pilcher, 2023). Bu iddia, tehlikeli yüklerin taşınmasının hava taşımacılığıyla ilişkili riskleri azaltmak için beyan edilmemiş tehlikeli yüklerin belirlenmesi de dahil olmak üzere güvenlik önlemlerine öncelik vermesi gerektiğini vurgulayan Zhao ve diğerleri tarafından da desteklenmektedir (Zhao vd., 2018). Bu güvenlik değerlendirme modellerinin entegrasyonu, riskleri değerlendirmek ve gerekli önlemleri uygulamak için yapılandırılmış bir yaklaşım sağladığından, tehlikeli yüklerin etkili yönetimi için gereklidir.

2. Konteyner Terminallerinde Tehlikeli Yük Elleçleme Operasyonları

Konteyner terminallerinde tehlikeli yüklerin elleçlenmesi, sıkı güvenlik önlemleri ve operasyonel protokoller gerektiren denizcilik lojistiğinin kritik bir yönüdür. Konteyner terminalleri aracılığıyla taşınan tehlikeli yüklerin artan hacmi, bunların elleçlenmesi, depolanması ve nakliyesi ile ilgili riskleri azaltmak için güçlü sistemler gerektirmektedir. Konteyner terminallerinde tehlikeli yüklerin elleçlenmesi güvenlik, verimlilik ve mevzuata uygunluğu iç içe geçiren çok yönlü bir zorluk teşkil etmektedir. Tehlikeli maddelerin taşınmasına yönelik artan talep, ilgili risklerin kapsamlı bir şekilde anlaşılmasını ve etkili yönetim stratejilerinin uygulanmasını gerektirmektedir. Konteyner terminalleri, intermodal taşımacılık zincirinde çeşitli taşımacılık modlarının birleştiği kritik düğümler olarak hizmet vermektedir. Bu karmaşıklık, uygun şekilde yönetilmediği takdirde ciddi kazalara yol açabilen tehlikeli mallarla ilişkili doğal riskler nedeniyle daha da artmaktadır (Tseng ve Pilcher, 2023).

Tehlikeli yüklerin elleçlenmesindeki temel kaygılardan biri, güvenlik düzenlemelerine uygunluğun sağlanmasıdır. Ruscă ve arkadaşları, tehlikeli madde yüklü konteynerlerle ilgili operasyonların sıkı güvenlik protokolleri altında yürütülmesi ve kazaları önlemek için uzman personel tarafından denetlenmesi gerektiğini vurgulamaktadır (Ruscă vd., 2019). Konteyner terminallerindeki ulaşım ağlarının güvenilirliği, tehlikeli yüklerin yönetiminde bir diğer kritik faktördür. Li ve arkadaşları, tehlikeli yükleri içeren kazaların artan sıklığını ele almak için ulaşım ağlarının güvenilirlik analizine duyulan acil ihtiyacı tartışmaktadır (Li vd., 2018). Liman operasyonlarında tehlikeli yüklerin güvenli bir şekilde elleçlenmesini sağlamak için etkili denetim ve mevzuata uyum esastır. Haryanto ve arkadaşları Endonezya'daki liman yetkililerinin denetim sistemini inceleyerek yetersiz tesis ve personelin etkili gözetimi engelleyebileceğini ortaya koymuştur (Haryanto vd., 2020). Bulguları, güvenlik standartlarına uyumu sağlamak ve tehlikeli yüklerin elleçlenmesini iyileştirmek için denetim uygulamalarını optimize etmenin önemini vurgulamaktadır. Düzenleyici çerçevenin güçlendirilmesi ve liman yetkililerinin kabiliyetlerinin artırılması, konteyner terminallerinde daha güvenli operasyonlara yol açabilir.

Karar destek sistemlerinin entegrasyonu, konteyner terminallerindeki risk yönetimi uygulamalarını daha da geliştirebilir. Torretta ve arkadaşları, tehlikeli yüklerin taşınmasıyla ilgili riskleri değerlendirmek üzere tasarlanmış çeşitli karar destek sistemlerini gözden geçirmiştir (Torretta vd., 2017). Bu sistemler potansiyel tehlikeler hakkında değerli içgörüler sağlamakta ve bilinçli karar vermeyi kolaylaştırarak nihayetinde güvenlik sonuçlarını iyileştirmektedir. Terminal operatörleri teknoloji ve veri analitiğinden yararlanarak risk yönetimi kabiliyetlerini geliştirebilir ve tehlikeli yüklerin güvenli bir şekilde elleçlenmesini sağlayabilirler. Konteyner limanlarındaki tehlikeli yüklerin elleçlenmesi mevzuata uygunluk, teknolojik yenilik ve operasyonel verimliliği kapsayan çok yönlü bir yaklaşım içermektedir. Güvenlik protokolleri, güvenilirlik analizi ve gelişmiş yönetim tekniklerinin sentezi, riskleri azaltmak ve tehlikeli maddelerin güvenli bir şekilde taşınmasını sağlamak için gereklidir. Tehlikeli madde taşımacılığına olan talep artmaya devam ettikçe, bu alanda devam eden araştırma ve geliştirmeler, güvenlik ve operasyonel etkinliğin artırılması için çok önemli olacaktır. Tehlikeli yük konteynerlerinin limanlarda elleçleme operasyonları ana başlıklar altında toplanmaya çalışılmış olup aşağıda verilmiştir.

2.1. Tehlikeli Yük Konteynerlerinin Operasyon Planlamaları

Tehlikeli yük konteynerlerinin operasyon planlaması, özellikle bu malzemelerle ilişkili doğal riskler göz önüne alındığında, lojistik ve nakliye yönetiminin kritik bir yönüdür. Etkili planlama, hava, demiryolu ve karayolu dahil olmak üzere çeşitli taşıma modlarında güvenlik protokollerinin, düzenleyici çerçevelerin ve operasyonel stratejilerin kapsamlı bir şekilde anlaşılmasını gerektirir. Tehlikeli yük konteynerlerinin operasyon planlamasındaki temel kaygılardan biri, bu maddelerle ilgili bilginin etkin bir şekilde yönetilmesidir. Zhang ve arkadaşları, tehlikeli yüklerin güvenli bir şekilde taşınması için gereken bilginin karmaşıklığını ve kapsamlı doğasını vurgulayarak, taşıma güvenliğini artırmak için bu bilgiyi organize etmenin ve yönetmenin önemini vurgulamaktadır (Zhang vd., 2019). Çalışmalarında tartışıldığı gibi bilgi grafiklerinin oluşturulması, çeşitli tehlikeli mal türlerinin daha iyi anlaşılmasını ve yönetilmesini kolaylaştırabilir, böylece güvenlik protokollerini ve operasyonel verimliliği artırabilir. Ayrıca, Wan ve Tian tarafından önerildiği gibi, tehlikeli yüklerin istiflenmesi ve ayrıştırılması için akıllı kontrol platformlarının geliştirilmesi, uluslararası düzenlemelere uygunluğu sağlayarak ve tehlikeli yüklerin elleçlenmesinin doğruluğunu artırarak nakliye şirketlerinin operasyonel yeteneklerini önemli ölçüde artırabilir (Wan ve Tian, 2023).

Ayrıca, liman çalışanlarının tehlikeli yüklere ilişkin farkındalığının ve eğitiminin artırılması kazaların önlenmesi açısından kritik önem taşımaktadır. Çalışmalar, liman çalışanlarının tehlikeli yük taşımacılığıyla ilişkili riskler konusundaki genel farkındalığının artırılmasının kaza olasılığını önemli ölçüde azaltabileceğini göstermektedir (Eski ve Tavacıoğlu, 2021). Bu durum, insan hatasının yıkıcı sonuçlara yol açabileceği tehlikeli yük içeren operasyonların karmaşıklığı göz önüne alındığında özellikle önemlidir. Bu nedenle, güvenlik protokollerine ve acil durum müdahale stratejilerine odaklanan eğitim programları, kapsamlı bir risk yönetimi planının temel bileşenleridir. Güvenli bir yük elleçleme planının uygulanması, tehlikeli yüklerin limanlarda güvenli ve verimli bir şekilde hareket etmesini sağlamak için hayati önem taşımaktadır. Etkili kargo planlaması, konteynerlerin rasyonel bir şekilde tahsis edilmesini ve yükleme ve boşaltma operasyonları sırasında gemilerin dengesinin ve güvenliğinin dikkatli bir şekilde değerlendirilmesini içerir (Kuznetsov vd., 2021). Bu planlama, kargo elleçleme operasyonlarının güvenliğini ve verimliliğini etkileyebilecek çevresel faktörler veya ekipman arızaları gibi potansiyel aksaklıkları da hesaba katmalıdır.

Liman içi tehlikeli yük elleçleme operasyonu planlaması bağlamında, risk değerlendirmesi, operasyonel verimlilik ve güvenlik protokollerinin kapsamlı bir şekilde anlaşılması çok önemlidir. Tehlikeli özelliklere sahip çok çeşitli kimyasalları ve malzemeleri içeren tehlikeli yüklerin elleçlenmesi hem insan sağlığı hem de çevre açısından önemli riskler oluşturmaktadır. Etkili risk yönetimi çerçeveleri, bu riskleri azaltmak ve liman ortamlarında güvenli operasyonlar sağlamak için gereklidir.

2.2. Elleçleme Ekipmanlarının Fiziksel Koşulları

Liman içi tehlikeli yük konteyner elleçlemesi bağlamında, ekipman ve süreçlerin yönetimi güvenlik, verimlilik ve çevre korumasının sağlanması açısından kritik öneme sahiptir. Limanlar, küresel tedarik zincirlerinde hayati önem taşıyan düğüm noktaları olarak hizmet verir ve tehlikeli maddelerin elleçlenmesi, özel ekipman ve protokoller gerektiren benzersiz zorluklar ortaya çıkarır. Limanların operasyonel dinamikleri, özellikle de tehlikeli yükler söz konusu olduğunda, risk değerlendirmesi, ekipman verimliliği ve mevzuata uygunluğun karmaşık bir etkileşimini içerir. Bir limanın altyapısı, tehlikeli yükleri güvenli ve verimli bir şekilde elleçleme becerisinde çok önemli bir rol oynar. Modern tesisler ve gelişmiş kargo elleçleme ekipmanlarıyla donatılmış limanlar, tehlikeli maddelerle ilişkili karmaşıklıkları yönetmek için daha iyi bir konuma sahiptir. Güvenilir makinelerin mevcudiyeti ve titiz bakım protokollerinin uygulanması, tehlikeli kargo elleçlemesinin güvenli bir şekilde yürütülmesini sağlamak için esastır (Khan vd., 2021). Ayrıca, liman tesislerinin tasarımı, uygun depolama çözümleri ve acil durum müdahale yetenekleri de dahil olmak üzere tehlikeli maddelerin özel gereksinimlerini karşılamalıdır (Matviienko, 2022).

Ayrıca, tehlikeli kargoların elleçlenmesi, risklerin etkili bir şekilde azaltılması için özel ekipman ve eğitimli personel gerektirir. Holder ve arkadaşları, özellikle özel elleçleme protokolleri gerektirebilecek tehlikeli maddeler için geçerli olan verimli kargo transfer operasyonlarının sağlanmasında güvenilir enerji kaynaklarının ve uygun elleçleme ekipmanlarının rolünü tartışmaktadır (Holder vd., 2024). Otomatik sistemler gibi ileri teknolojilerin entegrasyonu da kargo elleçlemede güvenliği ve operasyonel verimliliği artırmanın bir yolu olarak vurgulanmaktadır (Okere, 2022). Otomatik sistemler, yüksek riskli kargo lojistiğinde insan faktörlerini kritik belirleyiciler olarak tanımlayan Saruchera'nın da belirttiği gibi, tehlikeli maddelerle ilgili kazalarda önemli bir faktör olan insan hatasını azaltabilir (Saruchera, 2020). Ayrıca, özellikle tehlikeli maddeler söz konusu olduğunda, kargo elleçleme operasyonlarının verimliliği son derece önemlidir. İleri teknolojilerin ve otomatik sistemlerin entegrasyonu, kargo elleçleme süreçlerinin hızını ve güvenliğini önemli ölçüde artırabilir. Örneğin, kargo elleçleme operasyonlarında otomatik sistemlerin uygulanmasının insan hatalarını azalttığı ve hizmet kalitesini

artırdığı, böylece operasyonların zamanında yapılmasını kolaylaştırdığı görülmüştür (Okere, 2022). Ayrıca, otomatik vinçler ve forkliftler gibi modern kargo elleçleme ekipmanlarının kullanımı, yükleme ve boşaltma süreçlerini optimize edebilir; bu da özellikle riskleri azaltmak için dikkatli elleçleme gerektiren tehlikeli maddeler için çok önemlidir (Adekunle ve Aworemi, 2023).

2.3. Tehlikeli Yük Operasyon Vardiya Aralıkları

Liman operasyonlarında tehlikeli yüklerin elleçlenmesi sıkı güvenlik yönetmelikleri ve protokolleri ile yönetilmektedir. Tehlikeli yüklerin ilk tanımlanması, operasyon sürecinin ilerleyen aşamalarında olumsuz sonuçlardan kaçınmak için çok önemlidir. Bu tanımlama süreci, vardiya aralıklarının etkin bir şekilde yönetilmesini de içeren operasyonel iş akışına entegre edilmelidir. İyi yapılandırılmış bir vardiya programı, tehlikeli yüklerin sürekli olarak izlenmesine ve değerlendirilmesine olanak tanıyarak güvenlik protokollerine her zaman uyulmasını sağlar (Tseng ve Pilcher, 2023). Ayrıca, Zhao ve diğerlerinin de vurguladığı gibi, tehlikeli madde operasyonlarının önceliklendirilmesi esastır; önce güvenlik, ardından ekipman ve tesislerin yönetimi gelmelidir (Zhao vd., 2018). Liman personeli arasında eğitim ve farkındalığın önemi göz ardı edilemez. Chen ve Yang, tehlikeli madde operasyonlarına yönelik eğitimde sanal gerçeklik teknolojisinin uygulanmasını tartışarak çalışanların tehlikeli maddeleri güvenli bir şekilde ele almaya hazırlıklı olmalarını sağlamıştır (Chen ve Yang, 2022). Bu eğitim, tüm personelin vardiyaları sırasında tehlikeli maddeleri etkili bir şekilde yönetmek için gerekli bilgi ve becerilerle donatılmasını sağladığından, vardiya değişiklikleri göz önünde bulundurulduğunda özellikle önemlidir. Ayrıca, Eski ve Tavacıoğlu'nun araştırması, liman çalışanları arasında tehlikeli yük taşımacılığına ilişkin genel farkındalığın yükleme ve boşaltma operasyonları sırasında riskleri en aza indirmek için kritik öneme sahip olduğunu göstermektedir (Eski ve Tavacıoğlu, 2021). Bu farkındalık, yüksek güvenlik seviyesini korumak için vardiya geçişleri sırasında pekiştirilmelidir.

Liman operasyonlarındaki operasyonel verimlilik, vardiya aralıklarının yönetiminden de etkilenmektedir. Gao ve arkadaşları, Ro-Ro terminal mühendisliğinde, tehlikeli yüklerin elleçlenmesi sırasında kazaları önlemek için vardiya yönetimine ilişkin hususları içeren güvenlik tasarımına duyulan ihtiyacı vurgulamaktadır (Gao vd., 2023). Vardiya aralıklarını optimize ederek, limanlar tıkanıklığı azaltabilir ve operasyon akışını geliştirebilir, böylece tehlikeli yüklerin elleçlenmesiyle ilişkili riskleri en aza indirebilir. Ayrıca, makine öğrenimi ve veri analizi gibi gelişmiş teknolojilerin entegrasyonu, vardiya değişimleri sırasında operasyonel verimliliği ve güvenliği daha da artırabilir (Romano-Moreno vd., 2022). Liman içi tehlikeli mal operasyonlarında vardiya aralıklarının yönetimi güvenlik, eğitim ve operasyonel verimliliği kapsayan çok yönlü bir konudur. Etkili vardiya yönetimi, güvenlik protokollerine uyulmasını, personelin yeterince eğitilmesini ve operasyonların sorunsuz bir şekilde yürütülmesini sağlamak için gereklidir. Limanlar, vardiya planlamasında güvenlik ve verimliliğe öncelik vererek tehlikeli yüklerin elleçlenmesiyle ilişkili riskleri önemli ölçüde azaltabilir.

2.4. Tehlikeli Yük Konteyner Hasarı

Liman içi tehlikeli mal konteyner hasarı bağlamında, konteyner elleçleme operasyonlarının bütünlüğüne ve güvenliğine çeşitli faktörler katkıda bulunur. Özellikle tehlikeli madde taşıyan konteynerlerin hasar görme riski, operasyonel yetersizlikler, çevresel koşullar ve insan faktörleri nedeniyle artmaktadır. Limanların operasyonel ortamı doğası gereği risklidir. Vinçler tarafından uygunsuz elleçleme ve yetersiz bakım gibi faktörler konteynerlerde önemli hasara yol açabilir. Soekarno-Hatta Limanı'nda konteyner elleçleme üzerine yapılan bir araştırma, dikkatsiz vinç operasyonlarının konteyner hasarının birincil nedeni olduğunu ve bakım eksikliğinin de korozyona yol açtığını ortaya koymuştur (Komalasari, 2023). Ayrıca, konteyner hasar tespitinin otomasyonu, denetim doğruluğunu ve verimliliğini artırmak için derin öğrenme modelleri gibi gelişmiş teknolojileri kullanarak bu riskleri azaltmak için bir çözüm olarak önerilmiştir (Phuong, 2025). İnsan hatası konteyner hasarına önemli bir katkıda bulunmaya devam etmektedir. Yapılan bir çalışmada, yükleme ve boşaltma operasyonları sırasındaki yanlış yönetimin, özellikle vinçler yeterli gözetim olmadan çalıştığında, konteynerleri deforme edebilecek fiziksel etkilere neden olduğu vurgulanmıştır (Jakovlev vd., 2023).

Liman içi tehlikeli mal konteyner hasarlarının yönetimi mevzuata uygunluk, operasyonel en iyi uygulamalar ve ileri teknolojilerin entegrasyonunu kapsayan çok yönlü bir yaklaşım gerektirmektedir. Tehlikeli mallarla ilişkili doğal riskleri ele alarak, mürettebat eğitimini geliştirerek ve sağlam izleme sistemleri uygulayarak, limanlar kaza olasılığını ve bunlarla ilişkili sonuçları önemli ölçüde azaltabilir. Bu alanda araştırma ve geliştirmeye devam edilmesi, güvenlik uygulamalarının geliştirilmesi ve denizcilik sektöründe tehlikeli maddelerin sürdürülebilir bir şekilde taşınmasının sağlanması için elzem olacaktır. Operasyonel uygulamalar, çevresel zorluklar ve insan faktörlerinin karşılıklı etkileşimi, limanlardaki tehlikeli mal konteynerlerinin hasar görme riskini önemli ölçüde

etkilemektedir. Bu sorunların gelişmiş teknoloji, daha iyi eğitim ve geliştirilmiş operasyonel protokoller aracılığıyla ele alınması, konteyner bütünlüğünün korunması ve tehlikeli maddelerin güvenli bir şekilde elleçlenmesinin sağlanması için gereklidir.

2.5. Tehlikeli Yük Operasyonlarında Dezenfektan İşlemi

Liman içi tehlikeli yüklerin, özellikle de konteynerlerde kullanılan dezenfektanların yönetimi, güvenliğin ve sağlık yönetmeliklerine uygunluğun sağlanması açısından çok önemlidir. Dezenfektanlar genellikle, uygun şekilde kullanılmadığı takdirde insan sağlığı ve çevre için risk oluşturabilecek tehlikeli yükler içerir. Liman operasyonlarında yaygın olarak kullanılan dezenfektanlar, temizlik ve dezenfeksiyon işlemleri sırasında maruz kalan çalışanlar için önemli sağlık riskleri oluşturduğu gösterilen glutaraldehit gibi kimyasallar içerebilir (Jara vd., 2013). Bu tür tehlikeli maddelere maruz kalmak solunum sorunlarına, cilt tahrişine ve diğer mesleki sağlık sorunlarına yol açabilir (Ilesanmi vd., 2015). Ayrıca, bu kimyasalların uygunsuz şekilde bertaraf edilmesi çevresel kirlenmeye yol açarak halk sağlığı risklerini daha da artırabilir (Carraro vd., 2016). Bu nedenle, bu riskleri azaltmak için dezenfektanların kullanımı ve bertarafı için sıkı protokollerin uygulanması esastır.

Dezenfektanların etkinliği de kullanımlarında kritik bir faktördür. Çalışmalar, bazı dezenfektanların, özellikle de üreticinin talimatlarına göre kullanılmadıkları takdirde, tüm patojenlere karşı etkili olmayabileceğini göstermiştir (Mehrifar vd., 2023). Bu durum hem etkinliği hem de güvenliği sağlamak için personelin bu maddelerin doğru uygulanması konusunda eğitilmesinin önemini vurgulamaktadır. Ayrıca, temizlik ürünlerindeki tehlikeli maddelerin varlığı, kimyasal özelliklerinin ve potansiyel sağlık etkilerinin kapsamlı bir şekilde anlaşılmasını gerektirmektedir (Gerster vd., 2014). Örneğin, birçok temizlik maddesi iç mekân hava kirliliğine katkıda bulunabilecek uçucu organik bileşikler içerir ve bu durum özellikle nakliye konteynerleri gibi kapalı alanlarda endişe vericidir (Wei vd., 2015).

Bu zorlukların üstesinden gelmek için, limanların dezenfektanlarla çalışan işçiler için kişisel koruyucu ekipmanların ve güvenli elleçleme uygulamalarının önemini vurgulayan kapsamlı eğitim programları benimsemeleri önerilmektedir (Lee vd., 2023). Ayrıca, temizlik protokollerinin düzenli olarak denetlenmesi ve değerlendirilmesi, iyileştirme alanlarının belirlenmesine ve güvenlik standartlarına uygunluğun sağlanmasına yardımcı olabilir (Lee vd., 2024). Raman spektroskopisi gibi gelişmiş izleme teknolojilerinin entegrasyonu da tehlikeli maddelerin gerçek zamanlı olarak tespitini artırarak liman operasyonlarında ek bir güvenlik katmanı sağlayabilir (Cletus vd., 2013). Liman içi tehlikeli maddelerin, özellikle de dezenfektanların yönetimi, işçi güvenliği, çevrenin korunması ve mevzuata uygunluğa öncelik veren çok yönlü bir yaklaşım gerektirmektedir. Limanlar etkili eğitim, izleme ve bertaraf uygulamalarını hayata geçirerek tehlikeli maddelerle ilişkili riskleri azaltabilir ve daha güvenli bir çalışma ortamını teşvik edebilir.

2.6. Tehlikeli Yük Konteyner Operasyonlarında Hava Durumu

Liman ortamlarında tehlikeli mallarla ilgili operasyonlar, liman içi hava koşullarından ciddi şekilde etkilenir ve bu da güvenliği, verimliliği ve risk yönetimini önemli ölçüde etkileyebilir. Özellikle konteyner operasyonlarında tehlikeli yüklerin elleçlenmesi, bu tehlikeli maddelerle ilişkili riskleri artırabilecek çevresel faktörlerin kapsamlı bir şekilde anlaşılmasını gerektirmektedir. Bu yanıt, liman içi hava koşulları ile tehlikeli mal konteyner operasyonları arasındaki etkileşimi aydınlatmak için çeşitli bilimsel çalışmaları sentezlemekte ve sağlam güvenlik değerlendirmelerinin, risk yönetimi stratejilerinin ve operasyonel protokollerin önemini vurgulamaktadır. Liman içi hava koşulları, konteyner terminallerinde tehlikeli mallarla ilgili operasyonları önemli ölçüde etkilemektedir. Aşırı hava olayları ile liman operasyonları arasındaki etkileşim, özellikle tehlikeli maddeler elleçlenirken çok önemlidir. Araştırmalar, limanların fırtına, sel ve aşırı rüzgârlar gibi çeşitli meteorolojik olaylara karşı oldukça savunmasız olduğunu, bu olayların operasyonları aksatabileceğini ve güvenlik riskleri oluşturabileceğini göstermektedir (Verschuur vd., 2023).

Konteyner taşımacılığı şirketlerinde çalışanlar arasındaki risk algıları hava koşullarıyla ilgili aksaklıklardan etkilenmektedir. Chang ve arkadaşları, operasyonel personelin özellikle tehlikeli yüklerin taşınması sırasında tehlikeli durumlara yol açabilecek dengesiz hava koşullarının neden olduğu gecikmeler konusunda endişe duyduğunu tespit etmiştir (Chang_vd., 2016). Bu durum, özellikle çevresel değişikliklere karşı daha hassas olabilecek tehlikeli yükler için operasyonel güvenliği sağlamak amacıyla sürekli hava durumu izlemenin gerekliliğini vurgulayan Azevedo ve arkadaşlarının bulgularında da vurgulanmaktadır (Azevedo vd., 2021). Hava koşullarındaki aksaklıkların liman operasyonları üzerindeki ekonomik etkileri de göz ardı edilemez. Wang ve arkadaşları, çeşitli meteorolojik afetlerin liman altyapısı ve operasyonları üzerindeki ekonomik etkilerini anlamak

için sistematik risk değerlendirmelerinin kritik rolünü vurgulamaktadır (Wang vd., 2024). Yazarlar, bu tür değerlendirmelerin, özellikle dikkatli elleçleme ve depolama gerektiren tehlikeli mallar için, aşırı hava koşullarının tedarik zinciri üzerindeki olumsuz etkilerini azaltabilecek esneklik stratejileri geliştirmek için hayati önem taşıdığını savunmaktadır.

Liman içi hava koşulları ile tehlikeli yük konteynerlerinin operasyonları arasındaki etkileşim, güvenlik, operasyonel verimlilik ve ekonomik hususları içeren çok yönlüdür. Literatür, aşırı hava olaylarının liman operasyonları üzerindeki etkilerine karşı koruma sağlamak için gelişmiş izleme, risk değerlendirmesi ve güvenlik protokollerinin gerekliliğini sürekli olarak vurgulamaktadır. Sonuç olarak, liman operasyonlarında tehlikeli yüklerin güvenli bir şekilde elleçlenmesi, liman içi hava koşullarıyla karmaşık bir şekilde bağlantılıdır. Tehlikeli mal taşımacılığı ile ilgili risklerin azaltılması için güvenlik değerlendirmelerini, teknolojik gelişmeleri ve mevzuata uygunluğu içeren çok yönlü bir yaklaşım gereklidir. Aşırı hava olaylarının sıklığı ve yoğunluğu artmaya devam ettikçe, liman yetkilileri tehlikeli mal konteyner operasyonlarının güvenliğini ve verimliliğini sağlamak için hava durumu risk değerlendirmelerini operasyonel protokollerine entegre etmeye öncelik vermelidir.

3. LİTERATÜR

Hervás-Peralta ve arkadaşları (2020), designing the layout of terminals with dangerous goods for safer and more secure ports and hinterlands adlı çalışmalarında on uzmandan oluşan bir uzman grubu ile straddle taşıyıcılar, forkliftler, istifleyiciler, platformlar ve portal vinçlerle bağlantılı yerleşim planlarını değerlendirmiş ve Delphi yöntemi uygulanmıştır. Alternatiflerin farklı kriterler veya perspektiflerden (örneğin ekonomik, çevre, güvenlik, vb.) önceliklendirilmesi analitik hiyerarşi süreci (AHP) kullanılmıştır.

Eski ve Tavacıoğlu (2021), evaluation of port workers' general awareness of dangerous cargo transport isimli çalışmalarında "Tehlikeli Yük Taşımacılığı Genel Farkındalık Anketi" geliştirilmiş ve eğitim alan 100 liman çalışanına yüz yüze uygulanmıştır. Anketin içerik geçerliliği, yapı geçerliliği, iç tutarlılık güvenilirliği ve test-tekrar test güvenilirliği analizleri gerçekleştirilmiştir.

Khan ve arkadaşları (2021). Analyzing human factor involvement in sustainable hazardous cargo port operations isimli çalışmalarında limanlarda meydana gelen tehlikeli yük kazalarında insan faktörünün çok yönlü rolünü araştırmıştır. Metodoloji olarak değişkenlerin seçimi, nedensel ilişkilerinin geliştirilmesi ve sayısallaştırılması için uzman görüşü, literatür taraması ve maksimum olabilirlik tahmini kullanılırken, 1960'tan 2018'e kadar olan geçmiş kaza raporlarına dayalı çıkarım için Bayesian ağından (BN) oluşturulmuştur.

Xie ve arkadaşları (2021), research on safety risk, prevention and control in port dangerous goods container yard isimli çalışmalarında limanlardaki tehlikeli yük konteyner sahasının depolama, güvenlik riskleri ve risk faktörlerinin analizine dayanarak, kaza tehlikeleri ve etki kapsamı simülasyon hesaplamaları yoluyla değerlendirilmişlerdir.

Tseng, P. ve Pilcher, N. (2023). A safety assessment model for handling dangerous goods in port operations: the key role of detection capability isimli çalışmalarında Potansiyel riskleri önlemek ve kayıpları azaltmak amacıyla, literatür taramasına dayalı olarak, bulanık analitik hiyerarşi süreci (FAHP) yaklaşımı kullanılarak limanlarda tehlikeli mallara ilişkin dört kriter ve 15 alt kriter içeren bir güvenlik değerlendirme modeli geliştirilmişlerdir.

Khan ve arkadaşları (2024), seaport infrastructure risk assessment for hazardous cargo operations using Bayesian networks adlı çalışmalarında tehlikeli kargo operasyonlarının karmaşık etkilerinin kapsamlı risk faktörlerini ve bunların birbirleriyle bağlantılarını belirlemek için literatürden, olay raporlarından ve uzman görüşlerinden yararlanılmıştır. Çalışma, Koşullu Olasılık Tabloları (CPT'ler) geliştirmek için lojistik regresyonun yanı sıra uzman görüşlerini kullanmakta ve Bayesian ağlarını (BN) kullanarak bir risk analizi kullanılmıştır.

Ma ve arkadaşları (2024), a novel risk analysis method for hazardous cargo operations at port integrating the HFLC model and DEMATEL method adlı çalışmalarında tehlikeli yük kaza analizlerine ve önceki literatüre dayalı olarak tehlikeli kargo operasyonlarına ilişkin 20 risk belirlenmiştir. Daha sonra HFLC modeli, farklı risk faktörleri hakkında uzmanlar tarafından sağlanan belirsizlik içeren dilsel yargıları karakterize edilmiştir. DEMATEL yöntemi HFLC ortamına genişletilmiş ve HFLC formundaki farklı risk faktörlerinin merkezilik derecesini ve nedensellik dereceleri hesaplanmıştır.

Yukarıdaki yapılan araştırmalarda görüldüğü gibi tehlikeli yükler ile ilgili genel kapsamlı çalışmalar yapılmıştır. Yapılan çalışmalarda tehlikeli yüklerin limanlarda ve terminallerde riskleri ve güvenlik yönetimleri üzerinde yoğunlaşıldığı görülmektedir. Bu çalışmada tehlikeli yük konteynerlerin limanlarda elleçleme operasyonlarındaki belirlenmiş altı kritere göre limanların öncelikleri araştırılmıştır.

4. ARAŞTIRMA METHOD

Yapılan araştırmada uluslararası yasal uygulamalar incelenmiş olup elde edilen altı adet elleçleme operasyon öncelikleri Türkiye'de faaliyet gösteren ve çalışmaya katılan 10 konteyner limanına yöneltilmiştir. Limanlara yöneltilen sorular Analitik Hiyerarşi Prosesi (AHP) formatına uygun anket formatında gönderilmiş olup, alınan cevaplar AHP araştırma metodu ile analiz edilmiştir.

Analitik Hiyerarşi Süreci (AHP), birden fazla kriter içeren karmaşık problemlerin değerlendirilmesini kolaylaştıran yapılandırılmış bir karar verme metodolojisidir. Saaty tarafından 1980'lerde geliştirilen AHP, karar problemlerini daha küçük, daha yönetilebilir bileşenlere ayırmak için hiyerarşik bir yapı kullanır ve karar vericilerin alternatifler ve kriterler arasında ikili karşılaştırmalar yapmasına olanak tanır (Das vd., 2021). Bu yöntem özellikle nitel ve nicel faktörlerin birbirlerine karşı tartılması gereken durumlarda etkilidir ve proje yönetimi, sağlık hizmetleri ve tedarik zinciri yönetimi gibi çeşitli alanlarda popüler bir seçimdir (Syamsuddin ve Hwang, 2010). AHP'nin en güçlü yönlerinden biri, sistematik bir yaklaşımı korurken öznel yargıları karar verme sürecine dahil etme yeteneğinde yatmaktadır. Karar vericiler, göreceli bir önem ölçeği kullanarak tercihlerini ifade edebilir ve değerlerini ve hedeflerini yansıtan bir dizi öncelik türetebilirler (Sumanto vd., 2020). Bu özellik, özellikle birbiriyle çelişen kriterler arasında ödünleşimlerin yaygın olduğu çok kriterli karar verme (ÇKKV) senaryolarında kullanışlıdır. Örneğin, COVID-19 salgını sırasında tedarik zinciri dayanıklılığı bağlamında, tedarik zinciri ağlarını etkileyen faktörleri önceliklendirmek için AHP kullanılmış ve güncel zorluklara uyarlanabilirliği gösterilmiştir (Chung ve Chang, 2022).

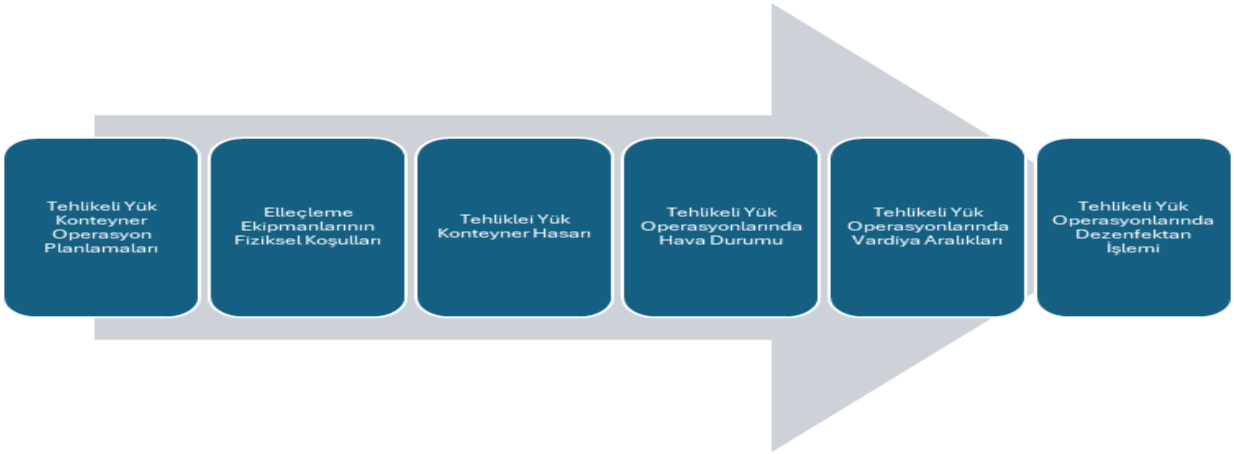
Ayrıca, AHP'nin çok yönlülüğü, Karar Verme Deneme ve Değerlendirme Laboratuvarı (DEMATEL) yöntemi gibi diğer metodolojilerle entegre edilmesine olanak tanıyarak karmaşık karar verme senaryolarını ele alma konusundaki sağlamlığını artırmaktadır (Malau, 2023). Bu entegrasyon, farklı yaklaşımların güçlü yönlerini birleştirerek daha kapsamlı değerlendirmelere yol açabilir ve böylece karar verme sürecinin doğruluğunu ve güvenilirliğini artırabilir (Bhat, 2023). Ayrıca, yöntemin kullanıcı dostu arayüzü ve yapılandırılmış çerçevesi, çeşitli disiplinlerde yaygın olarak benimsenmesine katkıda bulunmuş ve onu hem araştırmacılar hem de uygulayıcılar için tercih edilen bir araç haline getirmiştir (Szczypińska ve Piotrowski, 2008).

Analitik Hiyerarşi Süreci çok kriterli karar verme alanında önemli bir araç olmaya devam etmekte ve çeşitli alanlardaki karmaşık sorunlara yapılandırılmış bir yaklaşım sağlamaktadır. Öznel yargıları sistematik analizle bütünleştirme yeteneği, karmaşık senaryolarla karşı karşıya kalan karar vericiler için onu paha biçilmez kılmaktadır. Limanlardan yapılan geri dönüşler superdecision isimli paket programında değerlendirilerek analiz edilmiştir. Elde edilen sonuçlar tablo haline getirilerek bulgular kısmında sunulmuştur. Limanların elleçleme operasyonlarına verdikleri önceliklerin ortalama ağırlıkları da pratikleştirilerek verilişti r.

5. DEĞERLENDİRME

Tehlikeli yük konteynerleri, limanlara girişlerinden itibaren diğer konteynerlere göre özel olarak ilgilenilen ve operasyonlar anlamında dikktli operasyonlara ihtiyaç duyulan yüklerdir. Elleçleme operasyonları, limanlarda yüklerin gemi ile liman arasında yer değiştirme başta olmak üzere yapılan en önemli operasyonlardır. Elleçleme operasyonları esnasından bir taşıma ekipmanından yere ve yerden bir taşıma ekipmanına aktarmalarda, gemiye aktarmalarda ve gemiden limana aktarmalarda kazalar meydana gelme riski açısından dikkat edilmeleri gerekmektedir. Tehlikeli yükler, elleçleme operasyonları esnasından sürekli hareketli olmalarından dolayı gerek hareketin yapısından gerekse elleçleme ekipmanın hatasından dolayı zarar görebilirler. Bu nedenle elleçleme operasyonları diğer operasyonlardan daha öne çıkmaktadır. Uluslararası yasal düzenlemeler taranmış ve konteyner limanlarında elleçleme operasyonlarındaki önceliklerin sıralaması aşağıda şekil 1'de verilmeye çalışılmıştır.

Şekil 1: Tehlikeli Yük Konteynerlerin Elleçleme Operasyonlarında Öncelik Sıralaması



Elleçleme operasyonlarının ilk önceliğinde, operasyon yapılacak olan konteyner sayısı, kaç ekipman kullanılacağı, sahada kaç kişinin görev alacağı, konteynerlerin tehlike sınıfları ve en tehlikeli yük sınıfından en az tehlikeliye göre konteynerlerin belirlemesi önemlidir. Operasyon sahasında görev alacak personel sayısı minimum seviyede tutulmalıdır. Ekipmanların hareket sahaları sınırlandırılmış olmalı ve sahaya operasyonlar esnasından yetkisiz personelin girmediğine dikkat edilmelidir. Ayrıca olası her türlü kazaya göre acil durum müdahale ekipmanlarının hazırlanması gerekmektedir.

Öncelikler açısından ikinci sırada ise elleçleme ekipmanlarının fiziksel koşulları gelmektedir. Ekipmanlar, planlanan ve belirli aralıklar ile bakımları yapılmış ve hazır durumda olmalıdırlar. Ekipman sayısı sahada operasyon görecek konteyner sayısına yetecek sayıda ve taşıma kapasitesinde olmalıdır. Ekipman operatörleri tehlikeli yükler konusunda eğitim almış sertifikalı personel olmalıdır. Herhangi bir şekilde ekipmanların kontrolsüz şekilde ısı yaymalarına neden olacak herhangi bir egzoz çıkışlar olmamalıdır. Olası bir kaza durumunda ekipmanın tehlikeli yüklerden uzaklaştırılması ve güvende tutulması önemlidir. Ayrıca elleçleme ekipmanlarının arıza durumlarında sahadan alınmaları ve yerlerine yeni ekipman gönderilmeleri önemlidir.

Öncelikler açısından üçüncü sırada ise tehlikeli yük hasar durumu bulunmaktadır. Konteyner liman içi diğer operasyonlar esnasında anlık hasar alabilirler. Elleçleme operasyonu sırasında fark edilen böyle bir hasar durumda operasyon hemen sona durdurulmalı ve konteyner güvene alınmalıdır. Yangın ve yayılma riskine karşı konteynerin etrafı yalıtılmalı ve gözetim altında tutulmalıdır. Katı yapıda olan yükler başka konteynere aktarılabiliyorsa aktarılmalı ve mevcut miktar azaltılmalıdır. Sıvı yapıda yükler için koruma havuzları ile etrafı güvene alınmalıdır. Gaz yapıda yükler içinde açık ortamda bırakılmalı ve personelin tehlikeli atmosferden etkilenmemesi için solunum cihazı ile müdahalesi gerçekleştirilmelidir. Hasarlı konteynerler diğer konteynerlerden uzakta uzman kişilerin gözetiminde operasyona tabi tutulmalıdır.

Öncelikler açısından dördüncü sırada tehlikeli yük operasyonlarında hava durumu gelmektedir. Hava durumu tamamen kontrol dışı bir etken olup hem yüklerin yapılarına etki ederek onların tehlike oluşturmalarına neden olmakta hem de operasyonlar esnasında ekipmanların ve de personelin kaza yaşamalarına sebep olmaktadır. Aşırı sıcaklarda yüklerin kendi kendilerine ısıların yükselmesiyle risk oluşurken, kar ve yoğun yağışlar yüklerin ambalajlarının içinde sızarak yükleri aktifleştirebilmektedir. Nem ambalajlarının iç kısımlarına etki etmekte olup aşırı terleme ile de yüklerin ıslanmaları meydana gelmektedir. Hava durumunun aşırı seviyelerde olduğu zamanlarda hem yükler hem de operasyonların güvenliği için gerekli önlemlerin alınması önemlidir.

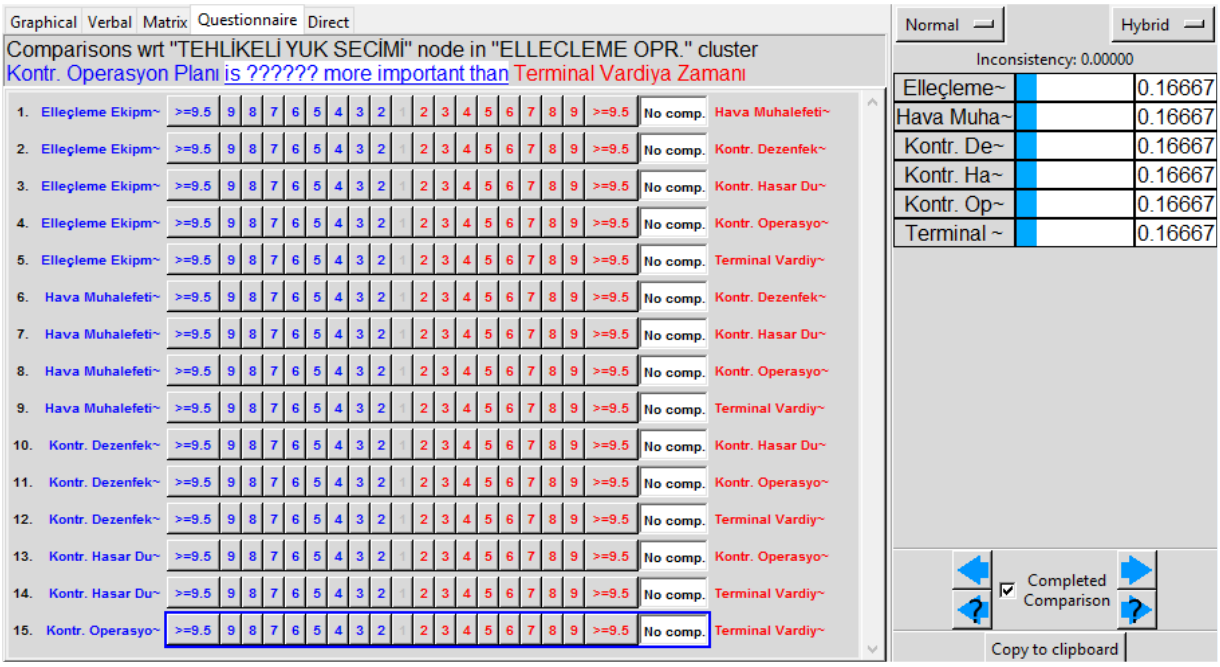
Öncelikler açısından beşinci sırada tehlikeli yük operasyon vardiya aralıkları gelmektedir. Vardiya, konteyner limanlarında sıklıkla görülmekte olup limanların 24 saat çalışma ihtiyacından dolayı işletilmektedir. Özellikle gece zamanına gelen vardiya zamanlarındaki personellerin gündüz zamanına göre daha fazla kaza geçirme riskleri bulunmaktadır. Tehlikeli yük operasyonlarında ayrıca konusunda uzman ve eğitimli personellerin görev almaları önemlidir. Bu kişilerinde sürekli olarak vardiyaların başlarında olmalıdır. Ayrıca personelinde operasyonlara hâkim ve bilinçli bir şekilde çalışmaları gerekmektedir. Gece saatlerinde dikkat dağılımı ve risk algısı gündüz saatine göre daha düşük olduğu için gece saatlerinde gerçekleştirilen tehlikeli yük operasyonları daha risklidir.

Öncelikler açısından sonuncu sırada ise tehlikeli yük operasyonlarında dezenfektan operasyonları gelmektedir. Dezenfektan işlemi, konteyner operasyonlarında kullanılan ve yüklerin her türlü kemirgen ve diğer zararlı organizmalardan korunması amacıyla zehirli gaz verilmesi işlemidir. Yaygın olarak limanlarda fumigasyon operasyonu olarak bilinmektedir. Dezenfektan operasyonlarının eğitimli kişiler tarafından yapılması ve uyarı işaretleri ile işaretlenmeleri gerekmektedir. Dezenfektan operasyonu görmüş konteynerlerin operasyonları esnasından personelin dikkatli yaklaşması, zehirli gaza karşı gerekirse solunum ekipmanı kullanması

gerekmektedir. Konteyner elleçleme operasyonu esnasında herhangi bir kaza yaşanırsa konteynerden sızan zehirli gaz yakındaki personelleri etkileyebilir. Gaz atmosfere yayılabilir. Bundan dolayı bu tür konteynerlerin kapalı alan yerine açık alanlarda elleçleme operasyonları geçirmeleri ve gerekli güvenlik önlemlerinin alınması önemlidir.

Yukarıda öncelik sıralaması yapılan tehlikeli yük elleçleme operasyonlarındaki kriterler için limanlara anketler sunulmuştur. Geri dönüşlerden Türkiye çapında en etkin 10 adet limanın cevapları aşağıda örnekte verilen superdecision adlı programda analiz edilmiştir. Aşağıda elleçleme operasyonu örnek program ekran görüntüsü şekil 2'de verilmiştir.

Şekil 2: Elleçleme Operasyonu Kriter Değerlendirmeleri Bilgisayar Programı Ekran Görüntüsü.



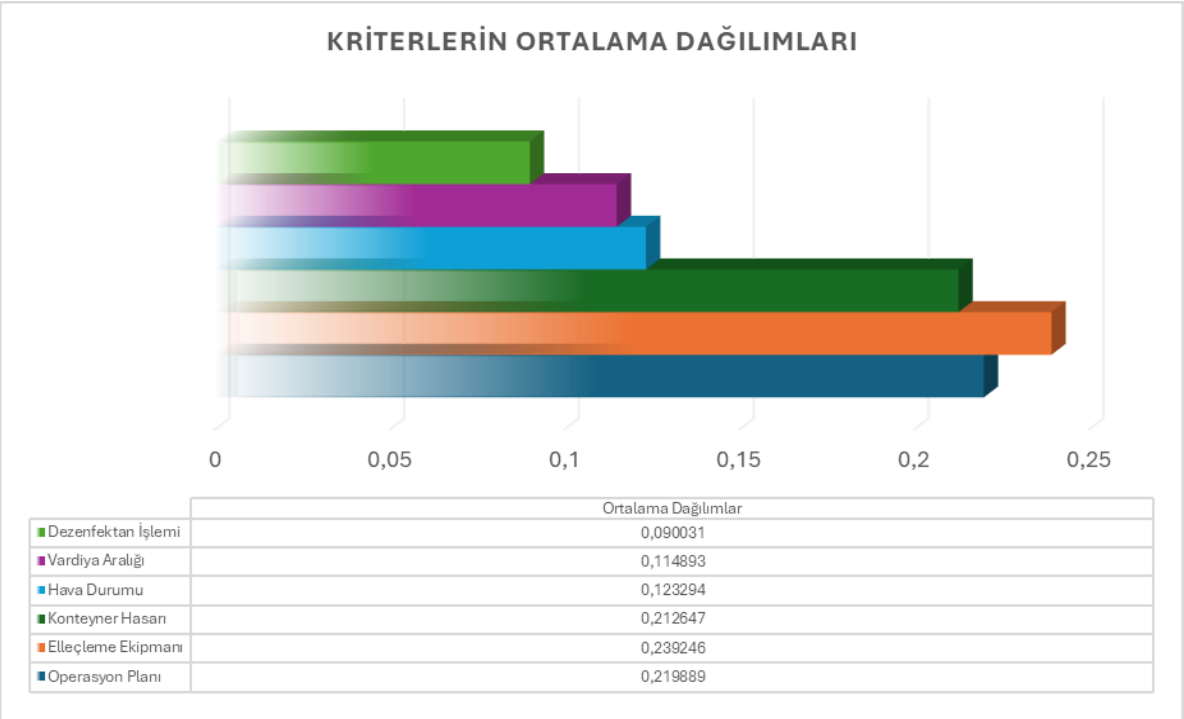
Limanlardan alınan cevapların superdecision isimli programda analiz edilmesinden sonra elde edilen veriler aşağıda tablo 1'de verilmiştir. Tabloda her limanın konteyner elleçleme operasyonu kriterlerine vermiş oldukları önem sırasının dağılımları görülmektedir. Limanların isimleri gizliliğin önemi açısından alfabetik şekilde isimlendirilmiştir.

Tablo 1: Limanların Elleçleme Operasyonu Önceliklerinin Dağılımları

Limanlar	Operasyon Planı	Elleçleme Ekipmanı	Konteyner Hasarı	Hava Durumu	Vardiya Aralığı	Dezenfektan İşlemi
A Limanı	0,09355	0,04672	0,30452	0,04672	0,03262	0,08609
B Limanı	0,19966	0,06326	0,17116	0,06326	0,05197	0,10137
C Limanı	0,51299	0,01980	0,05737	0,01980	0,11062	0,02360
D Limanı	0,17664	0,04030	0,33555	0,04030	0,21867	0,01755
E Limanı	0,22599	0,03129	0,36663	0,03129	0,05818	0,13986
F Limanı	0,30563	0,15845	0,23827	0,15845	0,05687	0,02117
G Limanı	0,29137	0,03961	0,04594	0,03961	0,29988	0,02977
H Limanı	0,12644	0,47412	0,06992	0,47412	0,13874	0,05204
I Limanı	0,03841	0,19302	0,34328	0,19302	0,07515	0,22975
K Limanı	0,22821	0,16637	0,19383	0,16637	0,10623	0,19911

Yukarıdaki tabloda görüldüğü gibi limanların birbirlerinden farklı öncelikler verdikleri görülmektedir. Limanların öncelik yaklaşımları farklı olmaktadır. Verilen önceliklerinin ortalamaları aşağıdaki şekil 3'te verilmiştir.

Şekil 3: Limanların Elleçleme Operasyonu Önceliklerinin Ortalama Dağılımları



	Ortalama Dağılımlar
Dezenfektan İşlemi	0,090031
Vardiya Aralığı	0,114893
Hava Durumu	0,123294
Konteyner Hasarı	0,212647
Elleçleme Ekipmanı	0,239246
Operasyon Planı	0,219889

Yukarıda şekilde görüldüğü gibi limanların önceliklerinin dağılımları beklenenden farklı olmuştur. İlk öncelik olarak elleçleme ekipmanlarının durumu ilk öncelik olarak seçilmiştir. Limanlar bu yaklaşımları iş sağlığı ve güvenliği uygulamalarına önem verdiklerini göstermektedir. Ayrıca güvenli bir elleçleme operasyonu için güvenli ekipman ihtiyacı kültürü bulunmaktadır. İkinci öncelik ise tehlikeli yük operasyon planı gelmektedir. Bu önceliğin genel tahminlerde ilk sırada olmasına rağmen limanlar bu önceliği ikinci sıraya atmışlardır. Limanların yaklaşımlarından güvenli ekipmanlarda planlı bir operasyon önceliklerinin olduğu görülmektedir. Limanların üçüncü öncelik olarak da beklendiği üzere konteyner hasarlarına odaklandıkları görülmüştür. Konteyner hasarı sonucu oluşabilecek her türlü kaza ciddi koyutlarda personel ve ekipmanlara zarar verebilecektir. Önemli yangın riski oluşturun ciddi yayılmalar meydana gelebilecektir.

Limanların dördüncü öncelikleri ise beklendiği gibi konteyner operasyon hava durum olmuştur. Hava durumu önceliği, limanlar için riskli konteyner operasyonlarına sebep olabileceği için dikkatli takip edilmektedir. Hava olayları sonucunda oluşacak ani değişimler ve olumsuz şartlar konteynerlere de zarar verebileceği için yüklerin durumu içinde önemli ve takip edilmesi gereken bir durumdur. Limanların önceliklerinde tehlikeli yük operasyon vardiya aralığı gelmektedir. Limanların özellikle tehlikeli yük operasyonlarının güvenliklerinin farkında olmalarından dolayı operasyonlarının ağırlıklı olarak gündüz vakti gerçekleştirdikleri bilinmektedir. Fakat bazı yüklerin özel izinlerle limana son daha girişleri ve direk gemiye yükleme operasyonları gerçekleştirilmesi durumlarında vardiya zamanları önemli bir etken olacaktır. Bu tür son dakika yüklemelerinde personellerinde yorgun olacağı düşünülmesi gerekir ve son dakikaya kadar güvenlik önlemlerinin ciddiyete sürdürülmesi gerektiği unutulmamalıdır. Son öncelik olarak da konteyner operasyonlarında en sonda olan ama yine de ciddiye alınması gereken konteynerde dezenfektan işlemi gelmiştir. Limanların bu önceliği en sona almaları beklenmekteydi ve beklenildiği gibide limanlar tarafından doğru şekilde sıralanmıştır bu öncelik. Konteyner dezenfektasyonu sınırlı sayıda yapılmakta olup gerekli işaretlemeler ve olası kaza durumlarında eğitimli personelinin yeterli ekipmanla müdahalesi ile kolayla kontrol alınabilen bir durumdur. Operasyonlar esnasında önceden bilgilendirme yapıldığı içinde risk açısından diğer önceliklerinde gerisinde kalmaktadır.

Yapılan değerlendirme sonucunda limanların öncelik sıralamasın oldukça uydukları ve bilinçli bir şekilde öncelikleri belirleyerek ilerledikleri görülmektedir. Limanların bu yaklaşımları oldukça yeterli bir güvenlik kültürü ve ona bağlı güvenlik yönetimlerinin olduğunu göstermektedir.

6. SONUÇ

Bu çalışmada, Türkiye'deki konteyner terminallerinin tehlikeli yük elleçleme operasyonlarına yaklaşımları ve öncelikleri incelenmiştir. Uluslararası düzenlemeler ve limanlara yönlendirilen sorulardan elde edilen veriler, Analitik Hiyerarşi Prosesi (AHP) kullanılarak analiz edilmiş ve limanların elleçleme operasyonlarına önceliklerine ilişkin veriler elde edilmiştir. Araştırma elde edilen verilerde limanların tehlikeli yük konteyner elleçleme operasyonlarında "Elleçleme Ekipmanı'' ilk öncelik olarak tercih ettikleri ortaya çıkmıştır. Limanların operasyonların güvenliği için elleçleme ekipmanlarının genel yapıları ve durumlarını tehlikeli yük operasyonları için sürekli göz önünde bulundurdukları görülmektedir.

Çalışma tehlikeli yük konteyner operasyon planlamasının beklenenin gerisinde bir öncelik olarak tercih edildiğini göstermektedir. Operasyon planları konteyner operasyonlarının güvenli ve planlı bir şekilde ilerlemesi için ilk adım olmaktadır. Limanlar bu önceliği ikinci plana alarak ağırlıklı olarak elleçleme ekipmanın fiziksel koşullarına öncelik vermektedirler. Elleçleme ekipmanlarının gerek pahalı olmaları gerekse elleçlenen konteynerlerin tehlikeli yük içermelerinden dolayı dikkatle yaklaşılmasından dolayı limanların bu öncelikleri anlaşılabilmektedir. Bulgular, limanların elleçleme operasyonlarında önceliklerinde farklılıkları ve genel değerlendirmeden farklılıkları göstermektedir. Bu farklılıklar, limanların farklı güvenlik kültürü ve güvenlik yönetimlerine sahip olmalarına bağlanabilir. Liman ortamlarında tehlikeli yük konteynerlerinin yönetimi güvenlik, çevre koruma ve operasyonel verimliliği kapsayan çok yönlü bir yaklaşım gerektirmektedir. Tehlikeli maddelerle ilişkili riskleri azaltmak için sıkı güvenlik protokollerinin uygulanması, etkili ileri teknolojilerin entegrasyonunu gerektirmektedir. Ayrıca, tehlikeli yüklerin intermodal taşımacılığında paydaşlar arasında iş birliğinin teşvik edilmesi liman tesislerinde güvenli ve verimli bir şekilde hareket etmesi için gereklidir.

Gelecekteki araştırmalarda, Ro-Ro limanlarında taşınan tehlikeli yüklerin elleçleme operasyonların önceliklerin karşılaştırarak yeni bir çalışma gerçekleştirilebilir. Ayrıca, güvenlik yönetimini ve güvenlik kültürünü geliştirecek olan faktörler (personel eğitimleri ve simülasyon eğitimleri) dahil etmek de faydalı olacaktır. Tehlikeli yük elleçleme operasyonlarının güvenliğini ve verimliliğini daha da artırmak için kanıta dayalı stratejilerin ve politikaların geliştirilmesi deni ticaretinin güvenliği ve gelişimi için önemlidir.

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The Problem of Pink Tax in The Framework of Gender-Neutral Products Marketing

Anastasia Romanova[1]

[1]PhD, Associate Professor, Modern Languages Chair, Academy of Economic Studies of Moldova, romanova.anastasia@ase.md, ORCID ID 0000-0003-2683-9827

Abstract: products for men. Unlike an actual tax, these practices unfairly target women, forcing them to pay more. This price disparity not only places an undue financial burden on women but also limits their access to opportunities and services, further exacerbating existing inequalities.

Advertisements and the media impose physical standards and encourage society to adhere to gender-stereotypes that push women to purchase beauty products despite higher prices. Cultural norms foster the belief that higher prices for feminine products are necessary for women to fit into societal expectations, thereby, continuously reinforcing socially constructed notions of what a 'woman' should be. The pressure to purchase products that apparently make women more 'desirable' overburdens them with additional economic expenses, creating a feedback loop wherein women are incentivized to maintain socially expected 'feminine' behaviour. As pink can be representative of femininity, most of the products marketed to women reflect this typology.

This phenomenon leads to higher costs for goods marketed to women in retail settings, and while the price discrepancies may initially appear minimal, they accumulate over time, causing women to pay more than men for equivalent products. The pink tax is particularly evident across approximately six retail product categories, and its implications have a significant impact on the purchasing behaviors of both genders.

Features of the marketing complex in the market of gender-neutral goods and services is important and current topic in the Republic of Moldova, because it refers to discriminatory pricing that inflates the cost of goods marketed to women and it can also apply to the practice of inflating costs for women seeking services. The purpose of this scientific work is to consider the concept of "pink tax", it's influence on consumer's behavior. The study is also aimed to assess consumer awareness of the "pink tax" phenomenon and investigate perceived differences in pricing between products marketed toward men and women. Respondents were asked both closed and open-ended questions regarding their purchasing experiences, perceptions of gender-based pricing disparities, and opinions on gender differentiation in consumer goods.

Key word: pink tax, consumers behavior, price discrimination, consumers rights violation

INTRODUCTION

The concept of the *pink tax* is used to describe pricing discrimination that results in the inflation of prices for products targeted toward women.

Most broadly, the pink tax describes gender inequality in various forms, including the gender pay gap.

More specifically, the pink tax refers to gender-based price discrimination: the fact that some products and services designed for women or girls may cost more than similar products and services designed for men or boys.

The conceptual underpinning of the 'pink-tax' refers to the profit-maximizing techniques adopted by companies based on psychological trends, shopping behavior and interests, to promote the sale of products marketed towards female consumers at substantially higher prices than those promoted to male consumers. Far from being a "traditional" tax, these marketing strategies take advantage of women by increasing the price they pay. This difference results in a significant reduction in the opportunities and services available to women, augmenting deeply entrenched inequalities.

Advertisements and media perpetuate physical ideals and promote gender stereotypes, pressuring women to buy beauty products despite their higher costs. Cultural norms instill the idea that paying more for feminine products is essential for women to align with societal expectations, thereby reinforcing constructed standards of what it means to be a 'woman.' This societal pressure to purchase items that claim to enhance a woman's 'desirability' places an additional financial burden on women, creating a cycle that incentivizes conformity to socially defined 'feminine' behavior. With pink often symbolizing femininity, many products targeted at women embody this association (Damani, 2020).

This phenomenon leads to higher costs for goods marketed to women in retail settings, and while the price discrepancies may initially appear minimal, they accumulate over time, causing women to pay more than men

for equivalent products. The pink tax is particularly evident across approximately six retail product categories, and its implications have a significant impact on the purchasing behaviors of both genders.

We realize that male and female versions of products often differ from one another in branding, construction, and ingredients. However, individual consumers do not have control over the textiles or ingredients used in the products marketed to them and must make purchasing choices based only on what is available in the marketplace. The selected products that had similar male and female versions and were closest in branding, ingredients, appearance, textile, construction, and/or marketing. In this way, the findings of the study represent a female consumer's experience in the marketplace, which includes unavoidable higher prices for women's products.

The objective of this research is to investigate the marketing strategies employed within the gender-neutral product market. This study aims to identify the underlying patterns of marketing practices and their influence on consumer behavior, with a focus on ensuring equitable treatment of both male and female consumers. Additionally, the research seeks to minimize the artificially generated price differences within the gender-neutral product sector.

1. ECONOMIC BURDEN OF THE PINK TAX

The pink tax has long imposed an economic burden on women around the world—especially since women continue to earn less than men.

The World Economic Forum's Global Gender Gap Report for 2022 (World Economic Forum's Global Gender Gap Report, 2022), found that when it comes to wage equality for similar work, only five out of the 146 countries analyzed achieved scores higher than 0.80. Moreover, 129 countries this year reported a reduction of women's labour-force participation relative to men's. The gender pay gap, the report found, is one of the most salient factors contributing to the overall gender-based wealth inequality(World Economic Forum's Global Gender Gap Report 2022).

Efforts are underway to curb the pink tax. In fact, the United Nations has called on countries worldwide to take steps to eliminate the pink tax to ensure women achieve full and equal participation in the economy.

In the US, proposed federal legislation called the Pink Tax Repeal Act remains pending in the Congress. As part of understanding the pink tax, researchers and policymakers also examine the imposed costs of products necessary for women to buy that are not necessary for men.

2. HISTORICAL CONTEXT OF GENDER-BASED PRICING

In 1992, the New York City Department of Consumer Affairs (DCA) conducted an investigation into gender-based price discrimination in the marketplace, publishing its findings in a report titled Gypped by Gender.

The study (New York (N.Y.) Department of Consumer Affairs, 1992) revealed that women were charged higher prices than men for various goods and services, including used cars, dry cleaning, laundry services, and haircuts . A significant challenge in addressing this issue was the lack of consumer awareness regarding price disparities. Even decades later, with more access to information, many price-conscious female shoppers remain unaware that lower-priced alternatives may be available in men's sections.

The 1992 report found that women purchasing used cars were twice as likely to receive higher price quotes than men. Additionally, an analysis of 80 hair salons across New York City's five boroughs showed that women, on average, paid 25% more for the same haircut as men. Similarly, women were charged 27% more for laundering an identical white cotton shirt (New York (N.Y.) Department of Consumer Affairs, 1992) .

DCA's research initiated a nationwide discussion on gender-based pricing, prompting several states to conduct their own studies. A 1994 California study estimated that women effectively paid an annual "gender tax" of $1,351. Florida, Connecticut, and South Dakota also began investigating and publishing reports on the issue. In response, California became the first state in 1995 to pass legislation prohibiting gender-based price discrimination in services, followed by Massachusetts, Washington, D.C., and parts of Virginia. In 1998, the New York City Council relied on DCA's research to pass a law banning gender-based service pricing. However, no similar laws exist to regulate gender-based pricing of goods (Blasio & Menin, 2022).

The New York City law introduced a rule under the Consumer Affairs section of the city's Administrative Code, granting the agency authority to issue violations to dry cleaners, hair salons, and other service establishments that unlawfully price services based on gender. Businesses were required to ensure that price lists reflected

actual labor differences rather than gender distinctions. For example, instead of categorizing garments as "shirts" and "blouses" (which inherently imply gender differences), pricing had to be based on labor-intensive characteristics such as ruffles or pleats.

Despite legislative efforts and increased awareness, gender-based pricing remains a persistent issue. In 2014 and 2015, DCA issued 118 and 129 violations, respectively, for non-compliance with the gender pricing law. A 2011 study from the University of Central Florida reaffirmed the findings of DCA's 1992 report, demonstrating that women continued to pay more than men for a variety of personal care products and services, including deodorant, haircuts, and dry cleaning. The study further emphasized that while individual price discrepancies may seem minor, their cumulative financial impact over time is significant (Blasio & Menin, 2022).

3. GENDER-DISCRIMINATING PRICE POLICY

Detection of discriminatory pricing can become part of financial inequality, reducing women's purchasing power. According to the Bureau of Labor Statistics (BLS), in America, women earn 82 cents for every dollar paid to men. According to the U.S. Government Accountability Office, this statistic worsens for women of color and other marginalized groups. Women are also more likely to experience stress related to their finances than men, as found by Bankrate in June 2022. According to the BLS, women are also likely to spend more proportionally to their income compared to men, as the average single woman spends more on housing, healthcare, clothing, and services due to the cost of living, family size, and other factors. As of 2021, the average single adult woman in the U.S. earned $39,178 annually and spent $38,838, compared to the average single adult man, who earned $49,525 annually and spent $41,203.

Certain categories of goods and services that are inherently gender-neutral, meaning they perform the same functions, are often sold to women at higher prices. These include hairdressing services, personal hygiene products, clothing, children's goods, medications, and automobiles

Overall, cosmetic products for different genders can have identical compositions but differ in price and packaging. This trend is evident with the Clinique brand. Customers noted that the Superdefense cream for women is no different from the Super Energizer cream for men—they have the same ingredients, scent, and texture. The difference lies in the presentation: the women's version promises to fight the first signs of aging, while the men's version claims to hide signs of fatigue and hydrate. The women's version is significantly more expensive: considering the different container sizes, the price difference is 37%. The same situation applies to hair shampoos. Labels on "women's" bottles include a few additional features, allowing the product to be sold 48% higher than a similar product for men (Carefoot, 2022).

A similar trend is observed in adult clothing.

DCA analyzed seven types of clothing: dress pants, dress shirts, sweaters, jeans, shirts, socks, and underwear. In total, 292 individual articles of clothing were included in the analysis, with at least 40 items for each type of clothing. Price Analysis On average, women's clothing cost nearly 8 percent more than men's. In total, one of each average item cost women $307.38 and cost men $285.85, a difference of $21.53. On average, the largest price discrepancy was in shirts, costing women nearly 15 percent more, with an average difference of $3.72 per shirt. Dress shirts came a close second, costing women nearly 13 percent more, with an average difference of $6.65 per shirt. Men's clothing cost more in only one category, underwear, at an average difference of nearly 29 percent or $2.44.

Table 1: Average Price, Adult Clothing

Products	Number of Products*	Women's Average	Men's Average	Price Difference	Percent Difference
Dress Pants	40	$75.66	$71.71	$3.95	6%
Dress Shirts	40	$58.11	$51.46	$6.65	13%
Sweaters	42	$63.19	$59.45	$3.74	6%
Jeans	50	$62.75	$57.09	$5.66	10%
Shirts	40	$29.23	$25.51	$3.72	15%
Socks	40	$9.98	$9.73	$0.25	3%
Underwear	40	$8.46	$10.90	($2.44)	29%
Total	**292**	**$307.38**	**$285.85**	**$21.53**	**8%**

*Each gender has an equal split of the total number of products in this column.

Sourse: https://www.nyc.gov/assets/dca/downloads/pdf/partners/Study-of-Gender-Pricing-in-NYC.pdf

Of course, women's and men's clothing are constructed differently, resulting in different manufacturing costs. Textiles are a main driver of differences in production costs, with women's clothing tending to be made with a more costly blend of fabrics and men's clothing, more often, being made with one type of fabric. Other pricing factors are the number of styles available: an offering of regular, tall, and petite styles for a single product will result in a higher manufacturing cost. Similarly, how an item is cut—men tend to have straight-cut clothing, whereas women's cuts are curvier—may result in more fabric waste.34 35 However, according to experts at the Fashion Institute of Technology (FIT), these costs are not necessarily commensurate with the retail-price differences identified in this study, as the manufacturing cost of an article of clothing is a small fraction of the ultimate retail price.

The "pink tax" is particularly evident in children's stores, where products are often color-coded according to gender, typically in pink and blue. Toys designed for girls, often in pink and purple hues, are frequently sold at higher prices.

Data from the Disney children's store further support the trend of price inequality, revealing that only 17% of their products can be classified as "gender-neutral." The remaining products are subject to gender-based color differentiation, primarily in pink and blue, which subsequently allows for price variation between toys targeted at boys and girls.

4. CONSUMER PERCEPTIONS OF PRICE DISCRIMINATION ON GENDER-NEUTRAL PRODUCTS IN THE REPUBLIC OF MOLDOVA: AN EMPIRICAL STUDY

To examine consumer attitudes toward price discrimination on gender-neutral goods in the Republic of Moldova, an online survey was conducted (Solomahina 2024). The study aimed to assess consumer awareness of the "pink tax" phenomenon and investigate perceived differences in pricing between products marketed toward men and women. Respondents were asked both closed and open-ended questions regarding their purchasing experiences, perceptions of gender-based pricing disparities, and opinions on gender differentiation in consumer goods.

The majority of survey participants were female (72%), with the predominant age group being 18 to 25 years old (63.6%). When asked whether they were familiar with the term "pink tax," responses were divided: 51.5% indicated they were unfamiliar with the term and its meaning, whereas 36.4% reported being aware of it. Furthermore, most respondents considered the Moldovan market an environment where gender-based product categorization is widely accepted.

To gain further insights into consumer perceptions of gendered product differentiation, participants were asked to identify which product categories could be classified as "male" or "female." The categories provided included personal hygiene products, clothing, pharmaceuticals, children's products, hairdressing services, automobiles, or the option that no such categorization exists. The most frequently selected categories were clothing (72.7%) and personal hygiene products (69.7%), followed by hairdressing services (57.6%) and children's products (54.5%).

A key aspect of the survey explored whether respondents had encountered price differences for comparable products or services marketed toward men and women. The findings revealed that the majority of respondents had experienced such disparities. To further assess consumer perceptions, respondents were shown an image of two shampoos—one labeled "for men" in blue packaging and the other labeled "for women" in pink packaging—and were asked whether they believed these products differed in composition or price. The majority indicated that both the composition and pricing differed, while a significant proportion believed that the difference was primarily in price rather than formulation.

Additionally, the survey examined the role of color in consumer decision-making. When asked about the importance of color in selecting children's clothing, 54.5% of respondents stated that it was not a significant factor. To test perceptions of gender-based pricing disparities, respondents were shown two identical children's balance bikes differing only in color—one blue and one pink—and asked whether the prices were the same or different. Most respondents assumed price parity; however, market data from a Russian e-commerce platform indicated that the pink variant was priced 12% higher than the blue counterpart.

Further analysis explored consumer opinions regarding the existence of gender-based price discrepancies. A significant majority of respondents perceived "women's" products as being more expensive than equivalent "men's" products. To gain deeper insights, an open-ended question was posed at the end of the survey to determine whether respondents had encountered gender-based pricing disparities firsthand. Many reported frequent exposure to such pricing structures, particularly in categories such as personal hygiene products, clothing, and footwear. Notably, respondents highlighted that women's razors are often sold at higher prices despite being functionally similar to men's razors. Similar disparities were observed in clothing, footwear, and the beauty industry, particularly in hairdressing services.

The findings of this study suggest that Moldovan consumers frequently perceive and experience price discrepancies based on gender differentiation. While many consumers believe that gender-neutral products should be priced equivalently and do not attribute significance to product color variations (e.g., pink vs. blue), real-world pricing structures suggest that products marketed toward women often incur a higher cost. These findings contribute to the broader discourse on gender-based pricing discrimination and highlight the need for further research into the economic and social implications of such disparities within the Moldovan market.

5. THE FUTURE OF THE PINK TAX

The *pink tax*—the practice of charging higher prices for goods marketed toward women—has garnered increasing attention over the past few decades, driven by growing awareness among consumers, advocacy groups, and policymakers (Yang et al., 2019), (Lafferty, 2022), (Pant, 2021). The future of the *pink tax* is shaped by several evolving factors, including societal changes, legislative actions, market shifts, and consumer demand for greater transparency and fairness in pricing.

Increasing Public Awareness and Consumer Demand for Equality

Rising consumer awareness and demand for fairness in pricing are expected to drive increased transparency regarding gender-based pricing. Platforms such as social media, online forums, and consumer advocacy groups are amplifying discussions on this issue, making it increasingly difficult for companies to maintain discriminatory pricing without facing significant pushback. As consumers become more conscious of the **pink tax**, purchasing patterns are shifting, with more individuals choosing gender-neutral or unisex products. This trend may ultimately reduce the emphasis on gender-specific pricing. Consequently, businesses may need to revise their marketing and pricing strategies to align with the growing demand for fairness and more cost-conscious consumer choices.

Legislative and Regulatory Changes

Over the past few decades, there has been a gradual but notable push for legislative action to curb price discrimination based on gender. Cities like New York, states such as California, and various national governments have enacted or proposed laws banning gender-based pricing in certain industries, particularly services. In the future, we may see expanded legal frameworks that target a broader range of sectors, including retail, cosmetics,

and healthcare. This could involve stricter regulations requiring businesses to justify gender-based price differences, disclose detailed pricing structures, and adopt gender-neutral marketing practices. Enforcement mechanisms could become more robust, with penalties for non-compliance, and governments may introduce incentives for businesses that voluntarily adopt fair pricing practices.

Shift Towards Gender-Neutral and Inclusive Marketing

The global trend toward greater gender equality and inclusivity is influencing how businesses approach marketing and product development. In response to the *pink tax*, many companies are opting for gender-neutral product lines, eliminating the need to differentiate between "men's" and "women's" products. This trend is particularly evident in industries such as clothing, cosmetics, and toys, where companies are moving away from color-based or gender-specific branding. The shift toward inclusive marketing not only appeals to a growing demographic of consumers who reject gendered marketing but also helps businesses tap into new markets where gender-neutral or unisex products are gaining popularity. As more companies embrace this approach, the *pink tax* could eventually diminish as gender-neutral products become the norm.

Technological Innovation and Price Transparency

Technological advancements and the proliferation of e-commerce platforms have made it easier for consumers to compare prices across different products and retailers. Online price comparison tools, digital shopping assistants, and customer-driven platforms are enhancing price transparency, enabling consumers to identify and avoid price discrimination based on gender. As these tools become more sophisticated, they could serve as a powerful force in combating the *pink tax*, as consumers will have the means to quickly identify and reject overpriced gendered products in favor of fair-priced alternatives. Furthermore, the rise of data analytics and artificial intelligence in retail could allow businesses to more accurately assess demand and optimize pricing strategies, reducing the need for arbitrary gender-based pricing.

Corporate Social Responsibility and Ethical Business Practices

As corporate social responsibility (CSR) becomes an increasingly important factor in consumer decision-making, businesses are under growing pressure to demonstrate ethical practices, including fair pricing policies. Many companies are now more attuned to the importance of gender equality and are recognizing the reputational risks associated with engaging in discriminatory pricing practices. As a result, it is likely that we will see a greater emphasis on ethical business practices that align with social justice movements and consumer expectations. Companies that champion gender equity, diversity, and fairness may stand out in the market, attracting consumers who value these principles, and leading the way in creating more equitable pricing structures.

Challenges and Obstacles

Despite the growing momentum against the *pink tax*, there are significant challenges to fully eliminating gender-based price discrimination. One major obstacle is the deeply ingrained cultural and marketing traditions that associate certain products with gendered identities. In industries like fashion, beauty, and personal care, the appeal of products often hinges on gendered branding, which can create resistance to abandoning gendered pricing altogether. Additionally, while some businesses may adopt gender-neutral marketing strategies, others may continue to exploit consumer behavior and preferences, capitalizing on perceived gender differences to maintain higher profit margins. Overcoming these obstacles will require concerted efforts from both consumers and policymakers to hold businesses accountable for fair pricing practices.

To conclude, the future trajectory of the *pink tax* is inherently linked to ongoing societal, economic, and political transformations. Despite the progress made in increasing awareness and addressing gender-based pricing disparities, significant challenges persist. However, as the demand for equality and inclusivity among consumers continues to grow, alongside evolving legislative and market dynamics, the *pink tax* may ultimately become obsolete. In the foreseeable future, it is plausible that more businesses will embrace transparent and equitable pricing models, while stronger legislative frameworks and regulatory measures promoting gender parity in pricing could be established. As these developments unfold, the marketplace is expected to become increasingly equitable, ensuring that consumers, irrespective of gender, will no longer face price discrimination in their purchasing decisions.

6. CONCLUSIONS

The issue of price discrimination on gender-neutral goods remains relevant today. The results of the conducted survey indicate that consumers in the Republic of Moldova experience the effects of the “pink tax,” as many functionally identical products are sold at different prices for men and women. This phenomenon is largely driven by marketing strategies aimed at maximizing profits and increasing sales, such as using gendered packaging (e.g., blue and pink colors), differentiated designs, and targeted advertising claims.

Price discrimination based on gender primarily affects products and services traditionally associated with a specific gender, including clothing, cosmetics, personal hygiene products, and children's toys. Overall, gender-based price discrimination not only contributes to financial inequality between men and women but also increases financial burdens on women, particularly when considering average income levels and additional expenses they may face.

Raising consumer awareness about the "pink tax" is essential to influencing purchasing behavior. Reducing consumer demand for gender-differentiated products could drive changes in marketing strategies and business practices. In turn, such shifts would help mitigate financial disparities and promote greater economic equity.

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SMEs Awareness for Green Practices in Supply Chain

Aneta Risteska Jankuloska[1]

[1] Faculty of Economics – Prilep, North Macedonia, aneta.risteska@uklo.edu.mk, ORCID: 0009-0007-9677-7170

Abstract: Supply Chain is a very dynamic upstream to downstream distribution system that aims to provide product/service with lower cost and superior value. The supply chain includes numerous participants and their interaction and cooperation have a key role in creating consumer value.

Over the last year's supply chain management has proven to have potential for cost reduction and adding value via implementing green initiatives in supply chain.

A green supply chain (GSC) reduces negative environmental impact but also bring economic benefits to companies through improved resource management, cost reduction, and increased market competitiveness. Companies that integrate these green practices are often perceived as more responsible and can attract customers who value environmentally friendly and sustainable initiatives. Green supply chain management (GSCM) has developed as a result of escalating prominence of environmental concerns. GSCM is the process of incorporating environmental concerns into supply chain management including product design, material sourcing and selection, manufacturing, delivery of final products and the management of product's end-of-life. The paper aims to explore awareness for the importance of implementing green practices in SMEs' supply chains. Therefore, a survey was conducted and the target group was small and medium business (SMEs) in Pelagonia region, North Macedonia. The findings highlight that most of the respondents are aware for the need of implementing green practices but also there are a lot of obstacles.

Keywords: supply chain, green supply chain, small and medium businesses

1. INTRODUCTION

Today, the issue of supply chain is becoming more relevant but Morgan and Lalwani said "although logistics and SCM are areas that have only come to widespread prominence in the last two decades or so, the reality is that they have roots which run much longer than that".

Considering the fact that supply chain is a complex issue there is no unified definition. So, Stevens (1989) defined the supply chain as system parts are: materials, production facilities, distribution services and users linked together through the flow of materials and the return flow of information.

Lu (2011) has defined the supply chain as a group of independent organizations connected together through the products and services that they separately and/or jointly add value to its products or services and delivers them to its customers.

Today, when companies increasingly internationalize their operations the global supply chains are in the spotlight. In this case the supply chain is becoming much more complex and changes in the operations of companies are most often caused by the process of globalization. So, the buyers are becoming increasingly sensitive to products, i.e. product quality, product lifespan is reduced, the company's dependence on business partners increases, the use of external sources, etc.

In the late 1990s and early 2000s, much attention was drawn to how cross-border production and supply chain arrangements – often referred to as global value chains (GVCs) – could improve the efficiency of even the most complex manufacturing processes (Alfaro & Chor, 2023). The global value chain (GVC) framework shows how a sector participates in the sequence of activities required to bring a product or service from its initial conception to production and sales.

According to (Chrisopher, 2016) the key features of global supply chains are: longer lead times; extended and unknown transportation times; multiple consolidation; multiple transportation of goods and cost options. Meanwhile, Kot (2014) cites the following as the key advantages of global supply chain: reduced total costs reduced inventories; reduced cycle time; increased forecast accuracy; increased productivity; improved capacity; expanded international connectivity; improved delivery;

In the last few years, the interest for green manufacturing and green supply chain is increasing rapidly. Actually, the green manufacturing, green purchases, cooperation with customers, eco-design, and green information systems are becoming the key components of green supply chain management. A green supply chain focuses on reducing negative environmental impact also It includes selecting suppliers and partners that apply sustainability

principles, as well as optimizing processes to minimize waste, energy consumption, and greenhouse gas emissions.

Considering this, the paper aims to explore awareness for the importance of implementing green practices in SMEs' supply chains in Pelagonia region, North Macedonia.

The paper is structured as follows. Section 2 elaborates the theoretical overview for supply chain and green supply chain. The next section is research and results and the last section concludes and recommends.

2. THEORETICAL OVERVIEW FOR SUPPLY CHAIN AND GREEN SUPPLY CHAIN

Supply chain is a very dynamic upstream to downstream distribution system that aims to provide product/service with lower cost and superior value**.**

There are many operations and processes in supply chain and they are usually categorized from the view of a producer of consumer products and services, as planning, sourcing, making, delivering, and returning.

Jacobs & Chase (2018) have given the following categorization of the supply chain operations and processes:

- Planning consists of the processes needed to operate an existing supply chain strategically. This operation is focus on meeting the anticipated demand with available resources, so it's important developing a set of metrics to monitor the supply chain so that it is efficient and delivers high quality and value to customers.
- Sourcing means selection of suppliers that will deliver the goods and services needed to create the firm's product. A set of pricing, delivery, and payment processes are needed, along with metrics for monitoring and improving the relationships between partners of the firm. These processes include receiving shipment, verifying them, transferring them to manufacturing facilities, and authorizing supplier payments
- Making means producing the products or providing the services. The step requires scheduling processes for workers and the coordination of material and other critical resources such as equipment to support producing or providing the service. Metrics that measure speed, quality, and worker productivity are used to monitor these processes.
- Delivering means moving the products to warehouses and customers. The carriers are picked and coordinate and schedule the movement of goods and information through the supply network, develop and operate a network of warehouses, and run the information systems that manage the receipt of orders from customers and the invoicing systems that collect payments from customers.
- Returning involves processes for receiving worn-out, defective, and excess products back from customers and support for customers who have problems with delivered products. In the case of services, this may involve all types of follow-up activities required for after-sales support.

Supply Chain Management is the integration of key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders(Douglas, Cooper and Pagh, 1998). According to Lu (2011) SCM is simply and ultimately the business management, whatever it may be in its context, which is perceived and enacted from the relevant supply chain perspective.

Supply Chain Management basically looks into the interrelationship and inter- linkages between various functions, processes and chain members and analyses the impact of their interaction on value additions and profit maximization (Ballou, 2007).

The effective supply chain management has become an important enabler to improve organization performance and valuable way of securing competitive advantage (Li et al, 2006).

The Global Supply Chain Forum identified eight key processes that make up the core of supply chain management (Croxton, Garcia-Dastugue , Lambert, Rogers , 2001):

- Customer Relationship Management. The customer relationship management process provides the structure for how the relationship with the customer is developed and maintained.

- Customer Service Management. The customer service management process is the firm's face to the customer. It provides the single source of customer information, such as product availability, shipping dates and order status
- Demand Management. The demand management process needs to balance the customers' requirements with the firm's supply capabilities
- Order Fulfillment. The effective order fulfillment requires integration of the firm's manufacturing, logistics and marketing plans. This means developing a partnership with key members of the supply chain to meet customer requirements and reduce total delivered cost to customers.
- Manufacturing Flow Management. The manufacturing flow process deals with making the products and establishing the manufacturing flexibility needed to serve the target markets.
- Supplier relationship management is the process that defines how a company interacts with its suppliers. A firm need to develops relationships with its customers, it needs to foster relationships with its suppliers.
- Product Development and Commercialization. The firms need to develop new products quickly to meet customers' needs and getting them to the marketplace. Supply chain management includes integrating customers and suppliers into the product development process in order to reduce time to market.
- Returns Management is effective management of the returns process enables the firm to identify productivity improvement opportunities and breakthrough projects. Proper implementation of this process allows management to manage with return flow of products efficiently and to identify opportunities to reduce unwanted returns.

The supply chain has a great influence on business performances and on the other hand the distribution system is a very dynamic, so it is necessary to follow the new practices and regulations.

Today, the green supply chain management issues is very topical, green supply chain management (GSCM) has emerged as a key strategy for providing advantages.

Srivastava (2007, pp. 54–55) defined GSCM as "integrating environmental thinking into supply-chain management, including product design, material sourcing and selection, manufacturing processes, delivery of the final product to the consumers as well as end-of-life management of the product after its useful life."

Green supply chain (GSC) includes policies, practices and tools that an organization can apply in the context of the sustainable environment. The management of green supply includes the planning, execution, monitoring and control of practices, approaches and tools that assists organizations of their "greening" process to become socially responsible and sustainable through environmental protection (Achillas, Aidonis, Bochtis, Folinas, 2018).

Figure 1: The Cycle of Green Supply Chain



Source: Green Transportation in Green Supply Chain Management | IntechOpen

According to Industry Canada these are the activities involved in the practice of GSCM: (Industry Canada, 2013).

- Green procurement practices,
- Energy efficiency,

- Reduction of greenhouse gas (GHG) emissions,
- Water conservation or processing,
- Waste reduction,
- Reduced packaging/increased use of biodegradable packaging and
- Product and packaging recycling/re–use

Considering the fact that one of the major requirements by the government and companies is going green., the business should implement green practices in SC. Khan & Pasha (2022) divided the drivers of GSCM in to two categories i.e. internal and external. Internal drivers include environmental policy, strategic orientation, strategic culture and internal environmental orientation. External drivers include customers, competitors, government rules and regulations, socio-cultural responsibility and eco-reputation.

But on the other hand, there are numerous barriers when implementing green practices in the supply chain such as cost implications, lack of regulatory support, technological limitations, resistance to change within organizations etc.

3. RESEARCH AND RESULTS

The methodology of research is based on primary data obtained from previously prepared, structured questionnaire. The survey comprised of small sample of 100 SMEs from North Macedonia most of them from the Pelagonia region and there were 65 questionnaires. In order to perceive the current situation, the questions were divided in three groups. The first set of questions concerns general company data. The second group of questions refers to the awareness and knowledge of managers/CEO about the green supply chain and third group of questions are related to the impact of green practices in SC and environment.

On the basis of data analysis from the first group of questions, the following results have been obtained: The most of the respondents were micro business, i.e. 42% are micro businesses, 37% are small, and 21 % are medium businesses. Also, 63% businesses were older than 10 years, 37 % were older less than 10 years. The businesses that were part of the research are usually from wholesale and retail trade 57% and from manufacturing industry 35%.

Figure 2

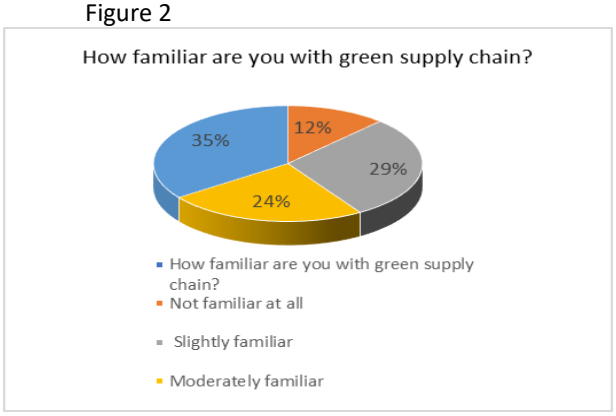


Figure 3

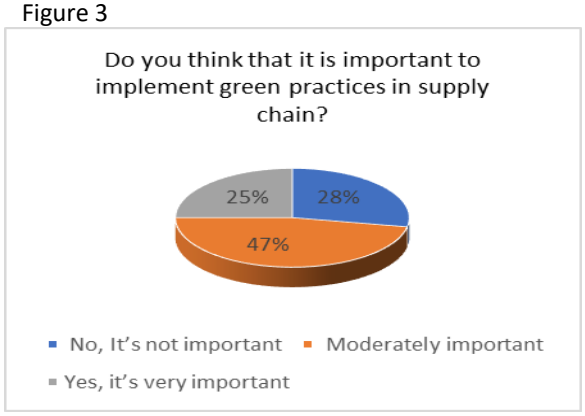


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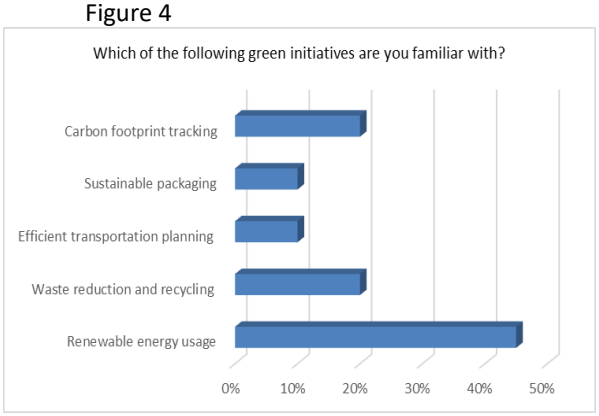
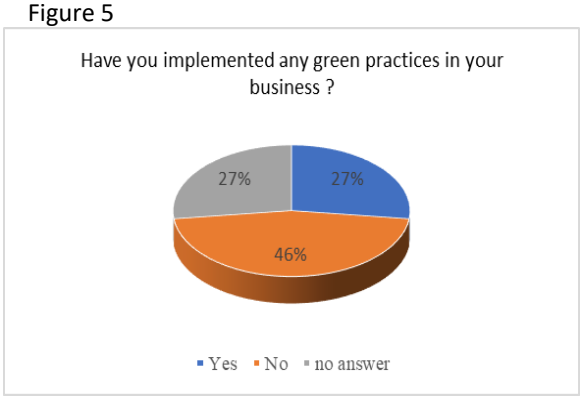


Figure 5



Source: Authors' research

The results of the second group of question shows that 35% of respondents are very familiar with green supply chain but still there are 29% that are slightly familiar and 12% not familiar at all.

Also 25% of the respondents think that it's very important the implement green practices in supply chain, 47% moderately important and 28% think that It's not important. The next is multiple choice question and most of the respondents (45 respondents) are familiar with renewable energy usage as a green initiatives. The results of the next question shows that 27% of the business have implemented green practices and 46% do not implement green practices in their business.

Figure 6

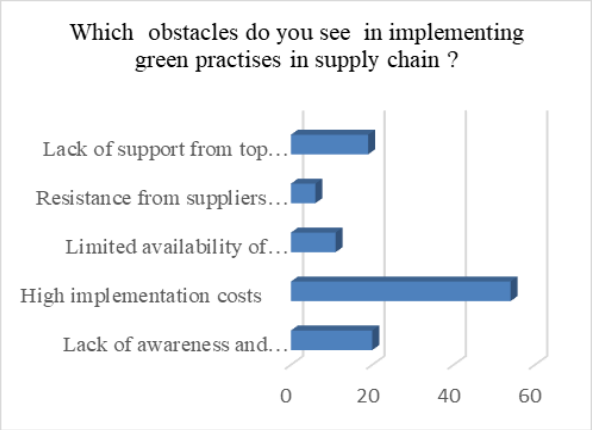


Figure 7

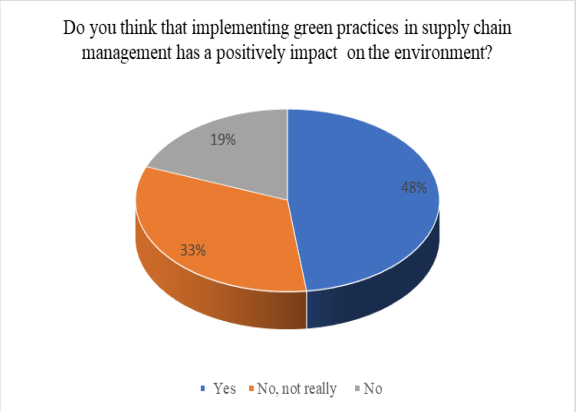
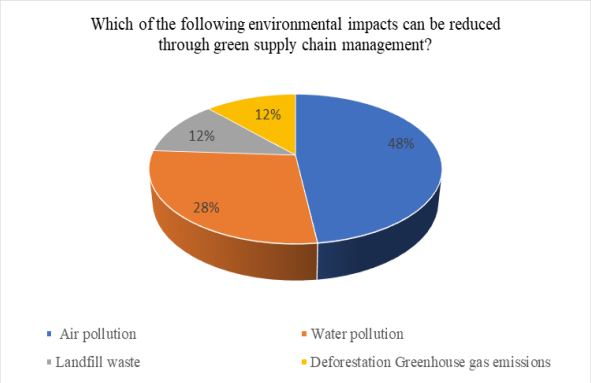


Figure 8



Source: Authors' research

The results of the third group of questions shows that the biggest obstacles for implementing green practices in SC is a high implementing cost. Most of the respondents are aware for the need of implementing green practices because they have a positive impact of the environment (48% thoughts that implementing green practices in SC will reduce air pollution, 28% water pollution, 12% Landfill waste and 12% deforestation Greenhouse gas emissions).

4. CONCLUSION

Today, implementing green practices in supply chain management is necessary but despite increasing awareness not all businesses have fully embraced and implemented green practices in SC. Implementing GSCM has a many environmental benefits such as energy reduction; reducing CO2 emission, reduction in pollution, Increased energy efficiency etc. and also has a business benefit like improving profitability, competitive advantage, cost reduction, access to foreign markets, Improved value to operations etc.

The results of the conducted research shows that 35% of the analyzed SMEs are very familiar with green supply chain but still there are 29% that are slightly familiar and 12% not familiar at all.

Also, only 25% of the respondents think that it's very important implement green practices in supply chain, and the biggest obstacles for implementing green practices is a high implementing cost. Hence, the actions for promoting sustainable development and implementing green practices in SC are needed.

As a measures that should be taken are in a way to encourage business to implement green practices are:

- Education and training programs
- Government incentives
- Collaboration with suppliers and partners
- Certifications and standards etc.

It is quite clear that every business and every individual should protect the environment because only on that way we will create brighter future for all of us.

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Determinants of Organic Farming Adoption: Insights from a Literature Review for Sustainable Agricultural Transition

PhD(c) Enea QOSE [1] **Prof. Asoc Anila BOSHNJAKU[2]**

[1] University College of Business, eqose@kub.edu.al, ORCID: https://orcid.org/0009-0001-5990-486X

[2] Agricultural University of Tirana, aboshnjaku@ubt.edu.al, ORCID: https://orcid.org/0009-0004-1159-4323

Abstract: The objective of this paper is to provide a detailed literature review of the factors that lead to the adoption of farmers into organic agriculture. The literature review shows the importance of various factors such as financial incentives, subsidies, and premium pricing which encourage farmers to adopt organic farming. It also takes into consideration barriers such as resistance to change and socio-economic factors. This literature review uses a narrative approach. Using keywords such as "organic farming adoption", "organic agriculture farmer behavior", and "barriers to organic agriculture", it was conducted an open review on sites such as Google Scholar and other academic sources, identifying over 100 relevant papers published between 2000 and 2024. The study concludes that adoption of organic farming is driven by positive economic factors, environmental concerns, and socio-economic factors, while important barriers on adoption include, lack of knowledge and the resistance to change. Young, better educated farmers are more willing to take a risk and are the ones who are likely to adopt organic farming. This narrative literature review analysis, contributes to developing strategies for sustainable food production and enhancing policy frameworks that facilitate the adoption of organic farming. The paper is relevant also to stakeholders and policymakers working toward the EU's goal of converting 25% of arable land to organic farming by 2030, offering insights into how to support long-term, sustainable agricultural practices.

Keywords: *Organic farming adoption, Sustainable agriculture, Farmer behavior, Barriers to conversion, Socio-economic factors.*

1. INTRODUCTION

A number of recent studies found out a positive view by the farmers on organic farming practices (Alzaidi et al., 2013; Mohan and Helen, 2014; Dipeolu et al., 2009; Tratnik and Zutinic, 2002; Azam and Shaheen, 2019). When it comes to organic farming, the decision to convert, in most cases depends on economic and non-economic factors. Non-economic factors combine elements such as the attitudes, beliefs, and aspirations of the farmers, while economic aspects emphasize issues of market prices, returns and aversion to risk. Even when aspects are attractive, many farmers still hesitate with organic methods of farming practices in actual production (Oyedele et al., 2018). The most notable among these include unprofitable crops, pest and disease management limitations, land fragmentation (which block certification), and weak organic education and natural inputs supply (Janjhua et al., 2019; Pandey and Singh, 2012). Farmers face difficulties in organizing themselves and have production challenges which are considered greater compared to any marketing, technical, and finance-related obstacles (Nandi et al., 2015). Further, organic production is also viewed as labor intensive, requiring more labor, as most farmers do not have sufficient organic inputs and the right information (Orsini et al., 2000).

Factors affecting the willingness of the farmers to practice organic farming are:

1. **Farmers' Characteristics:** The farmers' intention on adopting organic farming is influenced by demographic characteristics such as age, gender, education and experience.

2. **External and Internal Factors**: This includes factors such as market structures, subsidies, and availability of information which can facilitate or delay the adoption.

3. **Perspectives and Concerns**: The environmental and health beliefs, community acceptance as well as other lifestyle factors influence their ability to adopt organic farming practices.

2. METHOD

This paper examines the factors influencing farmers' adoption of organic farming through an extensive review of selected academic literature. This literature review employs a narrative approach. While systematic reviews utilize predefined, transparent inclusion and exclusion criteria and are based on exhaustive literature searches, this approach provides flexibility in exploring all the factors while minimizing selection bias through structured article selection. We found more than 100 papers on Google Scholar and other open academic open sources using the terms "organic farming adoption", "organic agriculture farmer behavior", and "barriers to organic

agriculture, published between 2000 and 2024. After applying selection criteria and focusing on peer review studies, 50 articles were chosen, focusing specifically on the motivations and challenges associated with adopting organic farming.

3. DETERMINANT ON ADOPTING ORGANIC FARMING

Overall, various behavioral, economic and social reasons are considered for the adoption of organic farming. Factors such as age, gender or even education, market factors such subsidies and premium prices, including social factors and supporting policies all of them are important. There are psychological aspects such as risk perception, unwillingness to adapt as well as economic considerations, in case of the regions with a culture of farming which make adoption even more challenging. The policies which are intended to support in the adoption of organic farming should therefore, focus on of mitigating these challenges by combining economic support with input skills training and community engagement. CAP reform of 2023 contains a number of policy reforms on working toward the EU's goal of converting 25% of arable land to organic farming by 2030, offering insights into how to support long-term, sustainable agricultural practices.

Table 1: Empirical Studies on Organic Farming Adoption: Methods, Sample Sizes, and Key Findings

Study/Author	Country/Region	Method Used	Number of Surveys/Respondents	Summary of Results
Alzaidi et al. (2013)	Saudi Arabia	Survey of attitudes	300 farmers	Favorable attitudes toward organic farming correlated with a higher likelihood of adoption, suggesting a need for educational campaigns.
Mills et al. (2017)	United Kingdom	Case study (in-depth interviews)	Interviews with organic farmers	Farmers driven by environmental motivations were more likely to adopt organic practices despite economic uncertainties.
Kallas et al. (2010)	Spain	Survey and regression model	300 farmers	Adoption was positively influenced by risk tolerance, financial incentives (subsidies), and social encouragement from peers.
Pavlis et al. (2016)	Five EU Member States	Multi-country survey	Multi-country data collection	Regional differences in policy support significantly impacted adoption rates; greater adoption occurred where policies were more favorable.
Läpple and Van Rensburg (2011)	Ireland	Survey of conventional and organic farmers	800 respondents	Younger and better-educated farmers were more likely to convert to organic farming, driven by economic incentives and environmental values.
Bayramoglu and Gundogmus (2008)	Turkey	Case study (survey of organic vs. conventional)	Data from multiple farms	Higher organic crop yields correlated with economic profitability, underlining the importance of addressing profitability in policy frameworks.
Schmid et al. (2004)	Germany	Policy analysis and market data review	Market data analysis	A strong market for organic products and government policies supporting organic farming drove significant increases in adoption.
Drust et al. (2004)	Netherlands	Interviews and surveys	Interviews with farmers	Perceived risks and traditional attitudes were significant barriers to the adoption of organic practices.
Sutherland et al. (2012)	Rural England	Survey of conventional farmers	48 farmers interview	Emphasize that the changes in the perceptions and practices of farmers who transitioned to organic farming for 'pragmatic' reasons may be more significant than is often suggested

Source: Elaborated by authors based on several studies selected

3.1. Farmers' Characteristics

Aspects that are more personal such as age, gender, experience, attitudes, and beliefs are often proposed as the main factors that affect the decisions of farmers regarding the adoption of organic farming practices. Rana et al. (2017) stated that farmers' perception is significantly influenced by factors such as age, education, labor, income

and agricultural extension contacts. The existing literature has been focused on the effect of marital status, gender, and household structure on the decision-making procedure, but the effects of these factors were described as uncertain. Evidence shows that younger farmers are relatively easier to convince into the integration of modern farming practices such as organic farming than the older generation. The older generation of farmers is very resistant to change especially within the retirement age due to a high level of risk aversion (Gebrehiwot and van der Veen, 2015). This observation aligns with the findings presented by Aubert et al. (2012) whereby it was stated that older Canadian farmers had negative attitudes towards precision agriculture and it was only the younger farmers who were adopting such technology. Studies has shown that in Lithuania organic farmers are younger (Kaufmann et al., 2011), such is also the case in Poland (Kociszewski et al., 2020), and Greece (Papadopoulos et al., 2018) although in Western Greece (Alexopoulos et al., 2010) and Czech Republic, Pechrová (2014) stated that older farmers adopted organic farming more frequently than young farmers which implies that the age factor varies by country and the time period in which the research is conducted.

Gender has been well studied as a factor influencing the decision to adopt organic farming. In the EU, most fully organic farms are managed by men. The gender imbalance among farmers is even stronger in organic farming, as women farm managers represented just 26.9 % of all managers of fully organic farms, compared with 31.6 % on all farms (European Commission, 2024). However, some studies have shown that female farmers are more inclined to adopt organic agriculture than male farmers (Kerdsriserm et al., 2016; Läpple, 2013).

Studies has shown that the adoption of organic farming is more common among risk-tolerant farmers, especially those in the early phases of adoption. Gardebroek (2006) and Mzoughi (2011) represent some of the studies that advocate this perspective. However, other researchers view correlation between risk tolerance and the adoption of sustainable agricultural practices in a different perspective. Trujillo-Barrera, Pennings, and Hofenk (2016) argue that risk aversion is influenced by diverse factors as social factors and farmer characteristics. Numerous studies have confirmed the importance of risk-taking behavior in relation to organic farming (Bouttes et al., 2019; Lamine et al., 2014; Läpple, 2013; Sutherland & Darnhofer, 2012).

3.2. External and Internal Factors

Objectives of the farmers remain the one of the main determinants for adopting organic practices, as these objectives give guidance to decisions related to agricultural practices. De Cock (2005) stated that sustainable practices are more likely to be adopted by farmers if they seem feasible within the diverse set of objectives for which a farming system is working. According to Pannell et al. (2006), a widespread concept that has arisen consistently in research is that farmers will adopt practices they interpret as likely to contribute to their desired outcomes. Nevertheless, these objectives differ, and different studies indicates that the intention to adopt more sustainable behaviors often has a negative relationship with economic objectives and is positively correlated with lifestyle or ecological motives (Greiner et al., 2011; Kallas et al., 2010). Farmers think financially and this is perhaps the most important aspect of adoption. Higher income for farmers due to better support payments and higher market prices has been regarded as a significant factor for most farmers converting into organic farming (Laepple, 2008). For instance, James and Brown (2019), identified monetary incentives as a more significant motivator for adopting organic farming. In terms of farmers motivations to participate in agri-environmental schemes, most research shows that economic factors are usually the leading driver (Pavlis et al 2016) as evidenced by a study conducted within five EU Member States.

Some studies show that organic farming systems are more profitable than conventional ones in developed countries. Profits are supported by higher market prices, lower production costs and premium prices (Nemes 2009). Additionally, Wheeler (2008) found that e significant key influences on attitudes towards organic farming were: knowledge; experience; education and information. Khaledi et al. (2010) identified key transaction costs, such as infrastructure, services, and marketing issues, as influential factors in the adoption of organic farming practices, particularly among smaller landholders in Saskatchewan, Canada.

The size of the farm is another important determinant that may influence a farmer's decision to convert to organic farming. Larger farms are usually able to channel greater financial resources towards sustainable technologies, which could assist them in making the switch to organic farming. Kerselaers et al. (2007) found that the economic potential for converting to organic farming is rewarding, but only if farmers are prepared to make significant changes to their farm management practices. Additionally, the distance from the city may have a positive relationship with the likelihood of farmers adopting organic methods of farming (Koesling et al., 2008); however, not everyone views this idea positively (Arunrat et al., 2017).

3.3. Perspectives and Concerns

Mzoughi (2011) found that organic farmers demonstrate a significantly greater commitment to ethical practices compared to conventional farmers, reflecting an increase moral awareness. Next to the increasing consumer demand for higher-quality healthy food products, the moral obligation, especially toward sustainable resource management, is important in motivating and sustaining their commitment toward organic farming (McCarthy et al., 2008). While environmental concern is widely acknowledged as a key factor influencing conversion and the adoption of sustainable farming practices (Best, 2008; Toma and Mathijs, 2007; Läpple and Van Rensburg, 2011), some farmers resist taking personal responsibility for changing their operations, believing they are already contributing to environmental protection. Soil quality, environmental concern, and social well-being are important factors of farmers intention to adopt or not, organic farming. According to (Sujianto et al., 2022), perceived environmental benefits and concerns were found to have positive influence into farmers on intention to adopt organic rice farming. Likewise, Nandi et al. (2015) identified environmental concern to be the foremost objective among organic farmers, surpassing the priorities found in the conventional farming system.

According to Mills et al. (2017) in a case study carried out in the UK, the farmer's own views regarding the environment were the most determining variables in respect to their will and capacity to implement environmental management practices. Farmers with a higher degree of environmental concern and stronger environmental values were likely to implement more environmental protection measures, which aligns with the findings of studies by Xu et al. (2018), Siepmann & Nicholas (2018), and Kociszewski et al. (2020). Overall, several studies provide strong statistical evidence linking an environmentally friendly attitude with an increased likelihood of adopting organic farming (Toma and Mathijs, 2007; Läpple and Van Rensburg, 2011; Nandi et al., 2015); nevertheless, Zhllima et al (2021) did not find such a relationship. To conclude, environmental concern has been presented as key to organic farming: farmers with strong pro-environmental attitudes are more likely to adopt organic farming practices.

4. CONCLUSION

The study concludes that adoption of organic farming is driven by positive economic factors, environmental concerns, and socio-economic factors, while important barriers in this case include, lack of technical knowledge, and the resistance to change. Younger farmers, better educated, are more willing to take a risk and are the ones who are likely to adopt organic practices. However, successful adoption requires targeted policy interventions that combine financial support with practical training and education on sustainable methods. The findings indicate that achieving the European Union's goal of converting 25% of farmland to organic by 2030 will require comprehensive, regionally tailored policies that address both the motivations and barriers faced by farmers. For meaningful change to occur, policies, innovations, and best practices must be effectively implemented on farms. Researchers and policymakers are focusing on understanding farmer behavior, emphasizing the importance of knowledge sharing. Long-term, interactive methods that bring techniques to life—such as hands-on demonstrations—are essential for fostering real, lasting change. A combination of voluntary and mandatory policies is also essential. The voluntary programs often attract farmers who are risk taker, environmentally concern, or open to new technologies. These farmers will probably be among the early adopters of the new practices, and the involvement of such farmers would strengthen the mechanism toward broader adoption in the farming community.

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The Analysis of Construction Industry in Croatia: The Importance of Porter's Five Forces in Achieving Above-Average Performance

Anita Talaja[1] **Ivan Lučin**[2]

[1] University of Split, Faculty of economics business and tourism, anita.talaja@efst.hr, ORCID:0000-0002-5007-365X

[2] University of Split, Faculty of economics business and tourism, ilucin00@live.efst.hr

Abstract: The aim of this paper is to analyze the importance of industry characteristics in achieving above-average performance in Croatian construction industry. According to the strategic management theories, industry performance is defined by the external factors meaning the characteristics of an industry, and by an internal factors, i.e. resources and capabilities of the company. In this paper we focus on the role of industry structure in defining performance levels. To describe industry characteristics, the Porters' five forces, i.e. competitive rivalry, the power of suppliers, buyer power, threat of substitution, and the threat of new entry are used. After the strength of each force within the Croatian construction industry is described, their relationship with performance are analyzed. The sample consists of companies from construction industry operating in Croatia. Questionnaire was used to collect data about the industry forces and company's performance. The results have shown that there are some links between elements of five competitive forces and the performance levels. However, majority of them has low intensity and is not statistically significant. That leads to conclusion that performance is more defined by the internal factors than external, which is in line with theoretical propositions and prior research results who showed that internal factors define performance levels more than external factors.

Keywords: construction industry, five competitive forces, industry structure, performance, strategy

1. INTRODUCTION

Porter (1991) emphasizes that firms should concentrate their efforts on the external environment, enhancing their ability to anticipate, oversee, evaluate, and participate in strategic decision-making. The field of strategic management encompasses various theories that seek to explain how industry dynamics influence firm profitability and competitive advantage, Porter's Five Forces being the most prominent one. This model proposes that each industry has a unique structure determined by five competitive forces: buyers, suppliers, new entrants, substitutes, and competitors. According to this framework, weaker competitive forces create more opportunities for firms to achieve superior performance. The ultimate goal of strategy, as Porter (1979) suggests, is to position a firm within its industry in a way that allows it to either withstand or manipulate these competitive forces to its benefit. This strategic positioning enables companies to navigate the competitive landscape more effectively, potentially leading to sustained competitive advantage. In this paper the importance of five competitive forces for profitability is studied in a construction industry. Therefore, the aim of this research is the analysis of the importance of competitive forces for profitability in the construction industry. Construction is the oldest and most important branch of technology. Construction technology is used for the construction of all types of architectural buildings, railways, bridges, tunnels, water supply, sewerage and land reclamation facilities. It is also used for the arrangement of watercourses and the use of water power (hydropower plants), power plants and other facilities. In subsequent chapter, the theory regarding Porter's five competitive forces will be presented, and the hypotheses will be proposed and elaborated

2. THEORY AND HYPOTHESES

Five conflicting forces (Porter, 1985) establish the relative competitive position of the firm within the industry, and in that context, the industry's attractiveness influences the choice of a firm's competitive strategy. Porter does not believe that the industry's structure is entirely exogenous and stable, in contrast to IO. He thinks that the industry is influenced by business actions and exogenous factors. According to Porter, the environment in which a corporation operates is the true source of competitive advantage rather than the firm itself (Porter, 1991). The firm's strategic behavior, which can largely influence entry or exit from the industry, is influenced by the activity of competitive forces. The average profitability of industry is determined by the combined strength of the five conflicting forces, or the industrial structure, as it affects prices, costs, and necessary investments, if the five competing forces are connected to the S-C-P paradigm (Porter, 1985).

If the sector is growing slowly and firms are having difficulty gaining market share, or if there are many competitors of comparable size and strength, competition amongst firms within the industry becomes fierce. Furthermore, there is a greater risk of competition when the product is not unique or when moving to a new one would not be expensive. Due of the difficulty of leaving, the industry is highly competitive due to high fixed costs and exit barriers, so we propose:

H1. The level of competition within a construction industry is negatively associated with company's performance.

By affecting a product's maximum price, substitutes might restrict an industry's potential. Substitutes will impact revenue declines and hinder industry growth if companies in the sector are unable to differentiate their products. Therefore, the greatest threat comes from alternatives that are either products of a highly profitable sector or have improved their price-performance ratio in comparison to industrial products. Most of the time, alternatives appear suddenly when increased rivalry in their industry results in lower prices or better performance. Hence, we propose following hypothesis:

H2. The power of substitutes within a construction industry is negatively associated with company's performance.

Long-term profits are minimal in an industry with perfect competition, low entry barriers, or simple access to the market. Long-term profitability is higher in areas with strong entry barriers. The number of new competitors in the business is impacted by entry and exit barriers (Porter, 1979). The expectations of prospective rivals on the response of current companies also have a role in the decision to enter the market. Industry firms are likely to reduce prices in order to maintain market share, and potential competitors will reconsider if current firms have previously made it difficult for other firms to enter or if firms inside the industry hold large resources that they can use to combat new firms. Furthermore, slow expansion in the industry will hinder the ability to absorb new inputs and lower the financial performance of all participating enterprises (Porter, 1979). Based on that, we propose:

H3. The threat of new entrants into the construction industry is negatively associated with company's performance.

When a market is dominated by only a handful of large buyers, these buyers tend to assume control and dictate the terms of the sale. Additionally, if companies offer similar products and conditions, or if a specific product is crucial to the buyer's offerings, the buyer may reach out to other bidders to strengthen their position. The bargaining power of buyers can be further enhanced through backward integration (Porter, 2008). We propose following hypothesis:

H4. The level of buyer power within a construction industry is negatively associated with company's performance.

The bargaining power of suppliers is evident when they increase prices or decrease the quality of their products and services. Likewise, buyers can exert their influence by pushing for lower prices or demanding higher quality. The extent of bargaining power for both suppliers and buyers is shaped by the specific characteristics of the market and the significance of their transactions. Consumers tend to be price-sensitive when purchasing products that are undifferentiated, costly relative to their income, and where quality is not a critical factor (Porter, 1979). One of the most important strategic choices a company can make to strengthen its position is the selection of its suppliers and target customers. The most typical scenario is when the company has the ability to select its customers or who it sells to. Specifically, purchasers seldom have equal authority. Generally speaking, a company can only sell to influential customers and maintain above-average profits if its expenses are incredibly low or if its product has special qualities (Porter, 1979). We propose:

H5. The level of bargaining power of suppliers within a construction industry is negatively associated with company's performance.

3. EMPIRICAL ANALYSIS

The data was collected using questionaries' that were sent to e-mail addresses of 287 managers of companies' form construction industry operating in Croatia (one manager per company). A total of 54 usable questionaries' were collected, resulting in response rate of 19%. The questions regarding the power of competitors are operationalized according to Pecotich, Hattie and Low (1999), with addition of Newbert (2008), Wu (2006) and Miller (1987) using following elements: efforts made by competitors to maintain and increase market share

(COM1), the impact of competitor's actions on analysed firm (COM2), competitor's resources (COM3), the level of competitors' investment in R&D (COM4) and unpredictability of competitor's actions (COM5). The power of substitutes is measured through substitutability of firm's product (SUB1), availability of substitutes (SUB2) and the intensity of substitute threat (SUB3) (Pecotich, 1999). The threat of new entrants is operationalized according to Pecotich, Hattie, Low, (1999) through the level of entry barriers (NEW1) and cost advantage of new firms (NEW2). The power of buyers is operationalized according to Homburg, Krohmar and Workman (1999), Deesarbo (2005), Wu (2006) and Pecotich, Hattie and Low (1999) with: bargaining power of buyers (BUY1), rate of changes in buyer preferences (BUY2), expectations of buyers' preferences change (BUY3) and difficulty of satisfying changed buyers' preferences (BUY4). Power of suppliers is operationalized according to Pecotich, Hattie and Low (1999) with the impact of the supplier's product on observed firm's product quality (SUP1), supplier's ability to raise the price of their products (SUP2), supplier's ability to reduce the quality of their products (SUP3), and general bargaining power of suppliers (SUP4). Performance is measured in accordance with Homburg, Krohmar and Workman (1999) and Newbert (2008) through manager's perception of sales revenues (PERF1), market share (PERF2), and profitability (PERF3). All elements were evaluated od 1-5 scale. The data analysis was done using SPSS.

The Cronbach's alpha for variable competitors was 0.562, and for new entrants 0.582 which is acceptable. The power of substitutes has quite high internal consistency with Cronbach's alpha of 0.846. The Cronbach's alpha indicator for buyer power was 0.468, i.e. slightly lower than 0.5, meaning that the internal consistency of this scale could be better. The Cronbach's alpha indicator for the power of suppliers was 0.768, proving good internal consistency of this scale.

Table 1: Correlations coefficients between the power of competitors and company's performance

Spearman's rho	PERF1 (sig.)	PERF2 (sig.)	PERF3 (sig.)
COM1	-0.001 (0.996)	0.071 (0.609)	-0.158 (0.253)
COM2	-0.045 (0.748)	-0.153 (0.269)	-0.138 (0.320)
COM3	0.065 (0.642)	0.099 (0.475)	-0.027 (0.847)
COM4	0.206 (0.134)	-0.008 (0.956)	0.129 (0.352)
COM5	-0.211 (0.125)	-0.166 (0.230)	-0.032 (0.819)

Source: Authors' reserach

Looking at the Table 1, we can notice that there is no significant correlation between competitors and company performance. However, it should be mentioned that there is some kind of visible connection between the unpredictability of competitors and the sales revenue and market share of the company. But still observing the significance for these two cases, we can see that the mentioned correlations are insignificant. Based on that, we can conclude that hypothesis H1 is rejected.

Table 2: Correlations coefficients between the power of substitutes and company's performance

Spearman's rho	PERF1 (sig.)	PERF2 (sig.)	PERF3 (sig.)
SUB1	-0.115 (0.409)	-0.164 (0.234)	-0.200 (0.146)
SUB2	-0.293* (0.032)	-0.044 (0.752)	-0.308* (0.023)
SUB3	-0.178 (0.198)	0.019 (0.893)	-0.201 (0.144)

Source: Authors' research

From Table 2 it can be observed all corellation coefficients but one are in the right direction, i.e. negative. Also, there is statistically significant correlation between availability of substitute products (SUB2) and sales revenue (PERF1). The intensity of this correlation equals -0.293. There is also statistically significant correlation between availability of substitute products (SUB1), and company profitability (PERF3) that equals -0.308. That leads to the conclusion that H2 can be partially accepted.

Table 3: Correlations coefficients between the power of new entrants and company's performance

Spearman's rho	PERF1 (sig.)	PERF2 (sig.)	PERF3 (sig.)
NEW1	-0.340* (0.012)	-0.176 (0.203)	-0.132 (0.340)
NEW2	-0.123 (0.375)	-0.081(0.562)	-0.173 (0.211)

Source: Authors' research

Table 3 shows that all realitionships are in an expected direction, but only one of them is statistically significant, the correlation between low entry barriers for potential newcomer (NEW1) and sales revenue of companies within an industry (PERF1) which equals -0.340. That leads to partial acceptance of hypothesis H3.

Table 4: Correlations coefficients between the power of buyers' and company's performance

Spearman's rho	PERF1 (sig.)	PERF2 (sig.)	PERF3 (sig.)
BUY1	-0.023 (0.867)	-0.054 (0.696)	-0.009 (0.949)
BUY2	-0.171 (0.216)	-0.328* (0.015)	-0.239 (0.082)
BUY3	-0.038 (0.787)	0.092 (0.508)	0.092 (0.509)
BUY4	-0.278* (0.044)	-0.324*(0.018)	-0.241 (0.082)

Source: Authors' research

Table 4 shows that there are three correlation that are significant and in expected direction. The correlation between rate of changes in buyer preferences (BUY2) and market share (PERF2) is statistically significant, in expected direction and equals -0.328. Also the correlation between difficulty of satisfying changed buyers' preferences (BUY4) has statistically significant link to two elements of company's performance sales revenues (PERF1), and market share (PERF2). Its link to sales revenues equals -0.278, and to market share -0.324. One more relationship should be highlighted, since it would be statistically significant if we adopt 1% significance level, i.e. the link between ate of changes in buyer preferences (BUY2) and profitability (PERF3). Based on that, hypothesis H4 is partially accepted.

Table 5: Correlations coefficients between the power of supstitutes and company's performance

Spearman's rho	PERF1 (sig.)	PERF2 (sig.)	PERF3 (sig.)
SUP1	-0.051 (0.712)	-0.179 (0.195)	-0.061 (0.660)
SUP2	0.027 (0.847)	-0.285* (0.039)	0.093 (0.506)
SUP3	-0.258 (0.059)	-0.258 (0.059)	-0.229 (0.095)
SUP4	-0.057 (0.681)	-0.139 (0.315)	0.072 (0.602)

Source: Authors' research

The relationship between the supplier's ability to raise the price of their products (SUP2) and market share of the observed company (PERF2) is statistically significant, in expected direction, and equals -0.285. Also, if we would accept 1% significance level, the relationship between supplier's ability to reduce the quality of their products (SUP3) and all three performance indicators would be statistically significant. Based on the presented results, H5 can be partially accepted.

4. CONCLUSION

This paper analyzes Croatian construction industry with the aim of gaining insight into the influence of Porter's forces. Out of the 5 proposed hypotheses, one was rejected, and the remaining 4 were only partially accepted, leading to the conclusion that there is only a moderate connection between competitive forces and company performance. Hence, it seems that the influence of competitive forces on company performance will depend on each company individually, and that internal factors probably have larger impact on the company's success. Also, management should have a very significant role defining strategy with the aim of achieving higher performance levels and competitive advantage, which can be a problem for some companies, bearing in mind that a certain amount of construction companies in the Republic of Croatia do not have managerial positions within the company at all. It is obvious that such companies will be left to the laws of the market without having any possibility to improve their prospects for business through the aforementioned analyses, and thus their survival on the market. According to Rumelt (1991), firm-specific effects are more significant for performance than industry effects, which may account for the findings in this article. Other empirical investigations (McGahan and Porter, 1997; Mauri, Michaels, 1998; Spanos, Zaralis, Lioukas, 2004; Hawawini, Subramanian and Verdin, 2005; McNamara, Aime, Vaaler, 2005; Gjerde, Knivsflå, Saettem, 2010) supported that. Furthermore, industry effects are significant, steady, and predictable, according to McGahan (1999) and they account for about one-third of the variability in the profitability of forms. Firm-specific influences, on the other hand, are less stable and predictable but twice as significant as industry effects. According to McGahan and Porter (1997), the estimated influence of the industry increases dramatically when non-diversified firms are removed from the sample. Future research could examine the interconnectedness of competitive forces since they are not independent of one another and changes in the action of one force can be influenced by the intensity of another force (Grundy, 2006). The questionnaire's use as a data collection tool and the fact that respondents are frequently biased are the research's limitations. Additionally, the results might differ depending on other national settings or, as theory suggests, could change if non-diversified enterprises were eliminated from the sample. Also, construction industry is quite a broad concept, the investigated companies have different specializations and are focused on

different activities, and there could be differences in the impact of five forced on performance even within the same industry.

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Public Perceptions of Tax Evasion and Informal Economy in Greece

Aristidis Bitzenis[1] **Nikos Koutsoupias**[2] **Marios Nosios**[3]

Department of International and European Studies, University of Macedonia (UOM), Thessaloniki, Greece, bitzenis@uom.edu.gr

Department of International and European Studies, University of Macedonia (UOM), Thessaloniki, Greece, nk@uom.edu.gr

Department of International and European Studies, University of Macedonia (UOM), Thessaloniki, Greece, mnosios@uom.edu.gr

Abstract: This study examines public perceptions of tax evasion and the informal economy in Greece, integrating a survey with bibliometric analysis to provide a comprehensive perspective on compliance behaviors and academic discourse. Tax evasion is a critical challenge driven by high taxation, systemic inefficiencies, and public distrust in state institutions. The survey of 1,074 participants reveals that while tax evasion is widely recognized as harmful to public finance, it is often viewed as a rational response to excessive taxation and corruption rather than an ethical violation. Social security evasion, however, is perceived as more objectionable due to its direct impact on welfare provisions. The bibliometric analysis of 140 academic sources from 1990 to 2025 highlights Greece as a focal point in tax evasion research, frequently compared to Italy and Spain. Key themes emphasize governance failures, tax morale, and policy complexity, though transparency reforms remain underexplored. Findings suggest that self-employed individuals and business owners, particularly in cash-intensive sectors, exploit regulatory loopholes to minimize tax liabilities, reinforcing public perceptions of tax unfairness. Strengthening tax compliance requires institutional reforms, digital transaction monitoring, and simplified tax structures, but their effectiveness depends on restoring public trust. As informality remains deeply embedded in Greece's economic landscape, integrating behavioral economic insights into tax policy could foster voluntary compliance. Future research should examine the effects of digitalization, sector-specific compliance trends, and the role of economic crises in shaping tax morale. By synthesizing empirical data with scholarly discourse, this study offers policy recommendations to address Greece's persistent tax evasion problem while contributing to broader discussions on fiscal governance and compliance behavior.

Keywords: Tax Evasion, Informal Economy, Shadow Economy, Greece, Scientometrics

1. Literature review on tax evasion and the informal economy in Greece

Tax evasion and the informal economy remain persistent challenges in public finance and economic governance, especially in countries characterized by fragile institutions and volatile economic conditions. Tax evasion is the illegal avoidance of tax obligations, commonly achieved by falsifying financial information or concealing income. The informal economy, by contrast, consists of economic activities outside official legal and regulatory oversight, including undeclared labor, informal trade, and unregistered businesses (Skenderi & Skenderi, 2022). Although it is frequently labeled the underground or shadow economy, its scope goes beyond tax avoidance, encompassing a variety of economic behaviors that circumvent formal regulations (Katsios, 2006). Both tax evasion and informality have wide-ranging effects on fiscal policy, as they erode the tax base and restrict the state's ability to finance essential public services and welfare programs (Matsaganis & Flevotomou, 2010). In a national context marked by repeated economic crises and austerity measures, financial strain on households and businesses has intensified, fostering increased reliance on informal economic activities (Papanikos, 2015).

A strong relationship exists in the literature between tax evasion, informality, and institutional effectiveness. When tax systems are considered inefficient or unjust, individuals and businesses become more inclined toward non-compliance (Matsaganis & Flevotomou, 2010). Countries afflicted by weak institutions and entrenched corruption often report higher levels of tax evasion (Katsios, 2006). In Greece, shortcomings in tax administration, coupled with pervasive public mistrust of governmental institutions, have exacerbated these problems (Koutsogeorgopoulou et al., 2014). A key element driving tax behavior is the perceived equity of the tax system. Many Greek citizens perceive taxation as unfair, primarily because of inadequate public services and social welfare programs (Matsaganis & Leventi, 2013). This viewpoint has encouraged a belief that tax evasion is not merely an illegal act but also a response to a system that fails to deliver reciprocal benefits (Papanikos, 2015). Empirical work suggests that professionals who are self-employed and small enterprises frequently capitalize on existing loopholes to reduce their tax liabilities (Kaplanoglou et al., 2016).

The economic consequences of widespread informality are substantial. Estimates suggest that the informal sector accounted for 20 to 25 percent of GDP in the early 2010s, highlighting the scale of unmonitored economic

activity (Katsios, 2006). Such prevalent informality has produced notable gaps in tax revenue, endangering fiscal stability and slowing economic development. Tax underreporting is commonplace in sectors with high self-employment levels, such as professional services and small businesses, where financial dealings frequently remain undocumented (Matsaganis & Flevotomou, 2010). The persistence of large-scale tax evasion has limited public investment, intensified burdens on compliant taxpayers, and contributed to ongoing fiscal imbalances, thus weakening prospects for sustainable economic growth (Pappadà & Zylberberg, 2017). Fiscal policies also play a central role in shaping compliance since taxes are too high. Without clear improvements in public service provision, they can drive individuals and businesses to engage in informal activities (Kaplanoglou et al., 2016).

Greek policymakers have implemented various measures to enhance tax compliance, including stricter enforcement strategies, tax amnesties, and incentives to promote electronic transactions to reduce cash-based business activities (Koutsogeorgopoulou et al., 2014). Nevertheless, these efforts have encountered resistance due to entrenched social attitudes and inefficiencies within tax administration. While specific reforms have contributed to improved compliance, sustained progress requires more stringent regulatory approaches and broader institutional reforms to restore public trust in the tax system (Katsios, 2006). Proposed measures include adopting indirect auditing strategies, such as financial cross-checking and digital tracking, to strengthen compliance (Stasinopoulos & Kastanioti, 2024). Their effectiveness, however, depends on a solid institutional framework and increased public awareness of tax obligations.

Recent scholarship has increasingly emphasized the role of tax morale in shaping compliance behaviors in Greece. Tax morale reflects individuals' intrinsic motivation to adhere to tax requirements, grounded in institutional trust, perceptions of fairness, and a sense that taxation should deliver commensurate public services. Empirical findings indicate that trust in democratic governance, governmental efficacy, and equitable taxation influence tax morale. The perception that taxation constitutes a fair exchange for public services among Greek taxpayers emerges as a defining driver of compliance (Fotiadis & Chatzoglou, 2021A). Studies additionally point to gender differences in tax morale, with women generally exhibiting a stronger tendency to comply than men (Fotiadis & Chatzoglou, 2021B). These insights reinforce the importance of promoting institutional transparency and trust to encourage voluntary compliance.

The continued prevalence of shadow economic activity further complicates efforts to reduce tax evasion. Research suggests that 50 to 70 percent of the Greek population has participated in informal economic activities, including undeclared labor and unreported income, substantially diminishing government tax revenues (Bitzenis & Vlachos, 2017). This large shadow economy stems not solely from insufficient enforcement but also from acute economic difficulties and well-established cultural norms that tolerate informality (Bitzenis & Vlachos, 2018). Furthermore, empirical evidence shows that stronger tax morale correlates with lower engagement in the informal economy, indicating that societal norms strongly shape compliance (Vlachos & Bitzenis, 2024). Policymakers should fuse enforcement measures with institutional reforms to strengthen tax morale and mitigate perceptions of injustice (Kaplanoglou et al., 2016).

Comparative research indicates that Greece has one of Europe's most extensive informal economies, primarily linked to complex tax regulations and a high share of self-employment (Papanikos, 2015). Nations that achieve greater openness in tax policies and higher levels of trust in their institutions consistently observe lower rates of tax evasion, suggesting that simplifying tax frameworks and heightening accountability would likely enhance compliance in Greece (Katsios, 2006). Recent developments point to gradual improvements since the expansion of digitalization and the implementation of structural reforms have contributed to a slow but steady decline in the prevalence of informal economic activities (Kaplanoglou et al., 2016). However, exogenous shocks such as the COVID-19 pandemic have temporarily reversed some gains by prompting individuals and businesses to revert to informal practices during periods of acute economic uncertainty (Pappadá & Zylberberg, 2017). A comprehensive approach that includes sustained investments in digital infrastructure, further simplification of the tax code, and concentrated efforts to rebuild public confidence in tax administration remains indispensable for addressing these enduring challenges.

To conclude, this study is structured into four key sections. The introduction contextualizes tax evasion and the informal economy in Greece, highlighting their economic and institutional implications. The methodology outlines the mixed-method approach, combining a survey of public perceptions with bibliometric analysis to examine research trends. The results present findings from both datasets, revealing key drivers of non-compliance, public attitudes, and thematic patterns in tax evasion research. The conclusion synthesizes these insights, emphasizing the need for institutional reforms, digital monitoring, and policy simplifications while

suggesting future research directions on tax morale, compliance behaviors, and the impact of digitalization on fiscal governance.

2. Methodology

This study adopts a mixed-method approach, combining primary data collection through a structured questionnaire with secondary analysis using bibliometric techniques.[1] By integrating survey findings with bibliometric insights, the research offers a nuanced perspective on tax evasion and the informal economy in Greece. The methodological framework emphasizes clarity, replicability, and a systematic examination of public perceptions alongside prevailing research trends.

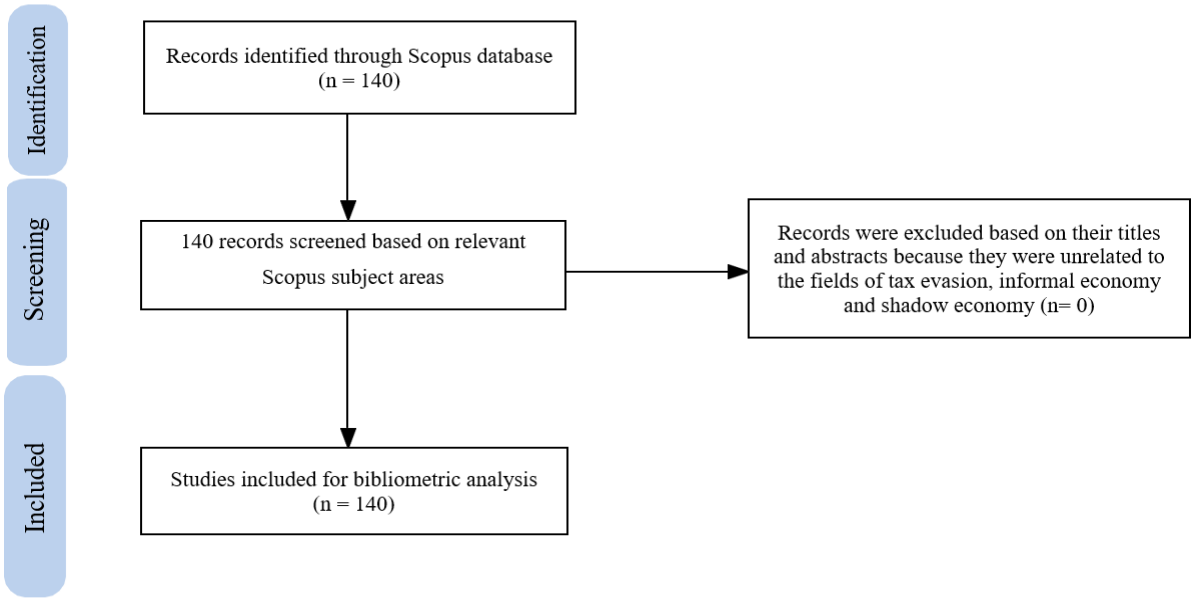
The primary dataset was obtained through an online questionnaire to investigate public attitudes toward tax evasion, rationales for non-compliance, and perceptions of institutional trust and economic pressures. Structured in format, the questionnaire incorporated Likert-scale items to enable quantitative analysis. A total of 1,074 valid responses were collected, ensuring a sufficiently representative sample for assessing compliance-related behaviors (Bitzenis & Koutsoupias, 2023). Online distribution facilitated broad participation across diverse demographic and occupational groups. The survey encompassed critical themes, including economic hardship, perceptions of tax fairness, and attitudes toward social security contributions, offering insight into the factors shaping tax compliance. While self-reported data may introduce some bias, maintaining respondent anonymity helped mitigate this limitation (Bitzenis & Koutsoupias, 2024A; Bitzenis & Koutsoupias, 2023).

The study also integrated a bibliometric analysis to complement the primary data to explore research trends on tax evasion and informal economies. Bibliometric tools such as Bibliometrix in R were used to examine publication patterns, keyword co-occurrence, and thematic developments in academic literature (Bitzenis et al., 2025; Bitzenis & Koutsoupias, 2024B; Bitzenis et al., 2023). These tools facilitated a systematic mapping of scholarly trends and the identification of knowledge gaps within the field. The dataset was sourced from the academic database Scopus using the following query:

TITLE-ABS-KEY (("tax evasion" OR "informal economy" OR "tax avoidance" OR "shadow economy") AND ("Greece" OR "Greek")) AND (LIMIT-TO (LANGUAGE , "English"))

The selection and organization of relevant studies adhered to PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, ensuring a structured, transparent, and replicable approach to literature inclusion, as seen in Figure 1 (Page et al., 2021).

Figure 1: The PRISMA 2020 statement



1 This paper is an outcome of our research, which was partially based on the EU THALES research project titled The Shadow Economy (Black Economy) in Greece: Size, Reasons, and Impact (available at https://paraoikonomia.gr/)

Descriptive statistics were applied to assess public perspectives on tax compliance, economic pressures, and institutional trust, with measures such as mean, mode, standard deviation, and range used to identify key patterns in the dataset. Data processing and visualization were conducted using Microsoft Excel and R Studio, ensuring precise statistical representation.

Ultimately, the study adhered to rigorous ethical standards, ensuring that all survey responses remained anonymous and participation was voluntary. No personally identifiable information was collected, maintaining compliance with ethical research principles. By integrating survey-based data with bibliometric analysis, the study presents a structured and data-driven perspective on tax evasion and the informal economy in Greece, contributing to understanding compliance behaviors and research trends in the field.

3. Results

3.1. Bibliometrics analysis

This section presents the bibliometric analysis and survey data findings, providing a structured overview of key aspects of tax evasion and the informal economy in Greece. The results are organized to reflect both research trends and public perceptions, ensuring a data-driven examination of the topic.

Table 1: Descriptive statistics

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	1990:2025
Sources (Journals, Books, etc.)	111
Documents	140
Annual Growth Rate %	0
Document Average Age	8.89
Average citations per doc	13.62
References	5678
DOCUMENT CONTENTS	
Keywords Plus (ID)	314
Author's Keywords (DE)	391
AUTHORS	
Authors	228
Authors of single-authored docs	47
AUTHORS COLLABORATION	
Single-authored docs	51
Co-Authors per Doc	2.06
International co-authorships %	17.86
DOCUMENT TYPES	
article	99
book	3
book chapter	16
conference paper	12
conference review	3
erratum	2
note	1
review	3
short survey	1

The research analysis on tax evasion and related topics, as detailed in Table 1, comprises 140 documents drawn from 111 distinct sources, covering the period from 1990 to 2025. These works have a mean age of 8.89 years and an average citation count of 13.62, demonstrating a moderate level of engagement with the field. In total, the dataset encompasses 5,678 references, underscoring its extensive academic foundation.

Authorship data reveal contributions by 228 authors, including 51 single-authored documents, and show an average of 2.06 co-authors per paper. International co-authorship occurs in 17.86 percent of these publications, demonstrating some degree of global collaboration, although much of the work retains a national focus. Most

documents are journal articles, amounting to 99, followed by 16 book chapters and 12 conference papers, underscoring that peer-reviewed journals remain the primary medium for disseminating research.

The annual growth rate of publications stands at zero percent, suggesting that the volume of studies on tax evasion has neither risen nor declined over time. Considering the persistent public concerns documented in the survey, particularly regarding tax fairness, corruption, and gaps in enforcement, this stagnation implies that although academic research in the area endures, it has not expanded significantly in response to evolving socio-economic conditions.

Figure 2: Most frequent keywords Plus

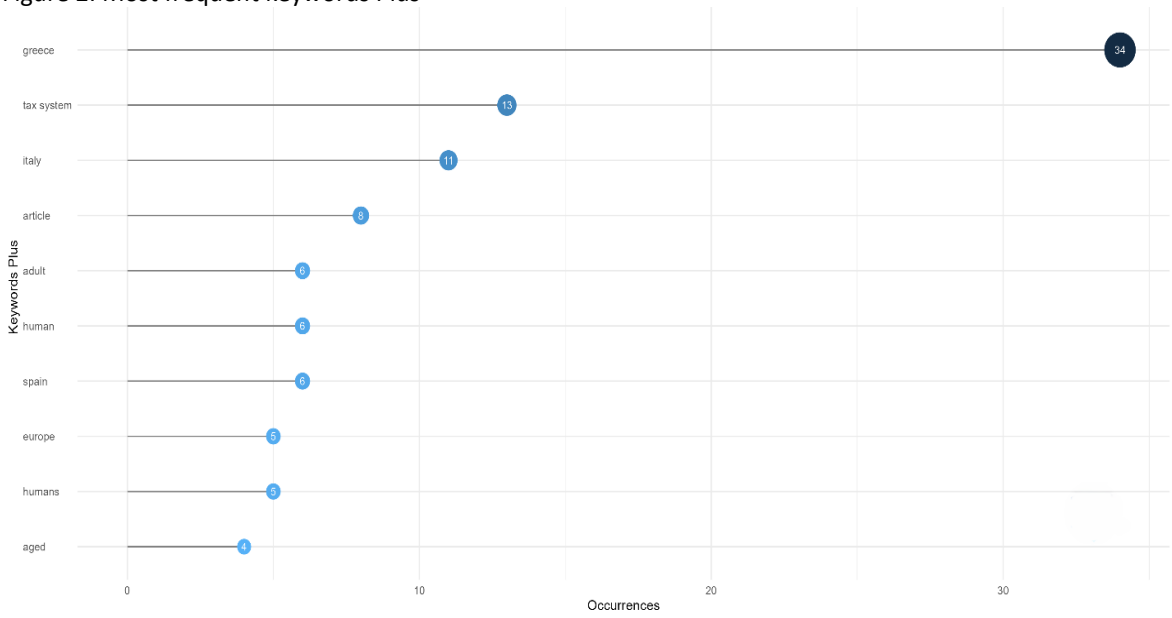
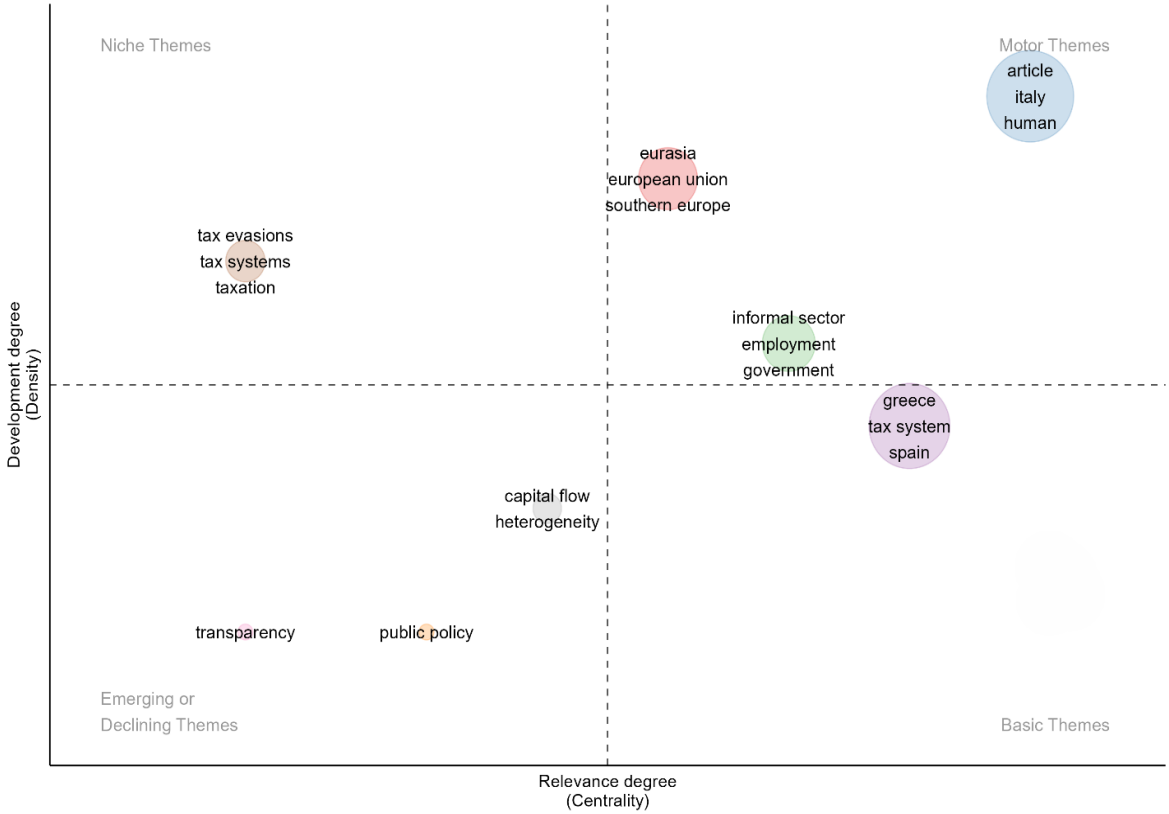


Figure 2 shows the most frequent keywords Plus in the dataset, providing valuable insights into significant themes in tax evasion research. Greece appears most often (34 occurrences), suggesting a substantial focus on the country's tax system, compliance behavior, and governance challenges. This attention fits into a broader academic interest in understanding Greece's persistent tax evasion issues within the context of economic instability and institutional vulnerabilities.

The second most common term, *"tax system"* (13 occurrences), underscores the structural dimensions of taxation examined in the literature, including policy effectiveness, enforcement mechanisms, and taxpayer behavior. International comparisons also feature prominently, as shown by mentions of *"italy"* (11 occurrences) and *"spain"* (6 occurrences). Scholars frequently draw parallels among these Southern European nations, whose shared economic and institutional contexts illuminate cross-national patterns of tax evasion, enforcement practices, and public attitudes toward taxation. Additionally, *"europe"* (5 occurrences) signals analyses that place tax evasion within the broader European regulatory framework, considering cross-border policies and governance structures.

Notably, the presence of demographic-related words such as *"human," "adult,"* and *"aged"* indicates a behavioral approach in some studies, where researchers investigate how factors like age, economic pressures, and social background influence perceptions of tax fairness and willingness to comply. These keywords confirm that academic literature broadly aligns with public opinion concerning taxation policy, governance, and international comparisons. The dominant focus on Greece underscores the ongoing significance of tax evasion within the country's economic landscape.

Figure 3: Thematic map



The thematic map in Figure 3 classifies principal tax evasion research areas based on their development (density) and relevance (centrality). In the fundamental themes quadrant, representing core yet relatively underdeveloped topics, *"greece," "tax system,"* and *"spain"* emerge as focal points. Although these countries' taxation policies have been widely examined, the map suggests the need for additional theoretical refinement. Meanwhile, the motor themes quadrant, which includes *"italy," "article,"* and *"human,"* highlights well-established and pertinent research areas. Italy's prominence underscores the value of comparative tax analyses within Southern Europe. At the same time, the keyword "human" points to the growing significance of behavioral dimensions in studying how individual attitudes and societal factors shape tax morale.

In contrast, the niche themes quadrant, featuring *"tax evasions," "tax systems,"* and *"taxation,"* signals that these subjects, while conceptually developed, have yet to be fully linked to broader policy discussions. This indicates that research in these specialized areas could benefit from stronger connections to governance and enforcement practices. The emerging or declining themes quadrant contains *"transparency"* and *"public policy,"* revealing that these topics may be less explored or currently overshadowed in the literature. Such limited attention is particularly notable given persistent public distrust in tax administration, pointing to opportunities for further investigation into how transparency and reform measures influence compliance behaviors.

Overall, the thematic map confirms the centrality of Greece's tax system as a foundational research area, while comparative examinations, especially with Italy and Spain, remain significant. Studies focusing on the behavioral aspects of tax compliance appear well-developed, but governance, transparency, and policy reforms remain comparatively underexamined. These conclusions align with public perceptions and bibliometric data, underscoring that tax fairness and enforcement concerns remain central in academic inquiries and real-world challenges (see Figure 3).

3.2. Survey analysis

Table 2: Key Economic and Social Issues of the Country

	Public debt	Tax evasion and the informal economy	Corruption	Budget deficit	The counterproductive public sector	The political system

Mean	5.75	5.84	6.02	5.53	5.76	6.09
Mode	7	7	7	7	7	7
Standard Deviation	1.55	1.44	1.31	1.51	1.54	1.42
Range	7	7	7	7	7	7
Minimum	0	0	0	0	0	0
Maximum	7	7	7	7	7	7
Count	1074	1074	1074	1074	1074	1074

The findings from the survey, as seen in Table 2, reveal the public perceptions of major economic and social issues in Greece, with corruption, the political system, and tax evasion emerging as the most critical concerns. Corruption received a mean of 6.02, indicating that respondents overwhelmingly consider it a serious issue. The low standard deviation of 1.31 suggests a strong consensus on its severity. The political system was rated even higher, with a mean of 6.09, reflecting widespread dissatisfaction with governance structures. Similarly, tax evasion and the informal economy were perceived as a significant problem with a mean of 5.84, reinforcing the view that weak institutional trust and governance failures contribute to high levels of non-compliance.

On the other hand, public debt, with a mean of 5.75, and the counterproductive public sector, with a mean of 5.76, were also identified as significant concerns. However, opinions on these issues were more varied, as reflected in their higher standard deviations (≈1.54). The budget deficit received the lowest mean of 5.53, suggesting it is still seen as an issue but not as pressing as governance-related problems. Despite differences in the mean values, the mode was consistently 7 across all categories, meaning that a substantial proportion of respondents considered these problems extremely important.

The results underscore that public distrust in governance and corruption is a key driver of non-compliance with tax obligations. The strong perception of institutional failures suggests that efforts to combat tax evasion must go beyond enforcement measures and focus on restoring public trust in the state. Since tax evasion is not just seen as an economic issue but is deeply tied to governance failures, policy solutions should prioritize transparency, accountability, and fairness of the tax system. Additionally, concerns over public sector inefficiency and high tax burdens further reinforce the need for structural reforms that improve government services and demonstrate the benefits of tax compliance. These findings suggest that tax policies alone will not be effective unless broader governance improvements and institutional reforms accompany them.

Table 3: Evaluation of Economic Practices in Greece: Concealment of Economic Activities, Tax Evasion, and Social Security Evasion

	Concealment of Economic Activities	**Tax Evasion**	**Social Security Evasion**
Mean	4.38	4.11	3.77
Mode	5	5	4
Standard Deviation	2.05	2.03	2.05
Range	7	7	7
Minimum	0	0	0
Maximum	7	7	7
Count	1074	1074	1074

As suggested from the findings of Table 3, respondents view tax evasion as more defensible than social contribution evasion, reflecting broader concerns about economic hardship and institutional distrust. The mean score for general tax evasion justification is 4.38, suggesting that, on average, participants exhibit a slight inclination toward acceptance, with the most frequent response being 5, denoting moderate approval. However, the high standard deviation of 2.05 signifies considerable variation in opinions, ranging from strong disapproval to full endorsement of tax evasion.

When comparing tax evasion and social contribution evasion, the former is deemed more acceptable as it scored a mean of 4.11 compared to the latter, which scored a mean of 3.77. The difference in modes, 5 for tax evasion and 4 for social contribution evasion, further confirms that more respondents justify avoiding taxes than failing to pay into social security. This discrepancy likely arises from the perception that tax revenues are often mismanaged, whereas social security contributions directly support pensions and healthcare, rendering their evasion less acceptable.

The findings suggest that tax evasion is more a predictable consequence of financial strain than an ethically defensible practice. In contrast, social security evasion is regarded as even less acceptable. The consistently high standard deviations across measures point to marked individual differences in attitudes, indicating that economic circumstances shape tax morale in Greece, perceptions of government effectiveness, and personal views on fiscal responsibility.

Table 4: Reasons for Tax Evasion in Greece

	Lack of honesty	**There is no reason to pay taxes**	**Because tax evasion is not punished**	**Poor management of public revenues**	**There is very high taxation**	**Because there is corruption**	**There is injustice in the tax system**
Mean	3.67	3.38	4.60	5.23	5.44	5.19	5.44
Mode	4	1	7	7	7	7	7
Standard Deviation	1.98	2.02	2.04	1.86	1.95	1.88	1.94
Range	7	7	7	7	7	7	7
Minimum	0	0	0	0	0	0	0
Maximum	7	7	7	7	7	7	7
Count	1074	1074	1074	1074	1074	1074	1074

The results regarding Table 4 indicate that systemic factors, rather than personal dishonesty, are considered the primary influences behind tax evasion in Greece. Very high taxation and injustice in the tax system yielded a mean of 5.44, while poor management of public revenues received a mean of 5.23, and corruption was rated at 5.19. Each factor registered a mode of 7, suggesting that most respondents regard them as major contributors to non-compliance. This perspective points to widespread dissatisfaction with tax policies and public administration, implying that tax evasion stems more from institutional shortcomings than moral failings.

By contrast, lack of honesty, with a mean of 3.67, and the belief that there is no reason to pay taxes, with a mean of 3.38 and a mode of 1, received the lowest ratings, indicating that noncompliance is seldom interpreted as an ethical lapse. The idea that tax evasion is not punished scored a mean of 4.60 and a mode of 7, reflecting concerns about weak enforcement, though opinions on this matter varied. These findings are consistent with broader research showing that perceived unfairness or mismanagement in taxation can erode compliance, underscoring the need for governance reforms and transparent fiscal policies to foster voluntary cooperation (see Table 4).

Table 5: Demographics - Age

Age	**Count of Age**
10-20	15

Table 6: Demographics - Gender

Gender	**Count of Gender**
Man	575

21-30	223
31-40	259
41-50	289
51-60	151
61-70	31
71-80	7
80-89	3
No answer	96

No answer	28
Woman	471

The demographic profile of the survey participants, as seen in Table 5 and Table 6, indicates a balanced gender representation, with 575 respondents identifying as men, 471 as women, and 28 choosing not to disclose their gender. This distribution ensures that insights into tax evasion, taxation policies, and governance issues are gathered from both men and women, thereby minimizing any potential bias related to gender.

The largest cohort falls between 41 and 50 years old, totaling 289 respondents, followed closely by 259 between 31 and 40 and 223 between 21 and 30. This profile suggests that the survey sample primarily consists of economically active individuals, likely shaped by financial obligations, employment conditions, and public policy considerations.

Older age groups, particularly those over 60, are noticeably underrepresented. Only 31 respondents are between 61 and 70 years old, 7 between 71 and 80, and 3 between 80 and 89. An additional 96 participants did not report their age, leading to some missing demographic information. Since older adults may have distinct perspectives on taxation, particularly concerning pensions and social benefits, their limited representation could constrain the generalizability of the findings to retirees. Ultimately, the dataset predominantly reflects the perspectives of a middle-aged, economically active demographic, offering meaningful insights into attitudes toward tax evasion, public trust in institutions, and taxation policies in Greece.

Table 7: Demographics - Employment status

Employment	**Employment count**
Business Owner (Employs Staff)	330
Farmer	6
No answer	22
Pensioner	21
Private Sector Employee	110
Public Sector Employee	37
Self-Employed (No Employees)	462
Student	45
Unemployed	41

The employment distribution among survey respondents, as seen in Table 7, reveals notable variations in occupational status. The largest segment comprises 462 self-employed individuals with no employees, followed by 330 business owners who employ staff. This pattern suggests that most samples include entrepreneurs and small business owners. This is a noteworthy finding given that self-employment is frequently associated with elevated tax evasion risks due to underreported income and informal transactions. A further 110 respondents are employed in the private sector, whereas only 37 work in the public sector. This disparity indicates that perspectives on taxation and governance may be shaped more by private-sector experiences, which often involve distinct tax burdens and regulatory challenges compared to those encountered by public-sector employees.

Additionally, the survey includes 41 unemployed respondents and 45 students whose direct engagement with tax compliance may be limited but who contribute valuable insights into broader perceptions of tax fairness and governance. Only 21 pensioners and 6 farmers participated, reflecting minimal representation from retirees and the agricultural sector. Taken collectively, the data points to a strong presence of self-employed individuals and business owners, groups that frequently occupy a central role in tax compliance debates in Greece. The comparatively low participation of public sector employees and pensioners suggests that the survey findings primarily mirror the perspectives of those engaged in private-sector economic activities (see Table 7).

4. Conclusion

The findings of this study highlight the persistent complexities surrounding tax evasion and the informal economy in Greece. Public attitudes toward tax compliance remain closely tied to institutional trust, perceptions of fairness in taxation, and broader economic pressures. Survey results suggest that many respondents anticipate tax evasion in response to financial hardship, yet its justification continues to spark debate. Participants perceive social security evasion as more objectionable, pointing to heightened concern about its direct consequences for pension and healthcare systems.

The bibliometric analysis confirms the centrality of tax evasion as a core research focus, particularly within the Greek setting. Comparative investigations involving countries such as Italy and Spain draw attention to common systemic challenges, including intricate tax regulations, high levels of self-employment, and governance shortfalls that foster non-compliance. Thematic mapping further demonstrates that although tax systems receive considerable attention, governance, transparency, and enforcement, a trio crucial to public concerns, remain comparatively underexplored. Meanwhile, researchers are increasingly examining behavioral dynamics, such as tax morale, which significantly shape compliance decisions.

Empirical results underline corruption, political instability, and perceived inequalities in tax policy as significant catalysts for evasion. High tax rates also emerge as a recurring factor, reinforcing that heavy tax burdens can drive individuals toward informal activities if not matched by discernible improvements in public services. Demographic distinctions are apparent, with middle-aged and self-employed respondents exhibiting notably distinct viewpoints on compliance. Given Greece's sustained status as one of Europe's largest informal economies, these findings underscore the urgent need for institutional reforms that bolster public trust, streamline tax structures, and enhance enforcement strategies. Although this study presents valuable insights, several areas warrant deeper investigation. Future research could examine the long-term influence of digitalization on tax compliance, especially how automated auditing and electronic transaction monitoring might reshape evasion trends. In addition, a sector-specific approach to tax morale could illuminate the diverse drivers of compliance across different industries.

Ultimately, the role of behavioral economics in informing taxpayer attitudes stands out as another promising avenue for inquiry. Investigating how trust in public institutions evolves and how targeted policy interventions can reinforce tax morale may yield practical strategies for curbing evasion. Because tax behavior often fluctuates during economic crises, further study is needed to explore how financial downturns and external shocks shape long-term patterns in both evasion and informality. By integrating empirical data, public perceptions, and scholarly research, this study presents a nuanced understanding of tax evasion in Greece, one that calls for coordinated policy reforms, institutional strengthening, and behavioral initiatives to foster a more transparent and resilient taxation framework.

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Theoretical Advancements in Logistics: Digitalization, Big Data, and Machine Learning in Decision Making

Aristidis Bitzenis[1] **Nikos Koutsoupias**[2] **Marios Nosios**[3]

Department of International and European Studies, University of Macedonia (UOM), Thessaloniki, Greece, bitzenis@uom.edu.gr

Department of International and European Studies, University of Macedonia (UOM), Thessaloniki, Greece, nk@uom.edu.gr

Department of International and European Studies, University of Macedonia (UOM), Thessaloniki, Greece, mnosios@uom.edu.gr

Abstract: This study conducts a systematic bibliometric analysis of the evolving role of digitalization, big data, and machine learning in shaping decision-making processes within logistics. As computational techniques become increasingly embedded in supply chain management, these technologies have redefined operational efficiency, enhanced predictive accuracy, and transformed logistics frameworks. The findings reveal a 57% annual growth rate in research output, highlighting the field's accelerated expansion and the widespread adoption of data-driven methodologies. The analysis identifies predictive analytics, artificial intelligence, and digital transformation as central thematic pillars, marking a paradigmatic shift from conventional logistics models to computationally driven decision-making frameworks. The geographical distribution of scholarly influence positions India, the United States, France, and China as leading contributors, reflecting the global research engagement in this domain. Moreover, international collaboration accounts for 23.48% of the dataset, underscoring logistics scholarship's interdisciplinary and transnational nature. Emerging research trajectories emphasize the increasing integration of blockchain, the Internet of Things, and Industry 4.0, reinforcing the growing reliance on automation and real-time analytics in supply chain optimization. Thematic clustering reveals distinct conceptual domains, including supply chain resilience, algorithmic logistics management, and sustainable digital logistics, reflecting a fundamental reconfiguration of theoretical perspectives in response to technological innovation. Despite these advancements, unresolved challenges related to data integrity, algorithmic transparency, and governance mechanisms in automated decision-making persist, warranting further critical inquiry. By systematically mapping the intellectual landscape of logistics research, this study provides a nuanced understanding of the discipline's evolving trajectory, identifying both dominant and emerging trends. The findings highlight the need for further exploration into the socio-economic implications of digital logistics, particularly in emerging markets where computational methodologies are increasingly shaping supply chain strategies. As the field evolves, future research should prioritize refining predictive modeling techniques and assess the long-term implications of automation and data analytics on supply chain adaptability and resilience.

Keywords: Machine learning, Big Data, Logistics, Digitalization, Scientometrics

1. Introduction

Consecutive waves of technological advancement have shaped the evolution of logistics as a discipline, each contributing to shifts in theoretical frameworks and operational paradigms. Traditional logistics models, which relied on deterministic assumptions and linear supply chain structures, have progressively been augmented by data-driven approaches emphasizing adaptability and efficiency. The integration of digitalization, big data, and machine learning has fundamentally transformed decision-making processes, enabling more dynamic and predictive logistics strategies. This study explores the theoretical development of logistics in light of these technological innovations, outlining key contributions and identifying areas for further research.

A historical perspective on logistics theories provides a foundation for understanding their transformation over time. Early models, including the Economic Order Quantity (EOQ) model and Just-In-Time (JIT) logistics, were designed to optimize cost efficiency and inventory management. However, these models operated under static assumptions about demand patterns and supply chain stability (Wang & Ye, 2018). The advent of digitalization has significantly expanded the scope of logistics theories by incorporating real-time data processing and automation. These developments have made supply chains more responsive, minimizing inefficiencies and enhancing operational coordination. The deployment of Internet of Things (IoT) technologies and cloud-based infrastructures has further augmented decision-making by improving end-to-end visibility and facilitating predictive analytics (Rejeb et al., 2020; Taj et al., 2023).

Furthermore, the expanding role of big data in logistics has contributed to the development of new theoretical frameworks that emphasize predictive modeling and optimization. Traditional forecasting methods, which relied

on limited datasets and simplified statistical techniques, have been increasingly replaced by data-intensive approaches capable of processing vast and complex information streams. By utilizing large-scale structured and unstructured data, logistics managers can refine decision-making processes across procurement, inventory management, and transportation planning (Wang et al., 2016). The shift toward big data-driven logistics necessitates the incorporation of probabilistic models, machine learning algorithms, and network optimization techniques, reflecting a growing dependence on computational methods for strategy formulation.

Moreover, Machine Learning (ML) has significantly contributed to the evolution of logistics theories by facilitating automated, adaptive decision-making. Unlike rule-based optimization models, machine learning algorithms can independently identify patterns and correlations within logistics datasets, thereby enhancing forecasting accuracy and operational efficiency. Machine learning applications in logistics encompass demand prediction, route optimization, and autonomous warehouse management (Nguyen et al., 2018). Supervised learning methods, including regression models and artificial neural networks, have been crucial in refining logistics planning by detecting inefficiencies and optimizing distribution networks. Meanwhile, unsupervised learning approaches, such as clustering techniques, support customer segmentation and the customization of logistics strategies. Reinforcement learning applications have also gained prominence as an effective tool for real-time routing optimization and fleet management, improving adaptability in dynamic environments (Khedr & S, 2024).

The interplay between digitalization, big data, and machine learning has prompted a reassessment of existing logistics theories, driving a shift toward frameworks emphasizing automation, predictive analytics, and real-time decision-making. This transformation is particularly evident in last-mile logistics, where machine learning-driven optimization has improved delivery precision and minimized inefficiencies (Giuffrida et al., 2022). Blockchain technology has also been incorporated to enhance supply chain transparency, addressing challenges related to data integrity, traceability, and security (Kshetri, 2018). These technological advancements reflect the increasingly interdisciplinary nature of logistics research, which now integrates perspectives from artificial intelligence, information systems, and operations research.

In summary, the theoretical foundations of logistics have evolved in response to digitalization, big data, and machine learning. These advancements have contributed to a transition from rigid, rule-based models to more flexible, data-driven frameworks that support adaptability and precision in decision-making. The integration of predictive analytics and automation has improved supply chain resilience, enabling firms to address operational complexities more effectively. Nonetheless, unresolved challenges underscore the need for continued academic inquiry to refine theoretical constructs and critically assess the broader implications of technological developments.

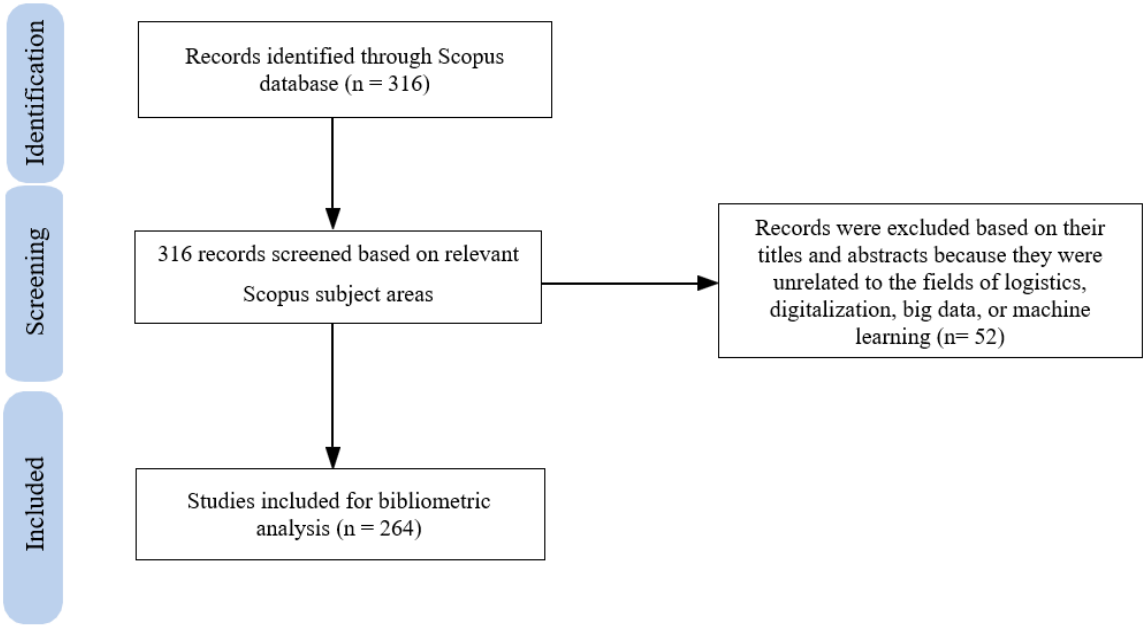
2. Methodology

This study adopts a bibliometric approach to analyze theoretical advancements in logistics, focusing on the impact of digitalization, big data, and machine learning on decision-making processes. To ensure methodological rigor and the comprehensive retrieval of relevant scholarly contributions, Scopus, a leading multidisciplinary citation database, was employed as the primary data source (Baas et al., 2020). A structured search query was formulated to capture publications that explicitly engage with the intersection of logistics and computational advancements, thereby ensuring the inclusion of a representative body of literature. The query design incorporated key terms reflective of the evolving discourse on digital transformation in logistics, filtering results to include peer-reviewed journal articles, conference proceedings, and book chapters. The final search query implemented in this study is as follows:

TITLE-ABS-KEY(("logistics" OR "supply chain") AND ("digitalization" OR "digital transformation" OR "automation" OR "Industry 4.0") AND ("big data" OR "data analytics" OR "predictive analytics") AND ("machine learning" OR "artificial intelligence" OR "deep learning" OR "neural networks") AND ("decision-making" OR "optimization" OR "efficiency" OR "forecasting")) AND PUBYEAR > 2013 AND PUBYEAR < 2025 AND PUBYEAR > 2013 AND PUBYEAR < 2025 AND (LIMIT-TO (SUBJAREA,"COMP") OR LIMIT-TO (SUBJAREA,"ENGI") OR LIMIT-TO (SUBJAREA,"BUSI") OR LIMIT-TO (SUBJAREA,"DECI") OR LIMIT-TO (SUBJAREA,"SOCI") OR LIMIT-TO (SUBJAREA,"ECON")) AND (LIMIT-TO (LANGUAGE,"English"))

To enhance the study's transparency and reproducibility, the document selection process was conducted in accordance with the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework, as demonstrated in Figure 1 (Page et al., 2021).

Figure 1: The PRISMA 2020 statement



Quantitative bibliometric techniques were applied using the Bibliometrix package in R, an open-source statistical computing environment specifically designed for bibliometric research (Bitzenis et al., 2023). Descriptive indicators, including annual scientific production, citation impact, and authorship patterns, were computed to delineate the structural and intellectual evolution of the research domain (Bitzenis et al., 2025; Bitzenis & Koutsoupias, 2023A). Furthermore, network analysis was employed to examine co-occurrence relationships among keywords, co-authorship structures, and citation linkages. These analyses provide insights into the field's conceptual development, collaborative dynamics, and the diffusion of knowledge across institutional and geographic boundaries.

To illustrate the progression of research themes and their interconnections, the study integrates various graphical representations, including trend analysis charts, co-occurrence network graphs, and thematic evolution plots. These visualizations facilitate an in-depth examination of the temporal development of key concepts, the clustering of research topics, and the distribution of scholarly influence. By mapping the intellectual landscape of logistics research, the study offers a comprehensive perspective on how digitalization, big data, and machine learning have reshaped theoretical and methodological approaches within the field (Bitzenis & Koutsoupias, 2024; Bitzenis & Koutsoupias, 2023B). Through this combination of systematic review and quantitative bibliometric analysis, the study identifies emerging trends and situates them within the broader context of logistics research, offering valuable insights into the discipline's trajectory and future directions.

3. Results

This section outlines the principal findings of the bibliometric analysis, drawing on data from publication trends, citation metrics, and keyword co-occurrence patterns. The results are presented through tables and figures, offering a structured depiction of the thematic evolution, geographical distribution of research contributions, and patterns of scholarly collaboration. These visual representations provide a comprehensive framework for examining the integration of digitalization, big data, and machine learning in logistics research, illustrating the field's trajectory and the conceptual shifts that have shaped its development.

Table 1: Descriptive statistics

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2014:2024
Sources (Journals, Books, etc)	201
Documents	264
Annual Growth Rate %	57
Document Average Age	2.67

Average citations per doc	20.78
References	12686
DOCUMENT CONTENTS	
Keywords Plus (ID)	1452
Author's Keywords (DE)	716
AUTHORS	
Authors	843
Authors of single-authored docs	19
AUTHORS COLLABORATION	
Single-authored docs	19
Co-Authors per Doc	3.34
International co-authorships %	23.48
DOCUMENT TYPES	
article	79
book	8
book chapter	40
conference paper	92
conference review	23
editorial	1
retracted	1
review	20

Table 1 offers a comprehensive overview of scholarly contributions examining the intersection of digitalization, big data, and machine learning in logistics. From 2014 to 2024, the dataset comprises 264 documents published across 201 sources, including journals, books, and conference proceedings. The field has exhibited a substantial expansion, with an annual growth rate of 57%, underscoring the increasing academic interest in these technological advancements. The relatively recent nature of the literature, with an average document age of 2.67 years, reflects the rapid pace of research in this domain. The impact of citations is also notable, as each document has been cited an average of 20.78 times, demonstrating the relevance and influence of these studies within the broader academic discourse. Furthermore, the dataset encompasses 12,686 references, highlighting the extensive engagement with prior research and the interconnectivity of scholarly contributions in this field.

The thematic scope of the dataset is evident in the breadth of indexing and author-defined keywords, with 1,452 Keywords Plus and 716 author-provided keywords. These figures suggest a diverse array of research topics and conceptual frameworks shaping the discourse on logistics in the context of digital transformation. Authorship patterns strongly emphasize collaboration, with contributions from 843 researchers. Single-authored publications account for only 19 documents, indicating a predominant reliance on co-authored research. The mean number of co-authors per document is 3.34, reinforcing the collaborative nature of scholarship in this area. Additionally, 23.48% of all publications involve international co-authorships, reflecting a moderate degree of cross-border academic engagement.

Lastly, the distribution of document types reveals the field's reliance on multiple publication formats, with conference papers constituting the most prevalent category (92), followed by journal articles (79) and book chapters (40). The presence of 20 review articles underscores efforts to synthesize and consolidate existing knowledge while including one editorial and one retracted paper, which signifies the broader dynamics of academic discourse. This distribution suggests that empirical advancements and theoretical consolidation characterize research on digitalization, big data, and machine learning in logistics. These bibliometric insights provide a foundation for a more detailed examination of citation structures, thematic developments, and intellectual networks shaping the evolution of knowledge in this domain (see Table 1).

Figure 2: Annual scientific production

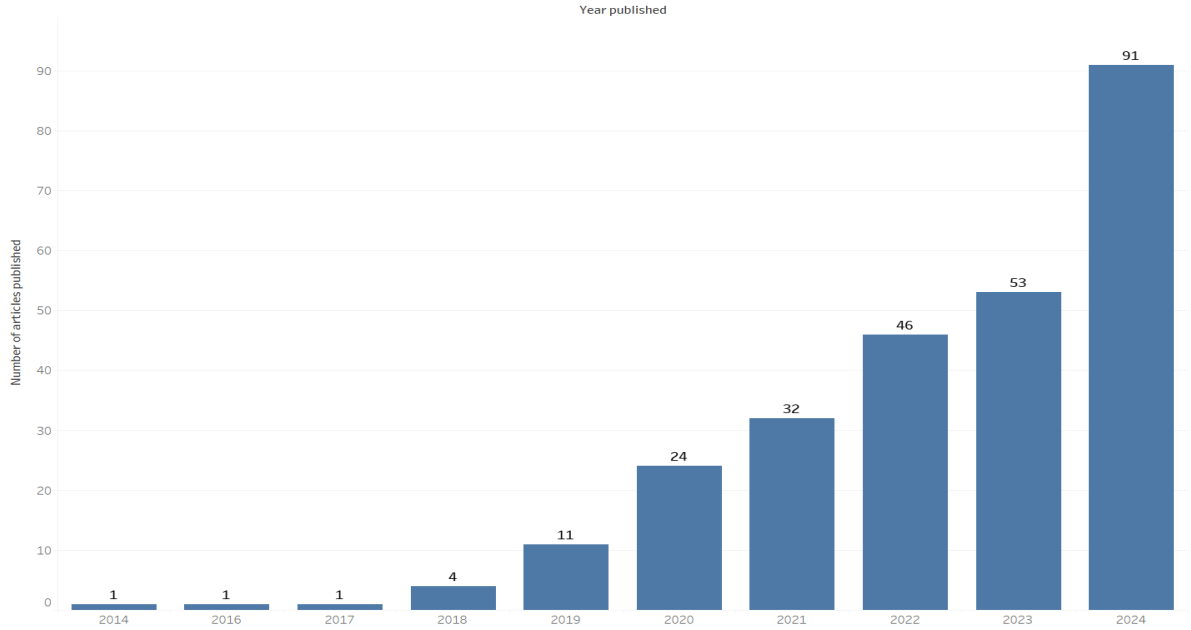
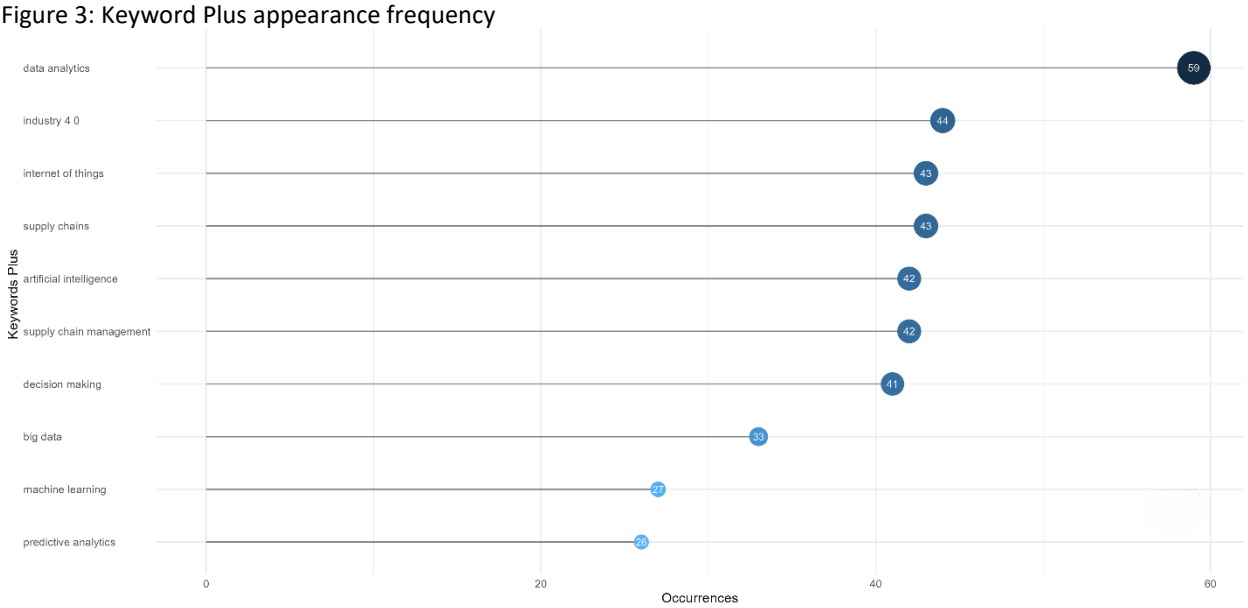


Figure 2 outlines the progression of research output on digitalization, big data, and machine learning in logistics over the past decade. In the initial years, scholarly contributions were limited, with only one article published in 2014, 2016, and 2017 and no recorded output in 2015. The low number of publications during this period suggests that the intersection of logistics and these technological advancements had not yet gained significant traction within academic discourse. A gradual increase is observed from 2018 onward, with the number of publications rising to four in 2018 and eleven in 2019. This indicates a growing interest in exploring the implications of digitalization and data-driven approaches within logistics research.

A more consistent growth pattern emerges from 2020, as the number of publications reaches 24, followed by 32 in 2021 and 46 in 2022. This sustained increase suggests that the field has developed into a more established area of inquiry, attracting greater academic attention. The upward trend continues in 2023 with 53 articles and reaches 91 in 2024, reflecting a continued expansion of research output. The substantial rise in publications in recent years may be attributed to advancements in artificial intelligence, predictive analytics, and digital supply chain management, which have increasingly been integrated into logistics research and practice.

These patterns suggest a steady expansion of academic contributions, particularly in the last five years, coinciding with broader technological developments that have influenced supply chain management and decision-making. The rise in publications aligns with the increasing integration of computational techniques in logistics, contributing to a shift in research focus toward data-driven methodologies. The consistent growth in output over time highlights the need for further analysis of thematic developments and scholarly networks shaping this field, as well as the potential implications for future theoretical advancements and practical applications in logistics (see Figure 2).

Figure 3: Keyword Plus appearance frequency



The most frequent words figure provides valuable insight into the dominant themes within research on digitalization, big data, and machine learning in logistics. The term *"data analytics"* is the most frequently mentioned, with 57 occurrences, signifying its pivotal role in adopting data-driven methodologies to enhance decision-making and streamline logistics processes. Its prominence reflects the increasing reliance on analytical tools to address operational complexities and optimize supply chain performance.

Moreover, *"Industry 4.0"* and *"Internet of Things"* appear with 44 and 43 occurrences, respectively. The former signifies the increasing integration of automation and digital systems into industrial operations. In contrast, the latter underscores the transformative role of interconnected devices in enhancing supply chain visibility and efficiency. These terms underscore the technological advancements driving modernization and innovation in logistics.

The terms *"artificial intelligence," "supply chains,"* and *"supply chain management,"* each appearing over 40 times, further illustrate the focus on leveraging advanced technologies to address logistical challenges. The frequent mention of these terms highlights the application of artificial intelligence in enhancing coordination, reducing inefficiencies, and managing the complexities of global supply chains. Similarly, the *term "decision making,"* with 40 occurrences, underscores the critical role of technological tools in supporting informed and efficient decision-making processes.

Finally, *"big data," "machine learning,"* and *"predictive analytics,"* with 33, 27, and 26 occurrences, respectively, reflect the growing reliance on computational methods for analyzing large datasets, predicting trends, and improving logistics outcomes. The frequency of these terms demonstrates the field's evolving focus on integrating advanced technological frameworks into theoretical exploration and practical application in logistics (see Figure 3).

Figure 4: Trend topics

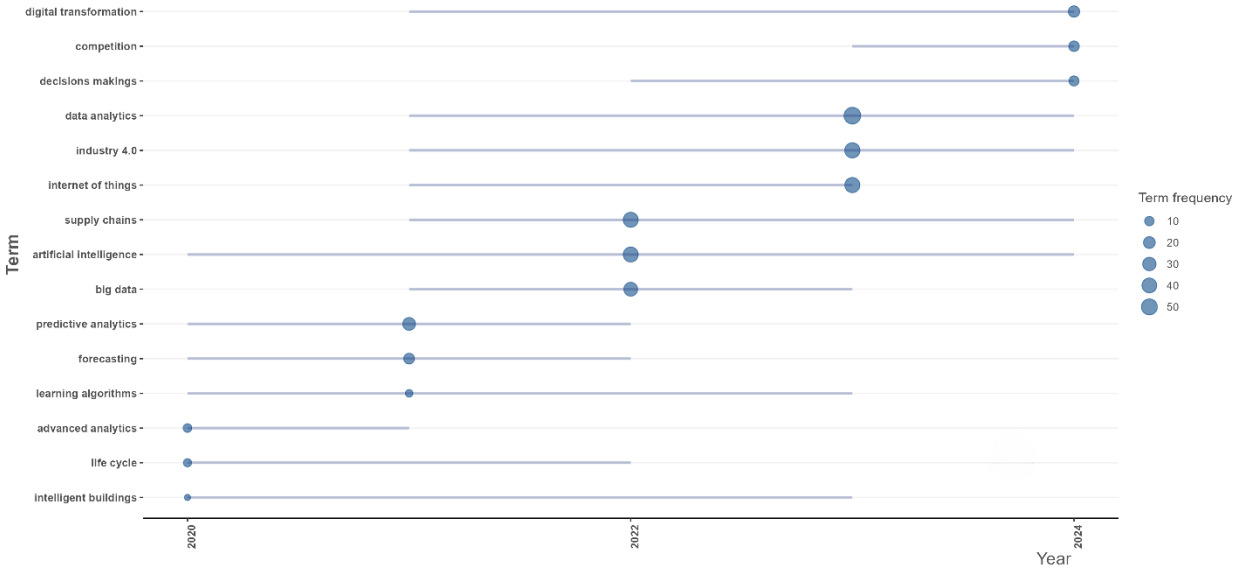


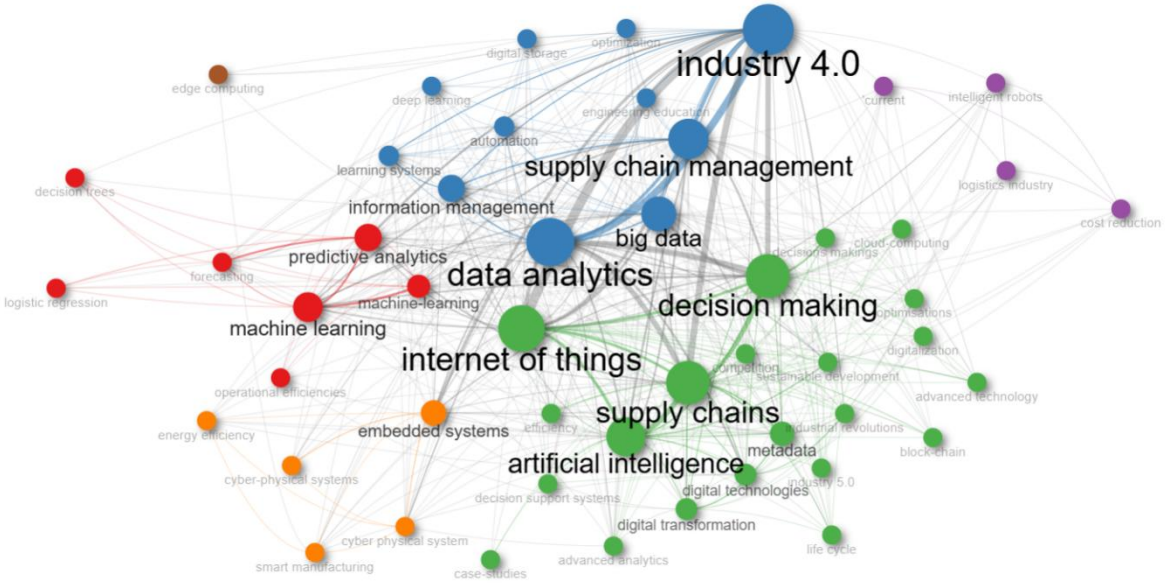
Figure 4 illustrates the progression of prominent terms related to digitalization, big data, and machine learning in logistics research from 2020 to 2024. The frequency of each term, represented by the size of the circles, highlights their significance within academic discourse. Terms such as *"digital transformation," "artificial intelligence,"* and *"predictive analytics"* demonstrate increasing relevance over the analyzed period, emphasizing the incorporation of advanced technologies into logistics frameworks. This pattern reflects a marked shift in research priorities toward technology-enabled and data-driven approaches within the field.

The rising prominence of *"artificial intelligence"* and *"predictive analytics,"* particularly after 2022, underscores the growing reliance on computational methodologies in logistics decision-making. These terms are closely associated with adopting advanced tools such as machine learning and predictive modeling, which are critical in enhancing processes like forecasting, inventory optimization, and route planning. The persistent emphasis on *"big data"* and *"data analytics"* further highlights the importance of large-scale data processing and analysis in addressing the inherent complexities of modern supply chains. These trends collectively indicate a transformation in logistics operations driven by integrating sophisticated technological solutions.

Emerging terms such as *"learning algorithms," "advanced analytics,"* and *"intelligent buildings"* illustrate the diversification of research topics within the domain. These terms reflect the application of specialized methodologies and innovative solutions designed to address specific logistical challenges. Additionally, the inclusion of terms such as *"Internet of things"* and *"industry 4.0"* emphasizes the increasing significance of interconnected systems and industrial innovation in reshaping logistics practices. Together, these developments highlight the broadening scope of research in this area, with a clear focus on integrating technological advancements into operational and strategic logistics dimensions.

The temporal evolution of these terms reveals the dynamic and adaptive nature of logistics research, driven by advancements in digital and computational technologies. The prominence of these concepts underscores their pivotal role in influencing theoretical developments and practical applications in the field. This trajectory demonstrates logistics' increasing complexity and sophistication as it evolves to meet the demands of modern supply chain management and technological innovation (see Figure 4).

Figure 5: Co-occurrence network



The co-occurrence network, as seen in Figure 5, shows key terms in research related to digitalization, big data, and machine learning in logistics. The nodes represent terms, while their size indicates frequency, and the edges depict the connections between terms, reflecting their co-occurrence in academic literature. The clusters, represented by distinct colors, are group terms that frequently appear together, illustrating thematic areas within the research field.

The blue cluster centers on supply chain management and industrial processes, with terms such as *"Industry 4.0", "big data,"* and *"data analytics*" emphasizing the role of technological innovations in optimizing supply chain operations. This cluster highlights the integration of automation and advanced computational techniques to enhance supply chain efficiency and productivity. The presence of terms such as *"optimization"* and *"deep learning"* further underscores the focus on refining processes through data-driven methodologies.

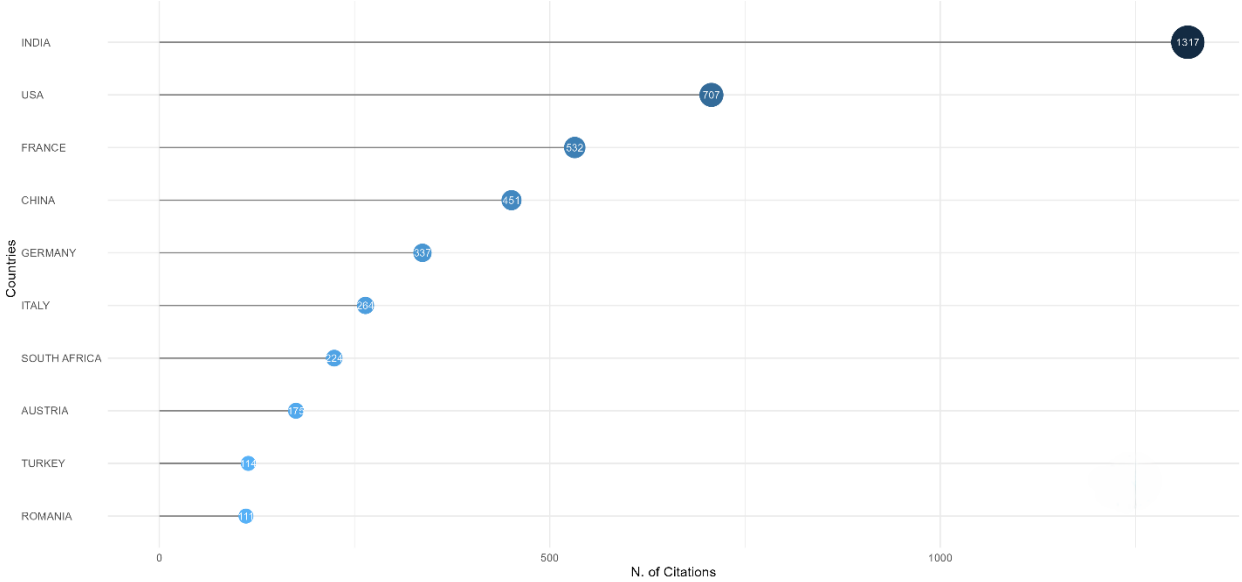
The red cluster focuses on predictive analytics and machine learning, with terms such as *"predictive analytics," "machine learning,"* and *"forecasting"* emphasizing the application of computational tools in logistics decision-making. This cluster also includes terms such as *"decision trees"* and *"logistic regression,"* reflecting specific methodologies for improving operational efficiencies and enhancing predictive capabilities. The connections within this cluster illustrate the increasing reliance on machine learning models to address logistical challenges.

The green cluster highlights decision-making and digital transformation, with terms such as *"decision making," "internet of things,"* and *"artificial intelligence"* reflecting the intersection of advanced technologies and strategic logistics operations. This cluster includes diverse terms such as *"metadata," "blockchain,"* and *"sustainable development,"* pointing to a broader focus on integrating innovative tools to achieve efficiency and sustainability in logistics. The presence of *"industrial revolutions"* and *"Industry 5.0"* signifies the evolving scope of logistics in response to technological advancements.

The purple cluster, while smaller, focuses on logistics industry innovations, including the *"logistics industry," "cost reduction,"* and *"intelligent robots."* This cluster reflects research dedicated to cost-efficiency and automation within logistics operations. The orange cluster emphasizes cyber-physical systems and energy-efficient logistics, with terms such as *"embedded systems," "energy efficiency,"* and *"smart manufacturing,"* demonstrating the application of technologies aimed at sustainability and integration in logistics processes.

Overall, the graph illustrates the thematic diversity within logistics research, reflecting the field's focus on technological integration, predictive analytics, and sustainability. The distinct clusters highlight the interplay between theoretical developments and practical applications across multiple dimensions of logistics (see Figure 5).

Figure 6: Most cited countries



The analysis of the most cited countries highlights the geographical distribution of influential contributions to research on digitalization, big data, and machine learning in logistics. India emerges as the leading country, with a total of 1,317 citations, reflecting its significant impact on advancing data-driven logistics and supply chain management methodologies. This prominence aligns with India's growing technological infrastructure and its expanding role in global research networks. The United States follows with 707 citations, underscoring its longstanding leadership in computational technologies and their practical applications within logistics frameworks.

France and China rank third and fourth, with 532 and 451 citations, respectively, further illustrating the global distribution of scholarly contributions in this field. France's influence likely stems from its strong emphasis on industrial innovation and digital transformation. At the same time, China's contributions align with its focus on leveraging big data and machine learning to address the complexities of large-scale supply chains. These countries demonstrate a shared focus on integrating advanced technologies into logistical operations, though each reflects distinct regional priorities and approaches.

With 337 citations, Germany underscores the importance of industrial and technological expertise in shaping research outputs. Its emphasis on areas such as Industry 4.0 and advanced logistics systems reflects the country's strong industrial base and its automation and data analytics integration. Italy, with 264 citations, and Austria, with 175, continue this trend, contributing through initiatives aimed at digital transformation and optimization of supply chain processes.

Lastly, countries such as South Africa, Turkey, and Romania, while contributing fewer citations, with 224, 114, and 111, highlight the growing influence of emerging markets and smaller research economies in this domain. South Africa's contributions reflect its focus on addressing logistical challenges unique to emerging markets, while Turkey and Romania demonstrate an increasing interest in integrating digital technologies into logistics practices. Collectively, these countries illustrate the global nature of research in logistics, with a diverse array of regional perspectives contributing to the development of technological and theoretical advancements in the field.

4. Conclusion

The bibliometric analysis of scholarly contributions on digitalization, big data, and machine learning in logistics delineates a research trajectory marked by a significant expansion in academic engagement and a discernible shift toward computational methodologies in decision-making processes. The field has expanded considerably, with an annual growth rate of 57%, reflecting its increasing prominence within the broader academic discourse on supply chain management. The steady rise in research output over the past five years corresponds with broader technological advancements, reinforcing the integration of artificial intelligence and predictive analytics into logistics frameworks. The thematic breadth of the literature, as evidenced by the extensive diversity of

indexed keywords and citation interconnectivity, underscores the field's interdisciplinary evolution, drawing insights from operations research, information systems, and computational science.

A discernible reconfiguration of theoretical paradigms is evident in dominant research themes, which emphasize predictive analytics, digital transformation, and algorithmic optimization. The increasing prevalence of terms such as *"artificial intelligence"* and *"predictive analytics"* underscores a paradigmatic transition toward computational decision-making, signaling a departure from traditional logistics models that relied on deterministic assumptions. The co-occurrence network analysis further elucidates this transformation, highlighting distinct thematic clusters centered on supply chain automation, forecasting methodologies, and integrating emerging technologies such as blockchain and cyber-physical systems. These findings illustrate the ongoing theoretical reorientation of logistics necessitated by the growing reliance on data-driven and automated decision-support mechanisms.

Furthermore, the geographical distribution of scholarly impact indicates a substantial global engagement with digital logistics research, albeit with asymmetries in citation influence. India emerges as the most cited country, followed by the United States, France, and China, reflecting distinct national contributions to the field's intellectual development. The extent of international collaboration, comprising 23.48% of publications, further highlights the interconnected nature of logistics research, facilitating cross-border exchange of technological and methodological advancements. However, the disparities in citation impact suggest varying regional priorities and differing degrees of institutional investment in logistics digitalization, warranting further examination of the structural determinants shaping knowledge production in this domain.

Moreover, the analysis underscores the increasing incorporation of big data analytics and machine learning in refining decision-making processes and enhancing supply chain adaptability. The prominence of terms such as *"data analytics,"* *"Industry 4.0,"* and *"Internet of Things"* reflects the field's sustained focus on automation, intelligent optimization, and real-time computational modeling. While these advancements have facilitated greater precision in logistics operations, they also introduce challenges related to data integrity, algorithmic interpretability, and the governance of automated decision-making. Addressing these complexities is critical for ensuring the reliability and applicability of data-driven logistics frameworks.

Future research should advance theoretical refinement by deepening the methodological rigor of predictive models, fostering interdisciplinary linkages, and critically examining the socio-economic implications of logistics digitalization. Although substantial progress has been made in integrating machine learning and big data analytics into logistics decision-making, further investigation is required to assess their long-term impact on supply chain resilience, particularly in emerging markets. Moreover, as logistics research continues to evolve, the intersection of artificial intelligence, sustainability, and industrial innovation will likely define the next phase of theoretical and applied inquiry. A sustained analytical focus on these interdependencies will be essential for developing a more adaptive, computationally sophisticated, and strategically robust logistics paradigm.

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Improving the quality of kitchen service in school canteens

Attila Korenika **Nikolett Faragó**

Affiliation, korenika1@gmail.com, ORCID: 0009-0001-2665-0197

[2] Affiliation, farrago.nikolett.66@gmail.com, ORCID: 0009-0007-4696-1316

Abstract: High school students form a group at risk for obesity at a young age, since more than 20% of them are overweight or obese. An important role is played by the knowledge of foods learned at home and in elementary school and the knowledge of dishes made from different foods. Within the framework of public education, the nutrition of students plays a key role in terms of their health status and academic performance. The quality of kitchen services has a direct impact on students' quality of life, so their continuous development is essential.

1. Introduction

The prevalence of overweight and obesity is constantly increasing worldwide, estimated by the World Health Organization (WHO) in 2020 at 30% of the world's population. This is a surprisingly high figure. The WHO also examined that obesity affects not only the adult population, but also preschool and school-age children, among whom the development of overweight is a global public health problem. Due to the problem of overweight and obesity in children and students, as well as the increase in the incidence of associated diseases, there is a great emphasis on positive interventions in the health behavior of adolescents. Overweight and obesity are serious public health problems that are associated with numerous health risks and have taken on global proportions in recent decades. Overweight and obesity are complex problems that require a holistic approach to their treatment. During prevention and treatment, it is important to take into account individual differences and environmental factors. Promoting a healthy lifestyle, raising awareness, and community support are key to addressing the problem.

School and student meals are considered a globally important issue, which is also accompanied by a high level of policy support. Storckdieck's staff examined the member states of the European Union and found that all member states have a school meal program of adequate quality. In Hungary, children first encounter public meals in nurseries, but at the latest in kindergartens.

The following reasons were raised by Hungarian food managers as factors hindering the acceptance/implementation of school meals. Children do not know enough about food, nor do they know the food ingredients they consume. All of these factors reduce the social acceptance of public meals. Another problem that can be classified here is the negative trend that has developed around public meals, such as the time and conditions for eating.1] [10]

1. illustration. Attitudes and values identified in the roundtable discussion about the canteen

attitude value belief	attitude value belief	attitude value belief
- supporting role of the authority - good quality of public catering - fear of lack of money - rigid regulation - fear of a shortage of professionals	- rules supporting public catering - the exemplary role of teachers - maintaining health - development opportunity and responsibility	- Children are key players in public catering - catering as a learning room for food - children don't know about food - regulation as a future option

Source https://real.mtak.hu/184319/1/kiss_pfeiffer_dominek-hajdu_soos_tompa.pdf

2. Knowledge of food and meals and their consumption habits

Based on some research, it is well known that meals are very rarely consumed in canteens and student cafeterias, which generates a significant amount of food waste. Due to the following phenomenon, we cannot consider the effectiveness of this type of catering to be adequate. Students spend a significant amount of time in their educational institutions during their daily lives, so it would be extremely important for them to have access to quality food materials, which is also regulated by a 2004 EMMI decree, by ensuring at least one meal per day.

Knowledge of foods and dishes is essential for healthy nutrition and lifestyle decisions.

It is also important to highlight that unfortunately not all students can afford to use the once-a-day hot meal. Unfortunately, it also happens in several cases that the food paid for is not consumed, the service is not used and therefore the food is not served, thus a significant amount of food waste is generated.

Knowledge of food and dishes, as well as consumption habits, are closely related to cultures, traditions and health awareness. Below I will mention some important aspects in this regard.

1. Ingredients: Food is made from different types of ingredients, such as vegetables, fruits, meats, dairy products, and grains. Knowing about ingredients helps you understand nutrients and a healthy balance of meals.

2. Nutrients: Understanding macro- and micronutrients (proteins, fats, carbohydrates, vitamins, minerals) is essential for a healthy diet.

3. Preparation methods: Food can be prepared in different ways (baking, boiling, steaming, grilling), which affects the flavors and the preservation of nutrients.

4. Food safety: It is important to know about safe food storage and processing, such as HACCP principles.

For the innovative development of school catering, it would be necessary to offer much more appealing and popular dishes for students in the menu combinations. It is also very important to mention the fact that the problem arises in consumption habits that students do not have the opportunity to choose from the menu, since in many cases only one type of menu is prepared on a given day.

This supports the fact that for this reason many do not choose the school meal option that day, and for this reason they either eat somewhere else or do not eat hot food at noon at all, which affects their health, since they do not eat hot food, only some cold food, or unhealthy foods and snacks that contribute to overweight.

During my research, I would also like to examine the amount of food waste generated during daily operations in various secondary schools where they have a cooking kitchen or a serving kitchen. In order to reduce food waste, it is worth conducting regular audits to get a more accurate picture of the school's own situation and the necessary measures. [2]

Knowledge of foods and dishes helps in conscious nutrition, contributes to a healthy lifestyle and well-being. Developing proper eating habits, consuming a variety of foods and considering nutrients is essential for maintaining long-term health.

1.1. A HACCP rendszer működtetése, az élelmiszerbiztonsági ismeretek értékelése az iskolai étkeztetésben

HACCP is an English mosaic word: Hazard Analysis Critical Control Point, translated into Hungarian means: Hazard Analysis at Critical Control Points. Every member of the food chain must build, implement and operate the HACCP system, such as for food retailers, catering units and food industry units. The development of the system is considered a professional activity, so its preparation can only be carried out by a specialist. The system must be completely tailored to the individual and unit, which must also include the name of the system creator and the serial number of the certificate proving qualification. The system must be reviewed annually, which is usually carried out by an external specialist. A review must also be carried out if our system is too old or outdated, or if an authority has obliged the operator to review it during an official inspection.

The basic principles of HACCP are

1. Hazard Analysis: Identify potential biological, chemical and physical hazards that may occur during food production.

2. Identify Critical Control Points (CCPs): Determine where hazards can best be controlled, such as during heat treatment, storage or processing.

3. Establish Critical Limits: For each CCP, critical limits should be set to determine whether the process is safe. For example, a specific temperature or time.

4. Monitoring procedures: CCPs should be monitored regularly to ensure that critical limits are being met.

5. Corrective actions: If a CCP exceeds critical limits, pre-defined actions should be taken to correct the problem.

6. Verification procedures: The effectiveness of the HACCP system and compliance with food safety measures should be verified regularly.

7. Documentation and records: All procedures, observations and controls must be documented to track processes and ensure appropriate quality.

During the review, the original manual and the daily documentation must be reviewed. This documentation can now be supported by computer software if the company is ready to invest in and operate the system. An example is the Smart HACCP system, which can significantly reduce the time spent on daily administration and allow us to focus on daily operations.

The HACCP system and its operation are prescribed by law. The EC Regulation 852/2004 and the Act XLVI of 2008 on the Food Chain and its Official Supervision, currently in force in the European Union, contain the provisions relating to HACCP. The Hungarian Food Code provides guidance on the structure of the HACCP system.

HACCP is not only a system or a manual, but also a Food Safety System based on food safety and food hygiene. Therefore, we must operate a comprehensive system that fits in with the provisions of the law in several points. In addition to the mandatory application of the system, secondary school canteens must also ensure its continuous operation. Their obligation does not end with having a HACCP manual, as the system must be operated and supervised, and the related documentation must be kept up to date.

Every cooking kitchen and serving kitchen has its own system, which must also fit the technology and design of the given unit. If the manual states that it is a meat preparation, but in reality it does not have a meat preparation facility and therefore uses prepared kitchen-ready meat, then the HACCP is not tailored to the given technology and the given unit. In this case, there is a significant chance that the HACCP system will be subject to objections during an official inspection and the operator will be required to make changes or improvements. This must be done by a deadline in all cases.

When editing the parts of the HACCP manual, the following mandatory elements must be taken into account and recorded: the definition of the activity and responsibilities, a brief legal and structural description, and the kitchen technology descriptions of the given unit. In all cases, the raw materials used, the description of the prepared food and drinks, the definition of the processes and the definition of the associated food safety and food hygiene regulations must also be included..[3] [4]

2.1. Demand and Supply in Public Catering and Its Determinants

The demand and supply of catering depends on a number of factors, including demographics, lifestyle, health awareness, economic conditions, and regulations. I will detail these factors below:

Demand factors

1. Demographic changes: The age composition of the population, the number of families, and the proportion of children affect the demand for catering services. For example, if more families with children live in a given area, the demand for children's catering may increase there.

2. Health awareness: People are increasingly paying attention to healthy eating, which can change the demand for catering. An increase in demand for healthy foods and diet options is a common phenomenon.

3. Economic situation: Income level and economic situation affect how much consumers are willing to spend on food. For example, during economic crises, the demand for catering services may decrease.

4. Regulations: State and local regulations, such as mandatory menu posting and regulations regarding healthy eating, also affect demand.

5. Lifestyle and working conditions: People's lifestyles, such as eating habits at work, also affect demand. Those who work long hours are likely to use public catering more often.

Supply factors

1. Number of providers: The increase or decrease in the number of catering providers has a direct impact on supply. Increased competition can improve the quality of services and reduce prices.

2. Quality and variety: The quality of the supply, the menu selection and the different dietary options (e.g. vegetarian, vegan, gluten-free) are also important for demand.

3. Sources of supply: The availability of suppliers and ingredients determines the quality and price of the supply. Involving local producers can increase the demand for fresh ingredients.

4. Technological developments: New technologies, such as digital ordering systems, make it easier to use catering services, which can increase the efficiency of the supply.

5. Sustainability: Environmentally conscious approaches, such as the use of organic and local products, are becoming increasingly important in catering and influence the composition of the supply.

The need or the size of the demand for child meals can be determined or influenced by several factors. First of all, the demographic situation, i.e. the size of the school-age population, its age distribution, the service fee, the availability and price of other alternative options, and the income situation of the parents. [9]

Public catering is a multi-actor process, based on which the consumer will be the one who will use the various services and the institution will be the one who will provide them. The third actor will be the catering plant where the meals are actually prepared. The catering model (Fig. 2) clearly illustrates and presents how the system process works and what external and internal factors determine it. The input side contains the subjective and objective needs and demands of consumers on the demand side, as well as the ingredients and raw materials that can be used and are available for preparing the meals. As a result of the service, it includes the output consumer satisfaction and the quality of the food. These together determine the quality and efficiency of the work of food plants and kitchens.. [8]

2. Comparison of the quality of cooking and serving kitchens in Hungary

Currently, there are nearly 3,600 cooking kitchens and 6,600 serving kitchens in public catering in Hungary, which provide food for an average of 2.5 million people daily. Nearly 50 percent of this serves children's meals, which also includes those who use high school meals. During my research, I will examine the technical condition and conditions of school kitchens, where one of the main questions is whether the food safety level is determined most by environmental and technological conditions or by the correct practices of food handling workers. This is also related to the research question of how consciously kitchen workers handle food. I will set up my hypotheses based on these research requests.

The quality of cooking and serving kitchens in Hungary depends on many factors, including location, financial resources, professional experience and local food traditions. Below I will mention some aspects for comparison

2.Illustration. Quality of cooking and serving kitchens



Source own editing

Overall, the quality of cooking and serving kitchens in Hungary ranges across a wide spectrum, and the different locations and types all contribute to the gastronomic culture.

I will conduct my survey in cooking kitchens and serving kitchens operating in Budapest. Most of them are state and church/foundation-run schools. I will also examine those business entities that have a larger paci segment. I plan to conduct a questionnaire survey to determine the food safety level of the school kitchens belonging to the research program. I would categorize the issues that determine food safety into seven main groups: examination of physical facilities and environment, the expertise of the kitchen staff, the availability of tools and equipment in the kitchens, the methods of receiving goods and storage conditions of the given plant, the forms of serving the prepared meals, the existence of quality assurance and finally the condition of the given canteen and school cafeteria.

This will require a personal visit to the given factory kitchen, where I can conduct the sampling. During my research, I also anticipate that not only are the serving kitchens different from the cooking kitchens, but each kitchen is different from each other, as no two kitchens are the same in size or range. This also points to the thesis that each kitchen wants to represent the best possible quality, thus the primary goal of each kitchen is to reduce food safety risks, thereby protecting the health of consumers to the maximum. [5] [9]

Improving the quality of school catering kitchen services is crucial for healthy eating and children's well-being. Here are some suggestions that can help improve the quality of kitchen services:

1. Quality of ingredients

• Local and fresh ingredients: Fresh vegetables, fruits and other foods purchased from local producers improve the taste and nutritional value of the food.

• Organic products: Using ingredients from organic farming can reduce the amount of chemicals and additives.

2. Nutrients and menu planning

• Nutrient considerations: When compiling menus, it is necessary to take into account the nutritional needs of children according to their age group, such as the appropriate protein, vitamin and mineral content.

• Diversified menus: Offering a variety of foods can reduce boredom and help children develop healthy eating habits.

Food preparation and serving techniques

Modern preparation methods: Healthy cooking methods (e.g., steaming, grilling) can help preserve the nutrients in foods.

• Aesthetic presentation: Presenting food in an attractive way can encourage children to eat healthy foods.

4. Taking into account consumer needs

Dietary needs: It is important to consider different eating habits and diets (e.g. vegetarian, allergies) to ensure that all children receive appropriate nutrition.

• Student feedback: The dining experience can be improved by considering children’s opinions and preferences.

5. Staff training

Professional development: Regular training and further education of kitchen staff can contribute to improving the quality of service.

• Healthy nutrition education: Staff should be informed about healthy eating habits so that they can also support children.

6. Hygiene and safety regulations

• Regulated hygiene: Regular inspections of kitchens and dining areas and compliance with hygiene regulations are essential for food safety.

• Application of HACCP system: Application of food safety systems can help to minimize risks.

7. Continuous monitoring and evaluation

• Quality control system: Regular internal audits and evaluations can help to identify and improve potential problems.

• Parent and teacher feedback: The opinions of parents and teachers are an important source of information for improving the quality of kitchen services.

CONCLUSION

In order to improve and help students' eating habits, it is essential to improve the quality of kitchen services in school catering. During my research, I will conduct a survey on the volume and quality of the food selection available in the kitchens, as the offer of fresh and varied food is important, which must be adapted to the tastes and nutritional needs of students. It is also important to examine the suppliers providing the ingredients, to what extent they use local and seasonal ingredients in the procurement process, with which they can help promote and maintain healthy nutrition. It is also necessary to examine which food preparation processes from the catering industry technologies are used by the given kitchen. To what extent are healthy technological operations used, such as steaming and stewing.

In connection with the operation of the kitchens, compliance with hygiene standards must also be taken into account, to what extent the strict regulations are observed in practice, with which they can ensure the safe consumption of food. When examining the range offered, it is also necessary to assess what the consumer group has in terms of demand, and here the opinion of the students must be examined.

In addition, the need for healthy nutrition must be supported and promoted in schools, which must be ensured through various programs, lectures and workshops.The quality of kitchen services in public education is crucial for the health and well-being of students. By exploiting development opportunities, not only can the quality of life of students improve, but we can also promote healthier eating habits in future generations. Schools should make this a priority, as the healthy and conscious adults of tomorrow are the students of today.

In public education, the quality of kitchen services is indeed crucial, as it has a direct impact on the health, well-being and academic performance of students. Below are some important aspects that support this importance.

Public catering in Hungary is undergoing continuous development, but faces several challenges. Providing quality food, sustainability and promoting healthy eating among students are key to future success. Raising education and awareness, as well as providing adequate funding and resources are essential for the development of public catering services.

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Online Alışverişte Teslimat ile İlgili Yaşanan Sorunlar: Suçlu Taraf Kim?

Aylin BAŞKAYA[1] **Prof. Dr. Fatih KOÇ[2]**

[1] Kocaeli Üniversitesi, Sosyal Bilimler Enstitüsü, Üretim Yönetimi ve Pazarlama Yüksek Lisans Öğrencisi, aylin.baskaya@kocaeli.edu.tr

[2] Kocaeli Üniversitesi, İşletme Fakültesi, İşletme Bölümü, Üretim Yönetimi ve Pazarlama Anabilim Dalı, fatih.koc@kocaeli.edu.tr

Özet: Online alışverişlerde en sık karşılaşılan sorunlardan biri, müşterilerin satın aldığı ürünün belirtilen sürede teslim edilmemesidir. Bu durum, müşteri memnuniyetsizliğine yol açarak markaya duyulan güvenin sarsılmasına ve sadakat seviyesinin düşmesi gibi sorunlara neden olmaktadır. Özellikle e-ticaretin yaygınlaşmasıyla birlikte teslimat süreçlerinde yaşanan aksaklıklar, tüketicilerin alışveriş deneyimini doğrudan etkileyen önemli bir faktör haline gelmiştir. Bu çalışmanın temel amacı, online alışverişlerde yaşanan teslimat sorunlarında müşterilerin algısına göre sorumlu tarafın kim olduğunu belirlemektir. Çalışma kapsamında müşterilerin bu tür gecikmelere yönelik bakış açıları incelenmiştir. Araştırmada online anket yöntemi kullanılarak müşterilerin görüşleri toplanmış ve 224 kişiden veri elde edilmiştir. Veriler SPSS 25.0 programı ile analiz edilmiştir. Sonuçlar, sorumluluğun çoğunlukla kargo firması ve alışveriş sitesine ait olduğunu ortaya koymaktadır. Çözüm konusunda ise, sorumluluğunun genellikle alışveriş sitesine ve kargo firmasına ait olduğu değerlendirilmiştir.

Anahtar Kelimeler: Online Alışveriş, Hizmet Hatası, Teslimat

Abstract: One of the most common issues encountered in online shopping is the failure to deliver the purchased product within the specified time frame. This situation leads to customer dissatisfaction, causing a decline in trust towards the brand and resulting in reduced loyalty levels. With the proliferation of e-commerce, disruptions in delivery processes have become a critical factor that directly impacts consumers' shopping experiences. The primary objective of this study is to determine, from the perspective of customers, who is perceived to be responsible for delivery delays in online shopping. The study examines customers' perspectives on such delays. Data were collected from 224 respondents through an online survey method, and the data were analyzed using SPSS 25.0 software. The results indicate that the responsibility mostly lies with the courier company and the shopping site. In terms of solutions, it has been assessed that the responsibility is generally attributed to the shopping site and the courier company.

Keywords: Online Shopping, Service Failure, Delivery

1. GİRİŞ

Teknolojinin gelişmesi ve internet kullanımının hızla yaygınlaşması, dünya genelinde pek çok sektörde önemli değişikliklere yol açmıştır. Bu değişikliklerin en belirgin yaşandığı alanlardan biri de perakendecilik sektörü olmuştur. Teknolojinin gelişmesi ve dijitalleşmenin etkisiyle birlikte perakendecilik sektörü online ortamlara taşınmıştır (Shankar vd., 2021). Online alışveriş tüketicilere daha geniş ürün yelpazesi, fiyat karşılaştırma imkanı, zaman tasarrufu ve kolay alışveriş seçenekleri sunarak büyük bir büyüme kaydetmiştir (Gupta vd., 2023). Özellikle mobil cihazların yaygınlaşması ve internet erişiminin artması, tüketicilerin alışveriş alışkanlıklarını köklü bir şekilde değiştirmiştir.

Ancak, online alışverişin sunduğu avantajlara rağmen, beraberinde getirdiği bazı önemli sorunlar da bulunmaktadır (Ünver ve Alkan, 2022). Bu sorunların başında, ürün teslimatında yaşanan aksaklıklar gelmektedir. Teslimat süreçlerinde meydana gelen gecikmeler, yanlış adres teslimatları, hasarlı ürünler ve kaybolan paketler gibi problemler, tüketici memnuniyetsizliğini artırmakta ve online alışveriş deneyimini olumsuz yönde etkilemektedir (Gupta, 2019). Özellikle teslimatın belirtilen sürede gerçekleşmemesi, tüketicilerin markaya olan güvenini sarsmakta ve sadakat seviyelerini düşürmektedir.

Bu çalışmanın temel amacı, tüketicilerin online alışverişte teslimat süreçlerinde yaşanan sorunların sorumlusunu hangi taraf olarak gördüğünü belirlemektir. Buna ek olarak, sorunun çözümünde ilk olarak sorumluluğun kimde olduğunu belirlemek de bu çalışmanın bir diğer amacıdır. Bu amaçlara ulaşmak için, ürüne verilen önem derecesine göre (düşük, orta ve yüksek) sorumluluklar karşılaştırılıp incelenmiştir.

2. LİTERATÜR TARAMASI

2.1. ONLİNE ALIŞVERİŞ

İnternetin hayatımızın her alanına hızla entegre olması, bireylerin alışveriş alışkanlıklarını köklü bir şekilde değiştirmiştir. Günümüzde ürün ve hizmetler yalnızca fiziksel mağazalardan değil, çevrim içi platformlardan da satın alınabilmektedir. Dijitalleşme ile birlikte tüketiciler, alışverişlerini zaman ve mekân bağımsız bir şekilde gerçekleştirme imkânına kavuşmuştur. Bu durum, online alışveriş kavramının yaygınlaşmasına ve geleneksel alışveriş yöntemlerinin hızla dönüşüm geçirmesine neden olmuştur. Artan internet kullanımı, akıllı cihazların yaygınlaşması ve bireylerin günlük yaşamlarında yoğun tempoya sahip olması, online alışverişin sunduğu konfor ve kolaylığa yönelmelerine zemin hazırlamaktadır (Armağan ve Temel, 2018).

Online alışveriş, tüketicilere geniş bir ürün yelpazesi sunarak alternatifleri kolayca karşılaştırmalarına, fiyat analizleri yapmalarına ve istedikleri bilgilere anında ulaşmalarına olanak tanımaktadır. Bunun yanı sıra, evden ya da mobil cihazlar aracılığıyla istenilen her an alışveriş yapabilme imkânı, tüketicilere büyük bir zaman tasarrufu sağlamaktadır. (Özgüven, 2011).

2.2. ONLİNE ALIŞVERİŞTE YAŞANAN HİZMET HATALARI

Kusursuz hizmet sunmak, tüm hizmet pazarlamacıları tarafından istenen bir amaç olmakla birlikte, hizmetlerin kendine özgü özellikleri gereği ve hizmet üretim ve tüketiminde insan unsurunun önemli bir yer tutması nedeniyle hizmet sektöründe problemlerin ortaya çıkması kaçınılmazdır (Villi ve Koç, 2020). Hoffman ve Bateson (2007) hizmet hatasını, gerçekleşen hizmet performansının müşterilerin beklentilerinin altında kalması olarak tanımlamışlardır (Kambur, 2018). Hizmet hataları, tüketim sürecinde tüketicilerin memnuniyetsizlik hissetmesine neden olmaktadır (Li, Li ve Peng, 2011).

Hizmet hatalarının ortaya çıkmasına neden olan birçok faktör vardır. Bunlar, tüketiciye uygun olmayan hizmetler, nedensizce hizmetin yavaş sunumu, tüketicilerin özel ihtiyaçlarına yönelik çalışanların cevaplarının yetersiz kalması, istemsiz ve istekli olarak yapılan çalışanların olumsuz eylemleri vb. şeklinde sıralanabilir (Koç, Şahin ve Özbek, 2015). Online alışverişin mesafeli satış özelliği nedeniyle, bu alanda birçok hizmet hatası ortaya çıkmaktadır.

2.3. ONLİNE ALIŞVERİŞTE TESLİMAT İLE İLGİLİ YAŞANAN SORUNLAR

Teslimat sorunları, online alışverişin en sık karşılaşılan problemlerindendir. Ürünlerin geç teslim edilmesi ya da yanlış adreslere gitmesi tüketiciler açısından büyük bir memnuniyetsizlik yaratmaktadır. Bu sorunun önlenmesi için, işletmelerin lojistik şirketleriyle entegrasyonunu güçlendirmesi gerekmektedir (Kipman, 2013).

E-ticaretin hızla büyümesi, kargo sektöründe de ciddi bir operasyonel yoğunluk yaratmıştır. Özellikle indirim günlerinde ve pandemi sürecinde artan talep, lojistik firmalarının iş yükünü büyük ölçüde artırmış, ancak bu talebe karşılık verecek altyapı ve insan kaynağı yetersiz kalmıştır. Sonuç olarak, teslimat gecikmeleri, eksik ya da hasarlı ürün teslimatları gibi sorunlar yaşanmış ve tüketici memnuniyetsizliği artmıştır. Artan yoğunluk nedeniyle bazı kargo firmaları, e-ticaret şirketlerine kota sınırlaması getirerek belirli bir adedin üzerinde sevkiyat yapmamıştır. Bu durum, online satış firmalarının hızlı teslimat hizmeti sunmasını zorlaştırarak müşteri kayıplarına ve memnuniyetsizliklere neden olmuştur. Kargo hizmetlerindeki yetersizlikler, e-ticaret firmalarını alternatif çözümler aramaya yöneltmiştir. Bu doğrultuda, bazı büyük firmalar kendi lojistik ağlarını oluşturarak teslimat süreçlerini daha etkin yönetmeye başlamıştır. Hepsiburada (Hepsijet) ve Trendyol (Trendyol Express) gibi markalar, müşteri beklentilerini karşılamak adına kendi kargo sistemlerini devreye sokarak teslimat hızını artırmayı hedeflemiştir (Kaya, 2021).

ABD'de yapılan bir araştırmaya göre, online alışveriş yapan tüketicilerin büyük bir kısmı, siparişlerinin zamanında teslim edilmesi halinde aynı satıcıdan tekrar alışveriş yapmayı tercih ettiklerini belirtmiştir. Ayrıca, zamanında ve güvenilir teslimatın, tüketicilerin sonraki alışverişlerinde daha fazla harcama yapmalarına da katkı sağladığı görülmüştür. Bu bulgular, lojistik süreçlerin müşteri sadakati üzerindeki önemli rolünü ortaya koymaktadır (Anbar, 2001).

3. ARAŞTIRMA AMACI VE YÖNTEMİ

Günümüzde online alışveriş, tüketicilere büyük kolaylıklar sunmasına rağmen süreç içerisinde çeşitli sorunlarla karşılaşılabilmektedir. Bu sorunlar arasında, ürün teslimatında meydana gelen gecikmeler, hasarlı veya eksik ürün gönderimleri, yanlış ürün teslimatı ve kargo firmalarıyla yaşanan iletişim problemleri yer almakta ve bunlar müşteri memnuniyetini olumsuz etkilemektedir. Tüketicilerin karşılaştıkları bu sorunlar karşısında kargo firmalarını, alışveriş platformlarını ya da satıcıları sorumlu görüp görmedikleri önemli bir araştırma konusu haline gelmiştir.

Bu araştırmanın temel amacı, online alışveriş sürecinde tüketicilerin karşılaştıkları teslimat sorunlarını, bu sorunlara yönelik tutumlarını ve sorumlu gördükleri tarafları detaylı bir şekilde incelemektir. Çalışmada, tüketicilerin yaşadığı teslimat problemlerinde en çok hangi tarafı hatalı buldukları ele alınmıştır.

Araştırmanın gerçekleştirilmesi için nicel yöntemlerden biri olan anket yöntemi kullanılmıştır. Veri toplama süreci, çevrimiçi anket formu aracılığıyla gerçekleştirilmiş ve geniş bir katılımcı kitlesine ulaşılması amaçlanmıştır. Araştırma, kolayda örnekleme yöntemi kullanılarak yürütülmüş ve toplamda 224 kişiye ulaşılmıştır. Farklı yaş, cinsiyet ve meslek gruplarından bireyler araştırmaya katılım sağlamış olup, böylece genel tüketici eğilimlerinin belirlenmesi hedeflenmiştir. Ayrıca, katılımcılara online alışveriş sıklıkları gibi sorular yöneltilerek alışveriş alışkanlıkları analiz edilmiştir. Katılımcılardan, yaşadıkları sorunlarla ilgili olarak en çok kimi sorumlu tuttuklarını belirlemek için kargo firmaları, alışveriş siteleri ve satıcılar şeklinde seçenekler sunulmuştur.

Araştırma kapsamında, online alışverişte teslimat sorunlarını anlatan üç farklı senaryo geliştirilmiştir. Ayrıca her senaryo kadın ve erkek tüketicileri kapsayacak şekilde ayrı olarak hazırlanmıştır. Senaryolarda, tüketicinin yaşadığı sorunun boyutunu farklılaştırmak adına düşük, orta ve yüksek öneme sahip ürün (fiyat ve aciliyeti kapsamında) şeklinde bir sınıflandırma kullanılmıştır. Senaryolar aşağıda verişmiştir.

Tablo 1: Senaryolar

Düşük	Orta	Yüksek
Tüketici Ahmet Bey, uzun zamandır bilgisayarının Mouse'unu değiştirmek istiyordu. Aslında şu anda kullandığı mouse'da işini oldukça iyi görüyor ve herhangi bir sorun yaşamıyordu. Ancak, internette bazı alışveriş sitelerinde gördüğü bir markaya ait olan Mouse daha çok hoşuna gidiyordu. Türkiye'nin önde gelen alışveriş sitelerinden biri olan xyz.com (Yanlış anlamaya sebep olmamak için alışveriş sitesi adı belirtilmemiştir.) sitesinde istediği mouse'u bulan Ahmet Bey, 24 Ekim Perşembe günü siparişini vermiştir. Siparişi verirken ürünün 26 Ekim Cumartesi günü teslim edileceğini görmüş ve ürünün kısa zaman içinde elinde olacağını düşünmüştür. Ahmet Bey siparişi verdikten sonra, 25 Ekim tarihinde ürünün teslimat için hangi aşamada olduğunu kontrol etmiştir. 25 Ekim günü ürünün kendi bulunduğu yerdeki kargo firmasının şubesine geldiğini görmüştür ve normal teslimat süresi içinde ürünün teslim edileceğini düşünmüştür. 26 Ekim günü tekrar siparişi kontrol	Tüketici Ahmet Bey, özel bir mühendislik firmasında çalışmaktadır. Hazırladığı bir raporu sunmak için 2 günü vardır. Firmanın yetkilileri bu tip raporları hem çıktı olarak hem de dijital ortamda istemektedir. Ahmet bey, çıktı almak ve raporu dosyalamak için bir yazıcıya ihtiyaç duymaktadır. Kendisine uygun olan ve daha sonra kişisel kullanımı için gerekli olan bir yazıcı araştırmaya başlamıştır. Birçok alışveriş sitesini gezen fiyat ve teslimat süresi gibi konuları inceleyen Ahmet Bey, birçok sitede aradığı ürünü bulduğu halde (fiyat uygun olduğu halde) teslimat sürelerinin uzunluğu nedeniyle bu sitelerden sipariş vermemiştir. Türkiye'nin önde gelen alışveriş sitelerinden biri olan xyz.com (Yanlış anlamaya sebep olmamak için alışveriş sitesi adı belirtilmemiştir.) sitesinde ürünün 2 gün içerisinde teslim edileceği açıklaması nedeniyle Ahmet bey (diğer sitelere göre fiyat biraz daha yüksek olsa da) ürünü 3500 TL'ye sipariş etmiştir. Ürünü 24 Ekim Perşembe günü	Tüketici Ahmet Bey, özel bir mühendislik firmasında çalışmaktadır. Ahmet Bey üzerinde çalıştığı projede bazı özel yazılımları kullanmak için "Apple MacBook Pro 14" bilgisayarına ihtiyaç duymaktadır. Bu yüzden, acil olarak Apple MacBook Pro 14 satın almaya karar verir. Ahmet Bey'in projesinin teslimine yalnızca beş günü kalmıştır, bu nedenle ürünü en hızlı şekilde eline ulaştırabilecek bir satıcı arayışına girer. Farklı alışveriş sitelerinde fiyat ve teslimat sürelerini karşılaştıran Ahmet Bey, daha uygun fiyatlı seçenekler bulmasına rağmen teslimat sürelerinin uzun olması nedeniyle bu sitelerden sipariş vermez. Türkiye'nin önde gelen alışveriş sitelerinden biri olan xyz.com (Yanlış anlamaya sebep olmamak için alışveriş sitesi adı belirtilmemiştir.) ürünün 2 gün içinde teslim edileceği garantisinde bulunduğunu görür. Diğer sitelere göre daha yüksek bir fiyatı olan bu ürünü 190.000,00 TL ödeyerek sipariş etmeye karar verir. Ürünün en geç 2 gün içinde elinde olacağını

ettiğinde ürünün yine şubede olduğunu görmüştür. Teslimat günü olan 26 Ekim tarihinde Ahmet beyin sipariş ettiği ürün teslim edilmemiştir. 28 Ekim saat 16:30'da kargo firmasının çalışanı Ahmet Bey'in siparişini evine teslim etmiştir.	sipariş eden Ahmet bey, 25 Ekim tarihinde ürünün teslimat için hangi aşamada olduğunu kontrol etmiştir. 25 Ekim günü ürünün kendi bulunduğu yerdeki kargo firmasının şubesine geldiğini görmüştür ve normal teslimat süresi içinde ürünün teslim edileceğini düşünmüştür. 26 Ekim günü tekrar siparişi kontrol ettiğinde ürünün yine şubede olduğunu görmüştür. 26 Ekim günü sonunda Ahmet beyin sipariş ettiği ürün teslim edilmemiştir. Ortaya çıkan bu durum sonucunda, Ahmet bey raporu yetiştirmek adına sipariş ettiği ürün belirtilen sürede gelmediği için, ekstra ücret vererek çıktılarını dışarıda yaptırmak zorunda kalmıştır. 28 Ekim saat 16:30'da kargo firmasının çalışanı Ahmet Bey'in siparişini evine teslim etmiştir.	düşünerek projeyi buna göre planlar. Ahmet Bey, ürünü 24 Ekim Perşembe günü sipariş eder. Ertesi gün sipariş durumunu kontrol ettiğinde, ürünün kargo firmasına teslim edildiğini ve kendi şehrindeki kargo şubesine ulaştığını görür. 26 Ekim Cumartesi günü geldiğinde ise hâlâ bir hareket olmadığını fark eder. Kargo hâlâ şubededir ve teslimata çıkmamıştır. Saat ilerledikçe ürünü zamanında teslim alamayacağını anlar. Sonraki günlerde tekrar kontrol ettiğinde ürünün teslimatı için hiçbir işlem yapılmadığını görür. Bu durum, Ahmet Bey'i zor bir duruma sokar. Projede ilerleyebilmesi için gerekli yazılımlar hâlâ ulaşmadığı için başka bir çözüm arayışına girer. Sonunda, geçici olarak başka bir bilgisayar kiralamak zorunda kalır, ancak bu da ona ek bir maliyet getirir ve planlarını aksatır. 30 Ekim saat 16:30'da kargo firmasının çalışanı Ahmet Bey'in siparişini evine teslim etmiştir.

Tablo 2: Katılımcı Sayıları

Ürünlerin önem düzeyi		**N**
Ürün Değeri	**Düşük**	64
	Orta	78
	Yüksek	82

Araştırmada ayrıca ürünün fiyatı ve algılanan değeri arttıkça, tüketicilerin teslimat sürecine yönelik hassasiyetinin nasıl değiştiği de analiz edilmiştir. Örneğin, yüksek fiyatlı ürünlerde yaşanan gecikmelerin müşteri memnuniyetine etkisi, düşük fiyatlı ürünlerle kıyaslanarak incelenmiştir. Katılımcılar, en sık hangi kargo firmalarıyla problem yaşadıklarını belirtmişlerdir.

Son olarak, SPSS 25.0 yazılımı kullanılarak, elde edilen veriler betimsel istatistikler, frekans analizleri ve çapraz tablolar yardımıyla değerlendirilmiştir.

4. ARAŞTIRMANIN BULGULARI

4.1. Katılımcıların Demografik Özellikleri

Tablo 3 : Araştırmaya Katılanların Demografik Özellikleri

Demografik Özellikler		f	%
Cinsiyet	Erkek	87	38,8

	Kadın	137	61,2
Yaş Aralığı	18-25	45	20,1
	26-34	61	27,2
	35-44	69	30,8
	45 ve üstü	49	21,9
Eğitim Durumu	İlköğretim	1	0,4
	Lisans	119	53,1
	Lisansüstü	78	34,8
	Ortaöğretim (Lise)	26	11,6

Araştırmaya katılanların %61,2'si kadın, %38,8'i erkektir, bu da kadın katılımının daha yoğun olduğunu gösterir. Yaş dağılımında en büyük grubu %30,8 ile 35-44 yaş arası oluştururken, %27,2'si 26-34, %21,9'u 45 yaş ve üzeri, %20,1'i ise 18-25 arasındadır. Eğitim durumuna göre katılımcıların %53,1'i lisans, %34,8'i lisansüstü eğitim almış olup, %11'i daha düşük seviyelerdedir. Bu veriler, araştırmanın büyük ölçüde yüksek öğrenim görmüş, 35-44 yaş arası ve kadın katılımcılardan oluştuğunu göstermektedir.

4.2. Online alışverişe yönelik genel değerlendirme

Tablo 4 : Online Alışveriş ile İlgili Bilgiler

Online Alışveriş ile İlgili Bilgiler		f	%
Online Alışveriş Yapma Sıklığı	Ara sıra (Ayda birkaç kez)	133	59,4
	Çok sık (Haftada bir veya daha fazla)	52	23,2
	Nadiren (Yılda birkaç kez)	39	17,4
Online Alışverişlerinde teslimat ile ilgili sorun yaşandı mı?	Evet	136	60,7
	Hayır	88	39,3
Teslimat sürecinde bir sorun yaşadığınızda kime başvurmayı tercih edersiniz?	Alışveriş sitesi	130	58
	Kargo firması	66	29,5
	Satışı yapan alt firma	28	12,5
Teslimat geciktiğinde nasıl bir çözüm sunulmasını beklersiniz?	Diğer	13	5,8
	Hızlandırılmış teslimat	133	59,4
	İndirim kuponu	18	8
	Ücret iadesi	60	26,8

Katılımcıların %59,4'ü ayda birkaç kez, %23,2'si haftada bir veya daha fazla, %17,4'ü ise yılda birkaç kez online alışveriş yapmaktadır. Katılımcıların %60,7'si alışveriş sırasında sorun yaşadığını belirtmiştir. Yaşanan bu sorunları çözmek için %58'i alışveriş sitesine, %29,5'i kargo firmasına, %12,5'i ise satıcı firmaya başvurmaktadır. Çözüm talepleri arasında %59,4 hızlandırılmış teslimat, %26,8 ödeme iadesi, %8 indirim kuponu ve %5,8 diğer seçenekleri tercih etmektedir. Veriler, katılımcıların hızlı çözüm ve yüksek memnuniyet beklentisi içinde olduğunu göstermektedir.

4.3. Teslimatta yaşanan sorunların kaynağı ve çözümün sorumluluğu

Tablo 5 : Teslimatta Yaşanan Sorunların Sorumluluğu

	Ahmet Bey	**Kargo firması**	**xyz.com alışveriş sitesi**	**xyz.com sitesinde satış yapan alt firma**
Düşük	0,031	0,734	0,125	0,109

Ürün Değeri	Orta	0,038	0,705	0,179	0,077
	Yüksek	0,024	0,671	0,207	0,098

Araştırmaya göre, katılımcılar teslimat sorunlarında genellikle kargo firmalarını sorumlu tutmaktadır. Ancak ürünün değeri arttıkça, alışveriş sitesi ve satıcı firmanın da sorumluluğu olduğu düşünülmektedir. Özellikle pahalı ve hassas ürünlerde, müşteriler teslimat sürecinde tüm taraflara güven duymak istemektedir.

Yüksek değerli ürünlerin teslimatında yaşanan sorunlar, yalnızca para kaybı değil, güven kaybına da yol açmaktadır. Bu nedenle, kargo firması, alışveriş sitesi ve satıcıların koordineli çalışarak müşteri memnuniyetini sağlamak için daha etkili önlemler alması gerekmektedir.

4.4. Sorunun Çözümünden Kim Sorumlu

Tablo 6 : Sorunun Çözümüne Yönelik Sorumluluk

		Sizce bu sorunun çözümünü kim gerçekleştirmelidir?			
		Ahmet Bey (xyz.com sitesinden ürün satın almayarak)	Kargo firması	xyz.com sitesi	xyz.com sitesinde satış yapan alt firma
Ürün Değeri	Düşük	0,031	0,547	0,266	0,156
	Orta	0,038	0,385	0,410	0,167
	Yüksek	0,073	0,341	0,366	0,220

Araştırma bulgularına göre, katılımcılar teslimat sorunlarının çözümünü genellikle kargo firmasından beklemektedir. Kargo firmaları, teslimat süreçlerinde yaşanan gecikme, hasar veya kaybolan ürün gibi sorunlarla doğrudan ilişkilendirilmekte ve bu sorunların çözümünde temel sorumluluk taşıdığı düşünülmektedir. Ürünlerin zamanında ve güvenli bir şekilde teslim edilmesi, kargo firmalarının en önemli görevlerindendir.

Ancak, ürünün değeri arttıkça, katılımcılar sorumluluğun yalnızca kargo firmasında olmadığını, alışveriş sitesi ve satıcı firmanın da süreçte rol alması gerektiğini belirtmiştir.

Sonuç olarak, yüksek değerli ürünlerin teslimatında yaşanan sorunların çözümü, kargo firması, alışveriş sitesi ve satıcı firmanın koordineli çalışmasını gerektirmektedir. Bu iş birliği, müşteri memnuniyetini artırmak ve olumsuz deneyimleri en aza indirmek için kritik öneme sahiptir.

4.5. Sorun Yaşanılan Kargo Firmaları

Bu aşamada katılımcılara, “Örnek olaylardaki kargo firması sizce Türkiye’de faaliyette bulunan hangi firmadır?” şeklinde bir soru sorulmuştur. Örnek olaylarda hiçbir firma ismi verilmediği gibi kargo firması ismi de verilmemiştir. Bu aşamada amaç, katılımcıların yaşamış oldukları önceki tecrübeleri veya çevresinden duydukları bilgiler ışığında, örnek olaylardaki sorunu yaşatabilecek kargo firmasını tahmin etmektir. Sonuçlar aşağıdaki tabloda sunulmuştur.

Tablo 7 : Tüketicinin Sorun Yaşadığını Beyan Ettiği Kargo Firmaları İle İlgili Bilgiler

Kargo Firmaları	**f**	**%**

Aras Kargo	63	28,1
Sürat Kargo	35	15,6
Diğer	35	15,6
MNG Kargo	33	14,7
PTT kargo	32	14,3
Yurtiçi Kargo	18	8,0
ABC Kargo	2	,9
UPS Kargo	1	,4
İhlas Kargo	1	,4
AGT KURYE	1	,4
Birgünde Kargo	1	,4
Kargomsende	1	,4
VGG Kargo	1	,4

Verilere göre, katılımcıların %28,1'i Aras Kargo ile, %15,6'sı Sürat Kargo ile, %14,7'si MNG Kargo ile, %14,3'ü PTT Kargo ile ve %8'i Yurtiçi Kargo ile sorun yaşadıklarını belirtmiştir. Aras Kargo, en fazla şikayet alan firma olarak öne çıkmaktadır.

Bu veriler, kargo firmalarının müşteri hizmetleri ve teslimat süreçlerinde eksiklikler yaşadığını ve genel memnuniyeti artırmak için daha etkili çözümler geliştirmeleri gerektiğini göstermektedir.

5. SONUÇ

Bu çalışma, online alışverişlerde yaşanan teslimat sorunlarının sorumlu taraflarını ve çözüm önerilerini incelemeyi amaçlamaktadır. Araştırma bulguları, katılımcıların teslimat sürecinde yaşanan sorunları çoğunlukla kargo firmalarına atfettiklerini, ancak ürün değeri arttıkça alışveriş sitesini ve satıcı firmaları da sorumlu tuttuklarını göstermektedir. Ayrıca, tüketicilerin teslimat sürecinde karşılaştıkları sorunlarla ilgili çözüm beklentileri de araştırılmıştır.

Araştırma sonuçlarına göre, katılımcıların %60,7'si online alışveriş sırasında teslimatla ilgili bir sorun yaşadığını belirtmiştir. Çözüm talepleri incelendiğinde, en sık talep edilen çözümler hızlandırılmış teslimat (%59,4) ve ücret iadesi (%26,8) olmuştur.

Teslimat sorunlarının kaynağı değerlendirildiğinde, en fazla sorumlu tutulan tarafın kargo firmaları olduğu belirlenmiştir. Ürün değeri arttıkça alışveriş sitelerinin ve satıcı firmaların da sorumluluklarının tüketiciler tarafından kabul edildiği görülmüştür. Özellikle pahalı ürünlerde, katılımcıların teslimat sürecinde tüm taraflara güven duymak istedikleri ortaya çıkmıştır. Bu durum, teslimat süreçlerinin daha şeffaf ve koordineli bir şekilde yönetilmesi gerektiğini göstermektedir.

Yapılan analizler, online alışveriş firmalarının yalnızca kargo şirketleriyle değil, aynı zamanda satıcı firmalarla da etkili iletişim ve koordinasyon sağlamaları gerektiğini göstermektedir. Özellikle yüksek değerli ürünlerde yaşanan teslimat sorunları, müşteri memnuniyetsizliğine ve güven kaybına yol açtığından, hem e-ticaret hem de kargo firmalarının daha fazla sorumluluk alması gerekmektedir.

Sonuç olarak, online alışverişte yaşanan teslimat sorunlarının çözümü için kargo firmaları, alışveriş siteleri ve satıcı firmaların daha etkin bir iş birliği içinde olmaları gerekmektedir. Tüketiciler, teslimat sürecinde şeffaflık ve hızlı çözüm talep etmektedir. Bu bağlamda, online alışveriş ve kargo firmaları, müşteri memnuniyetini artırmak ve sadakati sağlamak için teslimat süreçlerini daha verimli hale getirmelidir. Bu çalışmaların online alışverişin geleceği için önemli sonuçlar doğuracağı ve sektörün gelişimine katkı sağlayacağı düşünülmektedir.

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Suriyeli Mültecilerin Türkiye'nin Makroekonomik Göstergeleri Üzerindeki Etkileri

Ayşenur Öztop[1] **Doç. Dr. Ayşe Durgun Kaygısız**[2]

[1]Süleyman Demirel Üniversitesi, Sosyal Bilimler Enstitüsü, İktisat Anabilim Dalı, e-mail: oztopaysenur@gmail.com, ORCID: 0009-0001-2500-0678

[2]Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi, İktisat Bölümü, e-mail: aysedurgun@sdu.edu.tr, ORCID: 0000-0002-8062-7473

Özet: Dünyada ve Türkiye'de mültecilerin varlığından söz etmek mümkündür. Özellikle de Türkiye jeopolitik konumundan ve komşu ülkelere yakınlığından dolayı mülteciler için cazibe merkezi haline gelmiştir. 2011 yılında başlayan Suriye iç savaşı ile Türkiye'ye savaştan kaçan mülteciler; Hatay, Reyhanlı'da bulunan Cilvegözü sınır kapısından ilk kez giriş yapmışlardır. Bu çalışmada, savaştan kaçan mültecilerin 2011-2022 yılları arasında Türkiye ekonomisi üzerindeki etkileri incelenmeye çalışılmıştır. Bu yılların seçilme sebebi mülteci kafilesinin Türkiye'ye ilk giriş tarihi ve elde edilen son güncel verilerin olmasıdır. Mültecilerin etkilerinin iktisadi boyutu ve makroekonomik yönleri irdelenmeye çalışılmaktadır. Çalışmanın ana katkısı güncel verilerle grafikler üzerinden dört temel makroekonomik verinin ortaya konmuş olmasıdır. Gerekli bilgilere ise Dünya Bankasından ve TÜİK'ten erişim sağlanmıştır. Çalışmada yapılan grafik analizleri neticesinde; mülteci sayısının enflasyon ve işsizlik oranları üzerinde anlamlı ve olumsuz etkisi olduğu saptanmıştır. Ekonomik büyüme üzerindeki etkilerinin ise pozitif olduğu görülmüştür. Yapılan kaynak taramaları sonucunda ise; mülteci nüfusunun artmasıyla birlikte kişi başına düşen gelir üzerindeki etkisinin ise olumsuz olduğu anlaşılmaktadır.

Anahtar Kelimeler: Mülteci, Makroekonomik Etkiler, Türkiye.

GİRİŞ

Günümüzde mülteciler, tüm dünyada popüler bir konu haline gelmiştir. Bunun sebebi yaşanan göçlerdir. Göç; zorunlu veya isteğe bağlı olarak gerçekleştirilen yer değiştirme hareketi olarak tanımlanır. Göç, savaş veya siyasal baskılardan kaynaklı kitlesel şekilde olabileceği gibi bireysel de olabilmektedir. İnsanlar daha iyi yaşam şartlarına sahip olmak için farklı şehirlere ve ülkelere göç edebilmektedirler. Göç eden kişiler hem kendi ülkelerinde hem de göç için geldikleri ülkelerde çeşitli etkiler meydana getiriler. Özellikle göç alan ülkelerde kültür farkı sorunu çok fazla yaşanmaktadır. Farklı bir kültürden gelen kişi, kendi kültürünü, yaşam tarzını, alışkanlıklarını göç ettiği ülkede de devam ettirme eğilimi gösterdiğinden yaşam tarzı ve alışkanlıkları göç ettiği ülkede yanlış veya ilkel olarak algılanabilir. Türkiye de göç meselesini yoğun olarak yaşayan ülkelerden biridir. 2011'de açık kapı politikasıyla Suriyeliler geçici koruma kapsamında misafir olarak ülkemize kabul edilmiştir. 2018 yılında ise yaklaşık 3.5 milyon Suriyeli, sığınmacı statüsünde ağırlanmıştır. Günümüzde ise mülteci statüsünde yer almaktadırlar (Üzelakçil, 2021). Türkiye transit bir ülkedir hem göç almaktadır hem de göç vermektedir. Türkiye genellikle kitlesel göçler almıştır. Bunlara örnek olarak 1988'de Halepçe'den yaklaşık 120.000 göçmen, 1989'da Bulgaristan'dan 600.000 kişi, 1991 yılında 461.000 Iraklının kitlesel göçü ele alınabilir (Taştan, İrdem, & Özkaya, 2017). Türkiye'de Suriyeli, Iraklı, Somali, Afganistan, Pakistan ve İran gibi ülkelerden gelen yabancılar bulunmaktadır. Göç konusunda mültecilerin ekonomik boyutu büyük bir önem arz etmektedir. Mültecilerin ekonomiye olan etkileri farklı boyutlarda ele alınabilir ancak bu çalışmada özellikle makroekonomik etkiler incelenecektir. Bu çalışma Türkiye'de yaşayan mültecilere yönelik önerilerle, Türk halkın uyumu yönünden önem taşımaktadır.

1. GÖÇ VE MÜLTECİ KAVRAMI

Geçmişten bu yana göç kavramının insanların hayatında hep var olduğu bilinmektedir. Göç olgusu ilerleyen zamanda kitlesel göç kavramına dönüşmüştür. Kitlesel göçe örnek olarak Suriyelilerin ve Ukraynalıların kitlesel göçü ele alınabilir. Göç, halkın içinde bulunduğu şartlara bir tür tepki gösterme şekli olarak tanımlanabilir. İnsanların yer değiştirme hareketi göçün genel bir tanımlaması olarak karşımıza çıkmaktadır. TDK'ye göre göç, "Ekonomik, toplumsal, siyasi nedenlerle bireylerin ya da toplulukların bir ülkeden başka bir ülkeye, bir yerleşim yerinden başka bir yerleşim yerine gitme, taşınma, hicret, muhaceret" şeklinde tanımlanmıştır (Türk Dil Kurumu, 2024).

1.1. Mülteci Kavramı

Savaşlar insanlık tarihinden beri hep yaşandığından, mülteci olgusu da hep var olmuştur. Mülteci, Arapça kökenli bir kelimedir ve iltica kelimesinden türetilmiştir. İltica kelimesinin ise Türkçe karşılığı "sığınma"dır. Kökeninden dolayı mülteci kavramı sığınan kişi ya da sığınmacı olarak tanımlanabilir. Ayrıca mülteci kavramının uluslararası hukukta bir statüsü vardır ve bu statü sığınmacı kavramından ayrı olarak değerlendirilmektedir (Eriş, 2007).

Mülteci kavramı, Cenevre Sözleşmesinde, "Belli bir toplumsal grubun mensuplarının zulme uğrayacağından haklı sebeplerle korktuğu için vatandaşı olduğu ülkenin dışında olan ve bu ülkenin korumasından yararlanamayan veya korku nedeniyle yararlanmak istemeyen ya da tabiiyeti yoksa ve bu tür olaylar sonucu önceden ikamet ettiği ülkenin dışında olan oraya dönemeyen veya korku sebebiyle dönmek istemeyen" kişilere mülteci adı verilir. Mülteci statüsünün kazanılması için zulme uğrayan vatansız kişi olunması gerekmektedir aksi halde mülteci olarak kabul görülmeyecekleri belirtilmiştir (Birleşmiş Milletler Mülteciler Yüksek Komiserliği Türkiye Tesilciliği, 2024).

Mülteciler**,** silahlı çatışma veya zulümden kaçan kişilerdir. Mülteciler, yakın ülkelerde güvenlik aramak için ulusal sınırları aşarlar ve böylece devletlerden ve diğer kuruluşlardan yardım alma imkanları ile uluslararası alanda "mülteci" olarak tanınırlar. Uluslararası Göç Örgütü'ne göre (IOM) bu insanların evlerine dönmeleri çok tehlikelidir ve başka bir yere sığınmaları gerekir. Yine bu kişiler, sığınma talebinin reddedilmesinin potansiyel olarak ölümcül sonuçları olan insanlardır (IOM, 2022).

1.2. Göç Kavramı

Göç kavramı "anlamlı bir uzaklık ve etki yaratacak kadar bir süre içinde gerçekleşen bütün yer değiştirmeler" şeklinde tanımlanabilir (Yılmaz, 2014). Tarihte yaşanan neredeyse her olayın ardında göçler vardır. Ateşin bulunması, çiçek aşısı, yazının bulunması gibi örnekler hep göçlerle birlikte bir anlam kazanmıştır. Özellikle İkinci Dünya Savaşından sonra yeni göçmen kitleleri oluşmuştur. Nitekim Batı, işgücünü ihtiyacını karşılamak amacıyla öncelikle komşu ülkelerden ardından da Güney'den göç almaya başlamıştır. Göç kavramını incelediğimizde göçün toplumsal ve ekonomik bir sonuç olduğunun kanısına varmak mümkündür. Göç, dönüşümlere katkıda bulunan bir etkendir ve göç aynı zamanda bir sebeptir. Göç kavramına yönelik literatürde çeşitli tanımlamalar bulunmaktadır. Örneğin Lecaj'a göre göç kavramı; genellikle kalıcı yer değiştirmeler için kullanılır bunun sebebi de göç edilen yerde sürekli olarak kalınmasa dahi gidip gelişler sürebilir ve istihdam edilen toprağa bağlılık sağlanır (Lecaj, 2019). Lewis'e göre ise insanların göç etmesinin sebebi emeğin ücretinin yüksek olduğu yerlerde yaşamaktır (Lewis, 1954).

2. GÖÇ TÜRLERİ

Bu bölümde göç türleri; zorunlu göç, bireysel ve kitlesel göç, beyin göçü şeklinde üç başlık altında incelenecektir.

2.1. Zorunlu Göç

Genellikle insanların bu göç türünde ülkelerinde yaşanan savaşlar ve iç karışıklıklar nedeniyle yaşadıkları yerleri terk etmek zorunda kalmalarını ifade eder. Suriyelilerin ülkelerinde çıkan savaş sonucunda farklı ülkelere göç etmeleri bu göç türüne örnek gösterilebilir. Bu göç türünde diğer türlerden farklı olarak kişilerin iradesi dışında gerçekleştiği ve maruz kaldıkları yoğun baskı sonucunda göç etmeye zorlandıklarını gözlemlemek mümkündür.

2.2. Bireysel- Kitlesel Göç

Bireysel göçte kişinin yalnız başına yaptığı yer değiştirme hareketi ifade edilmektedir. Bireysel göçe en uygun örnek olarak beyin göçü gösterilebilir (Göç Terimleri Sözlüğü, 2009). Kitlesel göçte ise bir ülkede yaşayan kesimin toplu olarak ülke değiştirme hareketi ifade edilir. Türkiye açısından bakıldığında cumhuriyetten sonra ilk kitlesel göç hareketi Yunanistan ile başlamıştır daha sonra ise Türkiye, Bulgaristan'dan ve Suriye'den kitlesel göçler almıştır (T.C.İçişleri Bakanlığı Göç İdaresi Başkanlığı).

2.3. Beyin Göçü

Bu göç türü göçü, ticaret, eğitim vb. için vasıflı insan kaynaklarının göçünü ifade eder. Özellikle az gelişmiş ülkelerden gelişmiş ülkelere yetkin bireylerin yer değiştirme hareketi yaptığı gözlemlenmektedir. Beyin göçü yapan kişilerin amacı daha iyi ekonomik koşullara, daha iyi yaşam şartlarına sahip olmaktır. Özellikle de doktorlar,

bilim adamları ve akademisyenler arasında beyin göçü sıklıkla görülmektedir fakat bu durum az gelişmiş ülkelerin nitelikli iş gücü kaybına uğraması sonucunda teknoloji ve bilim alanlarında diğer ülkelere göre daha geride kalmasına yol açmaktadır. Bu göç türü son yıllarda diğer göç türlerine göre en fazla yapılan göç türüdür. Gelişmiş ülkelerin daha iyi eğitim ve daha yüksek yaşam standartlarına sahip olmaları, daha yüksek maaşlar, ileri teknolojiye erişim ve daha istikrarlı siyasi koşulların bulunması gibi özellikleri beyin göçünün artmasına sebep olur (Dodani & E LaPorte, 2005).

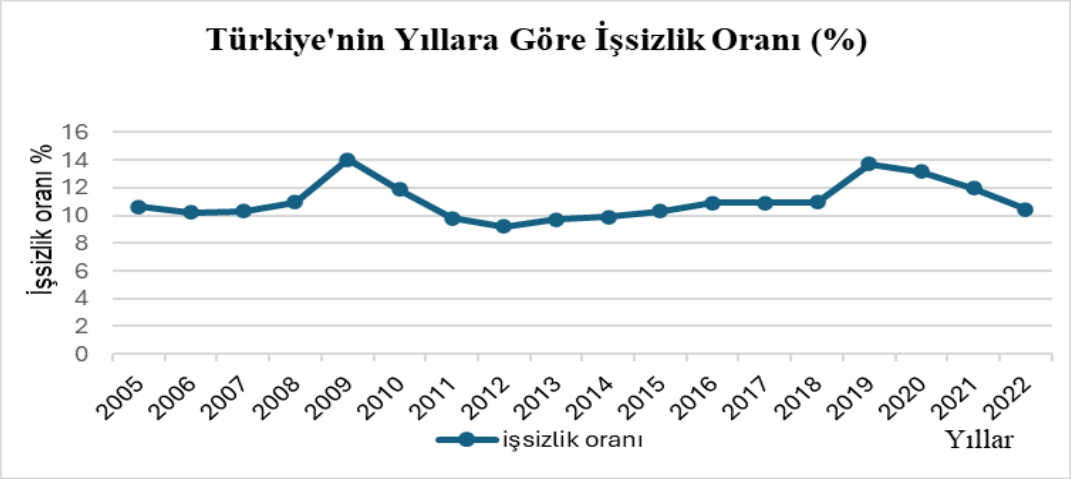
3. MÜLTECİLERİN EKONOMİK ETKİLERİ

Günümüzde, göç alan ülkelerde yaşanan nüfus artışı ile makroekonomik göstergelerde değişim yaşanmaktadır. Çalışmanın bu bölümünde Türkiye'de yaşayan mültecilerin nasıl bir ekonomik değişime neden olduğu grafikler üzerinden yorumlanacaktır. Her ne kadar elde edilen sonuçların tamamına mültecilerin neden olmadığını belirtsek de mültecilerin kitlesel göçü ile oluşan sonuçlar arasında doğrusal bir bağlantı kurmak mümkündür. Çalışmamızda Dünya Bankasından ve Türkiye İstatistik Kurumundan veriler alınıp yazar tarafından grafikler oluşturulmuştur.

3.1 Mültecilerin İşsizlik Oranı Üzerindeki Etkileri

İşsizlik genel olarak, işgücünün farklı nedenlerden dolayı istihdama katılamamasından ortaya çıkan bir insan gücü kaybı olarak tanımlanabilir (Yıldız, 2014). Günümüzde Türkiye dünya çapında en fazla mülteciye ev sahipliği yapan ülkedir. Suriyelilerin büyük çoğunluğu mülteci kamplarını terk etmiş ve Türkiye işgücü piyasasına girmiştir. Çalışma izni verilmediği için bu insanlar çoğunlukla kayıt dışı istihdam edilmektedirler. Bu bağlamda, ev sahibi ülkeler açısından zorla yerinden edilmenin ekonomik sonuçları hakkında veri eksikliği vardır. (Carpio & Wagner, 2015).

Grafik 1: Türkiye'nin 2005-2022 Yılları Arasındaki İşsizlik Oranları



Kaynak: Dünya Bankası verilerinden alınıp yazar tarafından oluşturulmuştur.

Mülteciler, göç edecekleri yerleri çeşitli faktörlere dayanarak seçmektedirler. Örneğin ilk olarak ülkelerinin göç edecekleri yere mesafesinin olabildiğince yakın olması gerekmektedir. Sınıra yakın olan iller incelendiğinde özellikle de Gaziantep, Adana, Mersin gibi iş alternatiflerinin çeşitli olduğu bölgelerde diğer illere kıyasla işsizlik, Suriyelilerin göç etmesinden önceki süreçlere göre daha yüksek gerçekleşmiştir (Garanti, 2022).

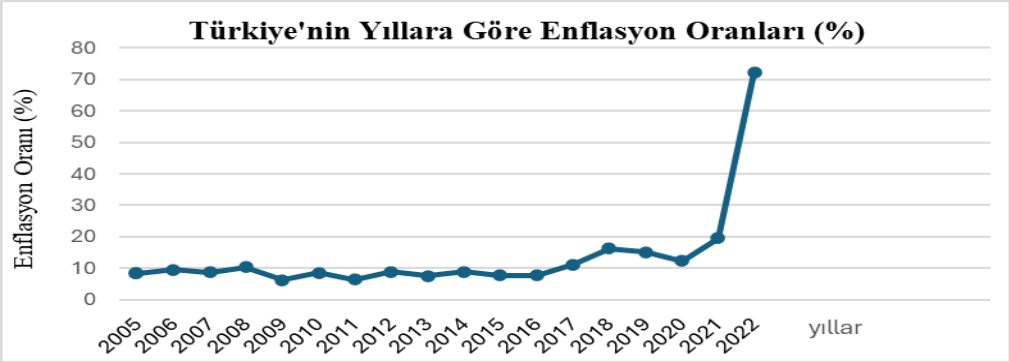
Grafik 1'i incelediğimizde veri eksikliklerine rağmen 2011 Kitlesel mülteci göçü ile mültecilerin Türkiye'deki işsizlik oranları üzerindeki arttırıcı etkisi görülmektedir. 2012 yılından sonra işsizlik oranlarında artış yaşanmıştır. Ülkede zaten yüksek olan işsizlik oranları mültecilerin de etkisiyle daha da artmıştır ve artmaya devam etmektedir. Politika yapıcılar, mültecilere ev sahipliği yapmanın işgücü piyasası üzerindeki olumsuz ekonomik etkisini ortadan kaldırmak için mültecilerin işgücü piyasasında resmi entegrasyona yönelik yerel ekonomik politikalara odaklanmalıdır.

3.2 Mültecilerin Enflasyon Üzerindeki Etkileri

Çalışmanın bu bölümünde, Türkiye'deki enflasyonun yıllara oranla nasıl değişim gösterdiği yorumlanacaktır. Enflasyon, belirli bir dönem içerisinde çeşitli mal ve hizmetlerin fiyatlarındaki artışı ifade eder. Enflasyonu

ölçmekte kullanılan başlıca iki sepet (endeks) vardır: Tüketici Fiyatları Endeksi (TÜFE) ve Üretici Fiyatları Endeksi (ÜFE.) Çalışmanın bu kısmında Tüketici fiyatları endeksini ele alınmıştır (Eğilmez, 2023).

Grafik 2: Türkiye'nin 2005-2022 Yılları Arasındaki Enflasyon Oranları (TÜFE Cinsinden)



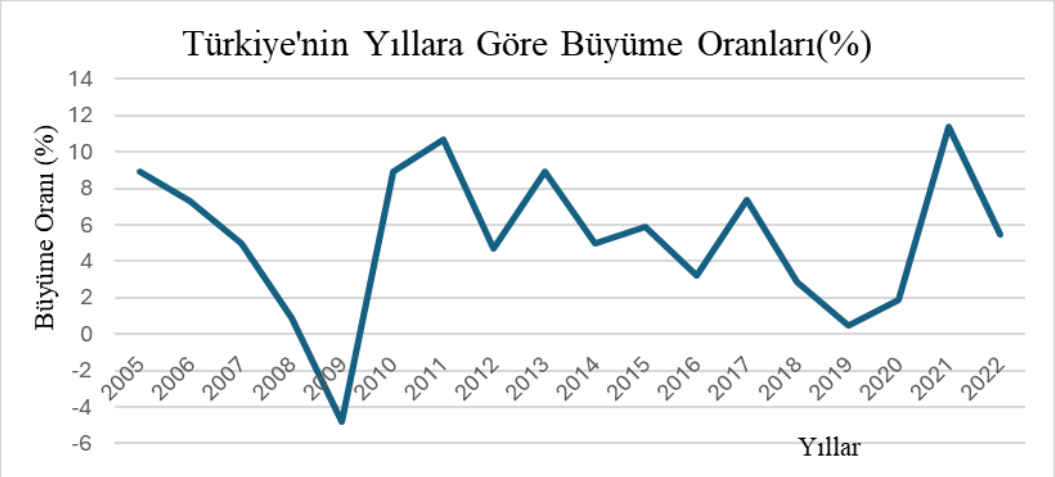
Kaynak: Dünya Bankası verilerinden alınıp yazar tarafından oluşturulmuştur.

Grafik 2'de görüldüğü üzere Türkiye'nin enflasyon oranları incelendiğinde 2000'li yılların başlarında genel olarak tek hanelidir. Günümüzde ise bu durum çok farklı bir boyuta ulaşmıştır. Grafiği incelediğimizde; Türkiye'de 2011 yılında TÜFE 6,47 oranından 2012 yılında 8,89 seviyesine yükselmiştir. Özellikle 2017 yılına gelindiğinde 11,14 seviyesine ulaşan ve 2022 yılında yüzde 72 oranına yükselen enflasyon oranından yola çıkarak misafir olarak Suriye'den gelen kitlesel göç dalgası ile enflasyon oranlarında anlamlı bir artış görülmektedir. Giderek artan kamu borcunun ve 2019 yılında yaşanan Covid-19 Pandemi döneminin de etkisiyle uzun vadede enflasyon oranlarının ciddi şekilde arttığı görülmektedir. Geçen 17 yıllık süre zarfında genellikle tek haneli düşük bir enflasyona sahip ülkeyken Türkiye günümüzde ciddi bir enflasyon sorunu ile mücadele eden bir ülke haline gelmiştir. Bu bilgilere ek olarak bölgesel enflasyon kitlesel göçten sonra daha yüksek çıkmaya başlamıştır (Garanti, 2022). Özetle; Enflasyonda görülen bu artışı yalnızca mültecilerin Türkiye'ye gelmesi ile arttığını belirtmek yanlış olacaktır fakat elde ettiğimiz verilere göre kitlesel göç akınlarından sonra ülkenin makroekonomik göstergelerinden biri olan enflasyon oranlarında bir bozulma görülmektedir. Azalan alım gücünün de etkisiyle ülkede refah oranı düşerken, Türkiye'den Avrupa'ya beyin göçü oranı da artmıştır.

3.3 Mültecilerin Ekonomik Büyüme Üzerindeki Etkileri

Büyüme hızı, ülkenin gelişmişlik düzeyini arttırmak, dolayısıyla daha ileri yaşam standartlarına ulaşarak, sahip olunan kaynakları en iyi biçimde kullanmak şeklinde açıklanabilir (Açıkgöz, 2007). Ekonomik büyümenin temel belirleyicileri; sermaye birikimi, teknolojik gelişme, nüfus artışı, istihdam, beşeri sermaye, gelir dağılımı, enflasyon, işsizlik ve ithalata dayalı ihracat değerlerinden oluşmaktadır (Cinel, 2014). Her ülkenin büyüme seyri farklıdır. Göç, büyüme üzerinde beşeri sermaye aracılığıyla ekonomik büyümeye katkı sağlayabilmektedir. Konuk ve Engin'in yaptığı çalışmaya göre genellikle ülkelerde, göçün etkisiyle ücretler düşmektedir böylece üretim maliyeti azalıp büyüme oranlarında artış görülmektedir, bu durum Türkiye için de geçerlidir. Ancak bu durumun olumsuz etkisi istihdam alanında ortaya çıkmaktadır; yerli halkın yerine daha düşük ücretlerle çalışmayı kabul eden mülteciler söz konusu ülkenin istihdamına olumsuz etki yaratmaktadır. Ülkelerde büyüme oranları artış gösterirken diğer makroekonomik bir etken olan istihdam oranları olumsuz etkilenmektedir (Konuk & Engin, 2023).

Grafik 3: Türkiye'nin 2005-2022 Yılları Arasındaki Büyüme Oranları (%)



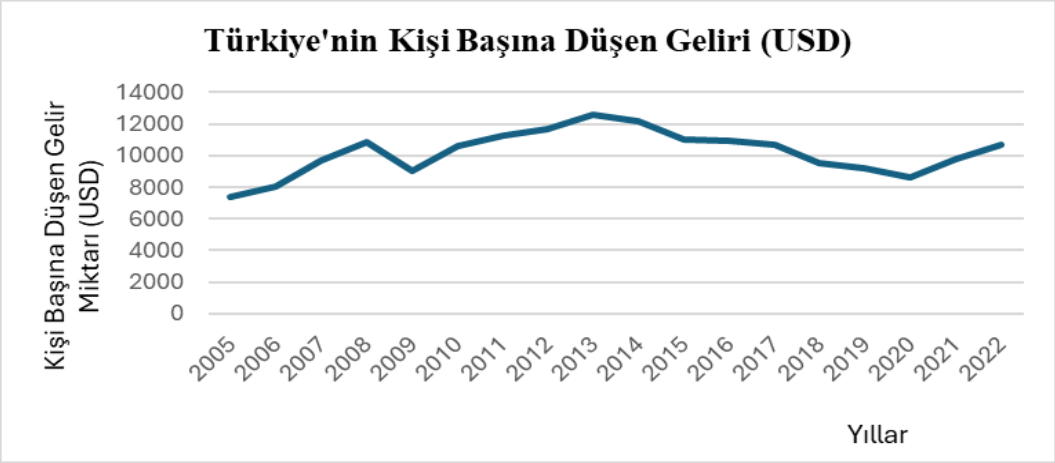
Kaynak: Dünya Bankası verilerinden alınıp yazar tarafından oluşturulmuştur.

Türkiye'de büyüme oranları grafik 3'ten de anlaşılacağı üzere istikrarsız, dalgalı bir şekilde gerçekleşmektedir. 2008 Küresel Krizin etkisiyle 2009 yılında yüzde 4,7'lik küçülme yaşanmıştır. Daha sonraki yıllarda büyüme oranları artarken 2011 Kitlesel göçün de etkisiyle tekrar büyüme oranları düşüşe geçmiştir. Fakat buradaki tek etken mülteciler değildir. Özellikle 2019 yılında yaşanan Covid-19 Pandemi döneminin de etkisiyle büyüme oranları 0,5 seviyesine kadar düşmüştür. 2021 yılında tekrar bir toparlanma yaşarken ertesi yıl 5,5 büyüme kaydedilmiştir. Genel itibarıyla grafik 3 incelendiğinde Türkiye'nin büyüme oranlarının dalgalı yapısından dolayı mültecilerin olumsuz etkisine yönelik net bir yorum yapmak mümkün değildir. Buna ek olarak büyüme oranlarındaki yaşanan artışlara mültecilerin, üretim maliyetlerini düşürmesi nedeniyle pozitif bir etkisinin olabileceğine yönelik yorum yapmak mümkündür.

3.5. Mültecilerin Kişi Başına Düşen Gelir Üzerindeki Etkileri

Kişi başına düşen gelir; GSYH'nin nüfusa bölünmesi ile hesaplanmaktadır. Dolayısı ile de bir ülkede kişi başına düşen gelirin yüksek olabilmesi için mevcut nüfusun düşük olması büyük rol oynamaktadır. 1990 yılında Türkiye'nin nüfusu 52 milyon iken, 2022 yılı nüfusu ise 84,98 milyon olarak gerçekleşmiştir (Türkiye İstatistik Kurumu, 2022). Türkiye jeopolitik konumu itibariyle çok fazla mülteciye ev sahipliği yapmaktadır dolayısıyla da nüfus arttıkça kişi başına düşen gelirin azalmasının sebebi budur. Türkiye'de, özellikle Suriyeliler, sığınmacı statüsünde olduklarından Türkiye'nin nüfusuna dahil edilmemektedirler. Kişi başına gelir hesaplamalarına da girmemektedirler. Bu şekilde Suriyelilerin kişi başına gelir hesabına katılmamaları sonucu olarak kişi başına gelirimiz gerçek verilerden daha yüksek görünmektedir (Eğilmez, 2017).

Grafik 4: Türkiye'nin 2005-2022 Yılları Arasında Kişi Başına Düşen Geliri (USD)



Kaynak: Dünya Bankası verilerinden alınıp yazar tarafından oluşturulmuştur.

Grafik 4'ü incelediğimizde 2015 yılından itibaren kişi başına düşen gelirde ciddi bir azalış görülmektedir. Gelirde yaşanan azalışların sebebini 2019 yılı itibariyle pandemiye bağlamak mümkün olduğu gibi ülkemiz nüfusunun mültecilerin akını ile nüfus artışı sonucunda kişi başına düşen gelirimizin azalmasına bağlamak mümkündür.

SONUÇ

Göç, nedenleri ve çeşitli sonuçları olan bir olguyu ifade etmektedir. Diğer tüm ülkelerde olduğu gibi Türkiye'de de farklı ülkelerden gelen göçmenlerin, göç ettikleri ülkeye yönelik çeşitli etkileri bulunmaktadır. Etkileri ise olumlu yönde ya da olumsuz yönde olabilmektedir. 2011 yılında Suriyeli insanlar zorla savaş ile ülkelerinden çıkmak durumunda kalmışlardır. Mültecilerin genel yapısı incelendiğinde tıpkı Suriyeliler gibi kendi istekleri dışında savaş ve siyasi baskılar yüzünden göçe zorlandıkları görülmektedir. Mültecilerin genellikle Türkiye'ye gelme sebebi Türkiye'nin coğrafi konumundan ve yabancılara karşı uyguladığı yumuşak politikadan kaynaklanmaktadır bunların yanısıra Türkiye güvenli bir ülke niteliğine sahiptir. Tüm bu özellikler Türkiye'yi göç için cazip bir ülke haline getirmektedir. Yapılan çalışmalara göre bazı makroekonomik göstergelerde olumsuz bulgulara rastlanmıştır. Örneğin işsizlik ve enflasyon oranları artan genel nüfustan dolayı 2011 yılından sonra artmıştır. Bu çalışmada, kitlesel göçle gelen mültecilerin kitlesel göç öncesi ve göç sonrası temel makroekonomik değişkenlerdeki verileri yorumlayarak çıkarımlarda bulunulmuştur. Mültecilerin, emek gücüne ihtiyaç olan ve iş çeşitliliğinin fazla olduğu yerlere göç ettiği bilinmektedir. Mülteciler, sanayileşmenin yoğun olduğu, iş alternatiflerinin arttığı bölgelere göç etmektedirler. Bu şehirleri tercih etmelerinin nedeni, otaya çıkacak maliyetleri karşılayabileceğine yönelik inançlarından kaynaklanmaktadır. Mültecilerin, bu şehirlerde daha düşük ücretle çalışmaya razı olduklarından, istihdamı olumsuz yönde etkiledikleri gözlemlenmiştir. Fakat bu gözlem nitelik gerektirmeyen tarım, inşaat gibi sektörler için geçerlidir. Ayrıca Suriyeli mültecilerin sayısındaki artışın uzun dönemde işsizliği artırıcı bir etkiye sahip olduğu sonucuna varılmıştır. Mültecilerle birlikte kayıt dışı ekonomi de artmıştır. Mültecilerin; Türkiye'nin ekonomik büyümesi üzerinde ise olumlu bir etkisi olduğu saptanmıştır. Bu çalışmada, mültecilerin varlığının; büyüme oranlarını arttırdığı fakat işsizlik, enflasyon oranlarındaki artış ve kişi başına düşen gelirdeki azalma sebebiyle makroekonomik değişkenler üzerinde genel itibarıyla olumsuz bir etki oluşturduğu sonucuna varılmıştır.

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From Silent Crisis to Global Accord: The Evolution of Environmental Governance and Cooperation on Climate Change Risk

Bărbulescu Mariana- Alexandra[1] **Gheorghescu Andreea-Miruna[2]**

Ran Tao[3] **Lobonț Oana-Ramona[4]**

[1] Faculty of Economics and Business Administration, West University of Timisoara, Romania, email mariana.barbulescu02@e-uvt.ro

[2] Faculty of Business Administration in Foreign Languages, The Bucharest University of Economic Studies, Romania, email, gheorghescuandreea24@stud.ase.ro

[3] Doctoral School of Economics and Business Administration, West University of Timisoara, email ran.tao10@e-uvt.ro

[4] Department of Finance, Business Information Systems and Modelling, Faculty of Economics and Business Administration, West University of Timisoara, Romania, email oana.lobont@e-uvt.ro, ORCID https://orcid.org/0000-0002-2942-3715

Abstract: Environmental governance has evolved significantly over the past five decades, shaped by scientific advancements, political shifts, and increasing public awareness of climate risks. This paper systematically reviews the historical progression of climate change governance, analysing key international agreements and policy transformations from the 1970s to the present. Early governance efforts emerged in response to concerns over pollution, resource depletion, and biodiversity loss, leading to foundational milestones such as the Stockholm Declaration (1972) and the establishment of the United Nations Environment Programme (UNEP). The late 20th century saw increased international cooperation, exemplified by the Montreal Protocol (1987) and the Kyoto Protocol (1997), which introduced binding emission reduction targets. In the 21st century, the Paris Agreement (2015) marked a shift toward voluntary commitments, integrating global climate governance with national policies. Recent developments, including the COVID-19 pandemic and extreme climate events, have underscored the need for adaptive, resilient, and inclusive governance frameworks. Using a systematic review methodology, this study examines 13 peer-reviewed articles of Web of Science indexed, published within the 2013-2025 period, to trace the evolution of environmental governance and its response to climate risks. The findings highlight key themes such as the role of scientific consensus, international collaboration, localised adaptation, and the increasing emphasis on climate justice. This paper synthesises historical trends and provides insights into strengthening governance mechanisms for a sustainable and equitable climate future.

Keywords: Climate change, environmental governance, climate risk, international cooperation, policy evolution.

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1. INTRODUCTION

This study investigates how environmental policies, governance structures, and institutional frameworks have evolved to address growing environmental concerns. It explores governments, international organisations, non-state actors, and communities' roles in shaping sustainable policies and implementing environmental management strategies. This study highlights the shift from strict environmental regulations to more flexible and inclusive governance. It examines how governments, international organisations, and communities have collaborated over time to develop sustainable policies and address climate challenges. These can be translated as individual small changes in day-to-day life, such as recycling, smart consumption, and zero waste choices. As crucial as these seem, it is worth mentioning that all of them are possible when environmental governance policies are implemented. For this to happen in such a standard, flowing way, historical progress had to be made. This study delivers a comparative and systematic analysis of climate change agreements over half a century, identifying governance shifts and emerging trends that shape current and future climate policies. Its content analysis approach offers new insights into the evolution of international agreements, policy transformations, and the growing role of climate justice and resilience in governance frameworks. The journey of environmental

governance has been shaped by the increasing awareness of humanity's impact on the planet and the need for collective action to tackle climate risks. Starting with the dawn of environmental movements in the 70s and the modern times of our era, where we focus on loss and adaptability, the path of our subject can be interpreted as slow but steady with important signs toward inclusive global records. The epicentre of this advancement can be identified in the conviction of climate risk; taking the blame for the subsequent environmental decline in activities such as pollution as an artificial mistake was the first step towards redemption. Pollution caused by greenhouse gas emissions or CO2 represents a deviant problem in particular fields such as the economy, stability, and the planet in general.

The novelty of our paper finds its key in the qualitative historical analysis of crucial international climate policy changes from the groovy 70s to the modern 20s. We also address how the climate-change policies shifted through time by providing a detailed chronicled perspective of more than half a decade of evolution. To mirror former studies, where the focus point was an individual agreement, this paper utilises content and comparative analysis methodologies to bring to light collective essential details, identifying patterns, shifts, and trends in governance strategies. Starting with primordial frameworks (e.g., Stockholm Declaration, 1972) and shifting towards international settlements such as Kyoto in 1997, we could finally reach more flexible approaches, such as the ones settled in Paris in 2015. We are offering crucial insights into ever-transforming governance archetypes by analysing these events. Although the analysis goes back in time, it also incorporates recent global problems, such as the COVID-19 pandemic and extreme climate events, suggesting their impact on governmental structures and the inclination for functional policies. Our findings highlight key themes such as the role of scientific consensus, the shift towards adaptation, and the emphasis on climate justice. By concluding this synthesis of past agreements, the paper provides insights that can inform future policy frameworks, helping decision-makers strengthen governance mechanisms for a more sustainable and equitable climate future. We used a timeline visualisation to more clearly show the actions conducted in the chronological order of the six phases. An additional significant contribution lies in its systematic review approach, which encompasses a resilient and transparent procedure where we are able to locate, select, evaluate, and finally synthesize relevant works on a particular topic. Its purpose is to offer a 360 view of an existing information summary, usually by using preordained methods, with fitting criteria, and in this way evaluating the quality of the included articles, invigorating the evidence, and underlying areas of common ground or the reverse. With this in mind, we can start a synthesis of our discoveries, and close the bridge between information and the unknown.

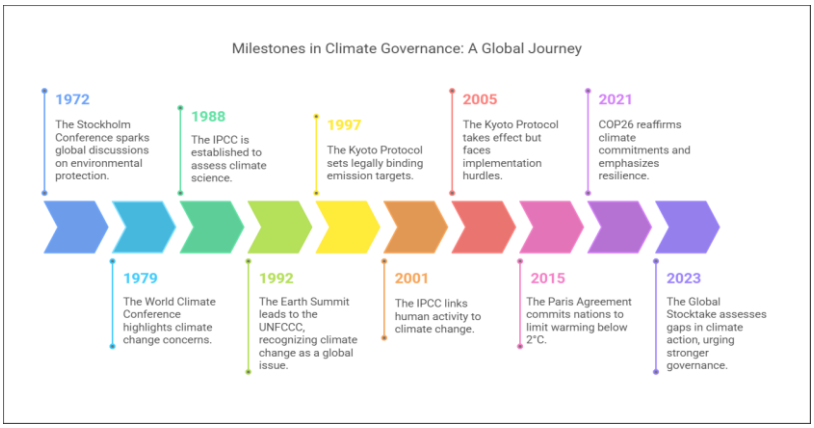
After the introduction, this research is followed by the discussion section, where we divided our work into two sections. The first tackles the keystones in global climate governance; the second part explains the process and results we used for our systematic review. Finally, we reached a culmination of our efforts in the last section, where we shall address our conclusions. When we are giving a discourse to the intricate details of environmental governance, its substantial progress, and global impact, this paper unravels its documented journey in a comparative manner of agreements and environmental treaties over a half-a-century period, recognising transference in approaches, as glimpsed in this last chapter.

2. DISCUSSION

2.1. Milestones in Global Climate Governance: A Historical and Comparative Perspective

Environmental governance should have always been a fundamental principle in our society, but the need for evolution overshadowed this subject. But, after industrialisation and the end of the World Wars, it was finally time to shed some light. This endeavour underwent an outstanding evolution over half a century, from raising the red flag to fortifying convictions through complex standardised international mitigating protocols. We shall next unravel the chronological adventure of our topic using essential moments that shaped climate governance as we know it today. To transpose a fresher, ordered perspective on this Darwinism, we propose a special approach that distinguishes key phases in the history of climate governance. Each one of them is a pivotal moment for scientific understanding, policy development, and international cooperation. From the initial recognition of environmental challenges in the 1970s to the present-day urgency for transformative governance, these phases highlight global climate efforts' dynamic and often complex path.

Figure 1: Milestones in Climate Governance: A Global Journey



Source: Data processed by Author available at https://www.napkin.ai/

If we take a closer look at Figure 1, we can focus better on historical progress, which will help us better understand the significant times in international climate challenges. The starting point in the 1970s, followed by the ambitious targets of the Paris Agreement and beyond, we can recognise how each era has shaped our present times. This time machine perspective is crucial for understanding and putting into a specific context the progress, challenges, and ongoing debates in climate governance. As we advance, we shall provide a comparative investigation of each milestone, overseeing how political challenges, scientific forwards, and social engagement put their mark on the trajectory of environmental governance.

a) The 1970s can be considered as the Genesis of Environmental Consciousness. The rapidly rising concerns regarding resource depletion and the broader impacts of industrialisation acted as an engine towards environmental awareness. It can be considered that the Stockholm Conference of 1972 was the initial important global event for these types of concerns. It is worth mentioning that climate change was not the main topic, but regardless, the necessity for cooperation on a global scale in environmental issues was discussed. As the starting point for the descendent dialogues of specific issues created by humans, it was followed by the World Climate Conference in Geneva, held at the end of the decade, where the interest in climate change risk started to become an international concern. This changed awareness, becoming the mainstream pioneer for future scientific investigations.

b) The 1980s are seen as the times of scientific and political renaissance on climate change. The title of this period wants to evoke how the starting point of scientific and sociopolitical involvement began to take shape but to be fair, it started at the end of the decade; for example, in 1988, the United Nations and the World Meteorological Organization (WMO), established the Intergovernmental Panel on Climate Change (IPCC). This marked a crucial point in the movement towards a better understanding of our planet's needs. The IPCC was relevant for finally stabilising that human activities are the primary driver of global warming. An additional pillar to the efforts was made at the Toronto Conference of 1989, which raised the alarm towards decreasing CO2 Emissions, finally acknowledging this as a critical planetarian problem.

c) The ascension of global frameworks was stabilised during the 1990s. The call towards institutionalised environmental protocols was seen during the last decade of the twentieth century. The Earth Summit in Rio de Janeiro in 1992 made a splash that overflowed as the UN Framework Convention on Climate Change (UNFCCC). The fact that climate change is a global challenge was cemented at this conference, raising awareness towards collective action and opening the road for future negotiations. The Kyoto Protocol was implemented in 1997, branding this moment as the legal obligation for the international collective reduction of polluting emissions. Being a new implementation, it was obviously welcomed by a rocky road, mainly due to the carelessness of dominant polluters such as the United States to correct it. Still, for this reason, the pressures of global fairness and responsibilities were underlined. The apogee of this period was the Millennium Ecosystem Assessment, made public in 1999, where the companionship of climate disasters, ecosystem destruction, and human implication pointed a finger toward the solution: integrated environmental governance.

d) In the 2000s, it was imperative to establish awareness, but as a consequence, we also faced defiance. At the current century's and millennium's beginning, the immediate necessity of fighting climate change grew substantially. The Third Assessment Report, released in 2001 by the Intergovernmental Panel on Climate Change (IPCC), disproved strong evidence of humans for global warming and its destructive effects. This raised a warning signal for governments to take matters more seriously. Despite these steps, the 2009 Copenhagen Climate

Conference (COP15) concluded that deciding upon a legal international framework is challenging. This resulted in gaps in the relationship between developed and developing nations, giving an introspective perspective regarding the challenges of the harmony between economic growth and the need to mitigate climate risks. The failures of COP15 gave us an idea of the shortcomings of contemporary climate governance and the urgent imperative for more powerful ways to tackle this everlasting challenge.

e) Fortifying governance and the ascension of climate justice were top matters during the 2010s. A vital moment in this fight for the planet was the 2015 Paris Agreement, where almost all nations gathered together in a shared effort against greenhouse gas emissions. The main goal to be achieved was to keep the global temperature rise well below 2 °C, with ambitions to limit it to 1.5°C. The accentuation on resilience, support, and national adaptation to climate change-related damage was never seen before in previous discussions. After three years, we noticed how the need for more action and less talk became more urgent with the IPCC's Special Report on Global Warming of 1.5°C, which raised a red flag that going beyond this line could lead to serious and permanent repercussions. As a combat strategy, climate justice became a focus point as it is evident that even though they contribute the least to global emissions, the most vulnerable communities—particularly in developing countries—face the most significant climate dangers. This was the pivotal moment when the public demand for more immediate action came from the heirs of this land, young activists such as Greta Thunberg, who led the Youth Climate Strikes of 2019. This became the momentum that asked and received a change to better climate governance, wanting better policies in equity issues, justice, and sheltering underprivileged territories.

f) In our current decade, the compulsion for action and transformation has accelerated. At the 2021 COP26, the Glasgow Impact repositioned the global promise of the Paris Agreement and uncovered the hardships of transforming words into works. It also reviewed the critical need for increased effort for nations affected the most by this issue and its impacts. Two years ago, in 2023, the Global Stocktake brought forth an awakening analysis: even with some covered progress, the void between present efforts and actual goals remained unshattered. This was meant as an eye-opener about the exigency for revolutionary policies in environmental governance. In the spirit of activism, young people started to raise climate awareness by doing scandalous and attention-seeking activities. By trying to destroy works of art through vandalism, they were sure to be seen as revolutionary pioneers towards a better future. Still, these authors believe that we don't need to destroy our past to improve our future, referring to works of art that inspire us all. To put it in a more plastic manner, a field of flowers painted does more than a swear shout to the wind.

Given all that was presented in this section, we can better grasp the everlasting relevance of environmental governance in modern history. Collaboration was the focus point in all the situations we travelled to.

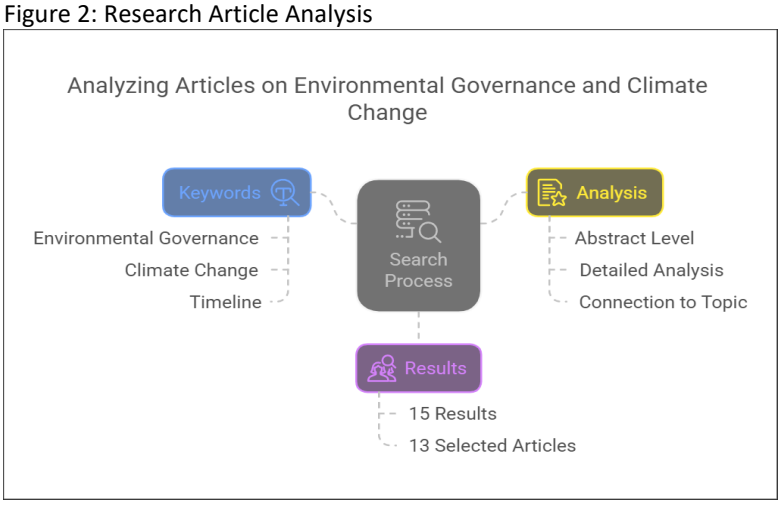
2.2. Systematic Review Analysis

Building on this structured framework, we performed a systematic review to investigate the evolution of climate governance with an iron fist and depth. A systematic review is a rigorous and structured approach to synthesising existing research, ensuring the identification of key contributions within a specific field. For this study, we carefully selected data sets relevant to our research objectives, adhering to a methodical process that enhances reliability and minimises bias. A systematic review's primary goal is to identify a topic or field's significant contributions, limit the impacts of "chance, " create and maintain evidence, and obtain trustworthy results from which valuable conclusions can be formed. This type of systematic review was preferred over a regular review since it eliminated irrelevant, perplexing, or unclear results. Traditional analysis produces subjective and biased outcomes in the analysis documents. The systematic review was chosen because of its complexity in minimising information distortion and inaccuracy, which is its primary characteristic in providing clear and accurate information about the issue. Consequently, we conducted a comprehensive review to examine the evolution of environmental governance in terms of climate change and international collaboration. We employed inclusion and exclusion criteria to choose potential articles and proposed particular phrases that can be used to identify articles suitable for analysis.

Therefore, only articles that follow the research topic were selected, and the topic is countered by the keywords: climate change, risk, and environmental governance. Data was selected using the Web of Science platform to identify types of information based on the search terms. So, as a first step in this research, we used the search interface to enter the most relevant words for the paper: "environmental governance", "climate change", and "timeline". Articles from around the world dealing with the same topic as our theme have been thoroughly analysed. As a unique topic, few results were found when we referred to the last keyword employed. Initially, 15 articles were found, and after opting for certain filters, such as selecting only articles, obtaining a result of 13

articles written in the period 2013-2025. It is worth mentioning that this systematic review was conducted in accordance with the PRISMA 2020 guidelines as a measure of ensuring transparency, consistency, and rigor in the review process. Following that, after reviewing the abstracts and titles, only publications featuring at least one significant element directly or indirectly influencing the research objectives were selected. The staged process described above can also be found in the figure illustrated below:

Figure 2: Research Article Analysis



Source: Data processed by Author via Napkin AI

Thus, our inclusion and exclusion criteria resulted in a final number of 13 articles, which were included for further analysis. Even though we used essential keywords such as "climate change" and "environmental governance," we found works that did not fit our topic. Below, we positioned our final results; these works were selected based on their theoretical significance, empirical contributions, and impact on policy discussions, ensuring that our review captures the most influential perspectives in the field. The following table displays the selected articles' titles, authors, journals, and publication years.

Table 1: Articles selected for review Data processed by Author via Web of Science

Title	Authors	Journal	Year
Social-ecological timelines to explore human adaptation to coastal change	Brattland, Camilla; Eythorsson, Einar; Weines, Jorn; Sunnana, Knut	Ambio	2019
Enhancing the adaptive capacity of fisheries to climate change: Bridging academic theory and management practice through practitioner interviews	Golden, Abigail S.; Levine, Arielle; Baskett, Marissa L.; Holland, Dan; Mills, Katherine E.; Vogel, Jacqueline M.; Essington, Timothy	Marine Policy	2024
Beyond Climate Targets: Exploring When and How Female Directors Influence Corporate Decarbonization Transparency	Garcia-Sanchez, Isabel-Maria; Nunez-Torrado, Miriam; Aibar-Guzman, Cristina ; Aibar-Guzman, Beatriz	Business Strategy and the Environment	2025
How to tackle complexity in urban climate resilience? Negotiating climate science, adaptation, and multi-level governance in India	Sethi, Mahendra; Sharma, Richa; Mohapatra, Subhakanta; Mittal, Shilpi	Plos One	2021
Towards a social-ecological Resilience framework for coastal planning	Lloyd, Michael Greg; Peel, Deborah; Duck, Robert W.	Land Use Policy	2012

Title	Authors	Journal	Year
Maritime governance after COVID-19: how responses to market developments and environmental challenges lead towards degrowth	Monios, Jason; Wilmsmeier, Gordon	MARITIME Economics & Logistics	2022
Science and policy lessons learned from a decade of adaptation to the emergent risk of sargassum proliferation across the tropical Atlantic	Almela, Victoria Dominguez; Addo, Kwasi Appeaning; Corbett, Jack; Cumberbatch, Janice; Dash, Jadu; Marsh, Robert; Oxenford, Hazel; Tonon, Thierry; van der Plank, Sien; Webber, Mona	Environmental Research Communications	2023
UN environmental policy: Non-State Actors, trends, and the regulatory role of the state	Weiss, Joseph S.; Zhu Dajian; Enriquez, Maria Amelia; May, Peter H.; do Nascimento, Elimar Pinheiro; Pengue, Walter A.; Shmelev, Stanislav	Journal of Political Ecology	2017
How state-reinforced knowledge infrastructure influences adaptive urban water governance	De Slatte, Aaron; Adams, Jeffrey A.; Cheema, Faisal S.; Vicario, Sara Alonso; Barnes, Jesse L.; Koebele, Elizabeth A.	Ecology and Society	2024
Eliciting Local Ecological Knowledge and Community Perception on Fishkill in Taal Lake through Participatory Approaches	Magcale-Macandog, Damasa; de la Cruz, Christian Paul P.; Edrial, Jennifer D; Reblora, Marlon A.; Pabico, Jaderick P.; Salvacion, Arnold R.; Marquez, Teodorico L.; Macandog, Paula Beatrice M.; Perez, Diezza Khey B.	Journal of Environmental Science and Management	2014
Uncertain monitoring and modeling in a watershed nonpoint pollution program	Wardropper, Chloe B.; Gillon, Sean; Rissman, Adena R.	Land and Use Policy	2017
IHR-PVS National Bridging Workshop for Somalia: An interactive and participatory approach for operationalizing the One Health roadmap	Osman, Abdinasir Yusuf; Saidouni, Asma; Wambua, Lillian Wayua; Mahrous, Heba; Malik, Sk Md Mamunur Rahman; Lubogo, Mutaawe; van de Weerdt, Reinhilde; Adam, Ali Hadji; Mohamed, Hassan Hussien; Al Makhzoumi, Khadija	One Health	2024
A Comprehensive Bibliometric Analysis of the Energy Poverty Literature: From 1942 to 2020	Zheng, Yuanhang; Xu, Zeshui; Skare, Marinko; Porada-Rochon, Malgorzata	Acta Montanist Ica Slovaca	2021

Source: Data processed by Author via Web of Science

After analysing these 13 articles in depth, we observe how they debate the subject in general and specific cases. In the part positioned below, we shall focus on this results' analysis to answer the questions posed for this research. Subsequently gathering intel on each abstract, we made a brief presentation for each selected article and completed our findings.

Brattland et al. (2019) introduced the term social-ecological timeline, which can help us better understand how the human race has adapted to a coastal environment over time. The authors claim that reviewing historical reactions to environmental changes may give us significant insights into dealing with future coastal concerns. The premise is that human populations and ecosystems are inextricably linked, and learning from past adaptations may help guide more sustainable responses to future coastal changes.

Golden et al. (2024) look at how fisheries might improve their ability to adapt to climate change. The authors adopt a practical approach, interviewing industry executives and comparing their real-world experiences to academic climate adaptation ideas. They concluded that combining the scientific models and the fish industry top managers' field expertise is a recipe for success. Their report suggests that the partnership between theory and practice should be encouraged; as a result, fisheries can transform into climate change fighters in their case. Of course, this theory can be applied to all fields. Still, the value of the paper comes from choosing such a strong industry that, if not doing its activity ethically, can be a disastrous climate issue and threaten biodiversity loss.

Garcia-Sanchez et al (2025) wanted to examine the involvement of female executives in corporate decision-making, especially regarding climate transparency and decarbonisation initiatives. They explain that female leadership can be a rolling point for a business to be more open and to follow CSR initiatives better. Analysing multiple organisations' data, they concluded that women directors are more esteemed advocates in extensive anti-emissions activities reporting, vouching for more sustainable and responsible corporate practices.

Author Seth and his co-national crew examined in 2021 the challenge of making Indian cities more resilient to climate change. They draw the line at the difficulty of the combination discussed earlier between research and real-life application, mainly in a place of multi-level governance. The study underscores that climate resilience breaks from the glass box of science; it can also be applied in how different stakeholders, from state officials to the most simple community members, work together to ensure solutions that are, on the one hand, practical and, on the other hand, inclusive.

Coastal planning can be improved by using a fresh framework that unifies social and ecological systems. This perspective is brought by Lloyd et al. (2012), who encourage those in charge of planning to consider both the population and the environment when deciding on a coastal development or conservation strategy. When considering both human factors and ecological dynamics, the study argues that it is possible to create more sustainable communities on coastal lines that will be better equipped to face climate change or sea level rise.

Remaining at the nautical theme, the following paper, conceived by the two researchers Monios & Wilmsmeier (2022), investigates the changes to maritime governance due to the COVID-19 pandemic. They argue that this global event revealed the Achilles heel in this industry, such as overfishing and gradual environmental degradation. The two also explore how these surfacing issues arrived at sea level by rebranding the old growth models, militating for the opposite. If the industry shifts its focus from growth to sustainability, it will be able to reduce the industry's environmental footprint. When the new policies grab the flow of activity by the hook, regrowth is again possible.

Looking at ten years of trying to address the ever-growing problem of sargassum proliferation in the tropical Atlantic was a challenge accepted by Almela at al (2023). They called attention to the responses at a scientific and policy level to the analysed problem, sharing the world intel studied from nations affected by this strange phenomenon. Their paper doesn’t just give us information; it also provides future decision recommendations, urging the relevance of international cooperation, more research initiatives, and, of course, the involvement of the affected communities in decreasing the ecological footprint of sargassum proliferation.

Non-state players can significantly impact corroborating environmental policies under the United Nations framework. Weiss et al. (2027) decided to investigate how organisations such as NGOs, private enterprises, and civil society groups can model global legislation while seeking involvement from governmental state facilities. The article states that as important as a state’s role is in regulation, the influence of non-state groups is on a growing trend in changing how these challenges are handled at the planetarian level.

The urban environmental governance and the influence government-backed knowledge systems have on this topic is the focus point for De Slatte et al. (2024) in their article. Cities require reliable data and strong information systems that are adaptable to climate change, especially when it comes to water source management. They argue that a government that reinforces infrastructural knowledge can help the cities make more intelligent choices regarding water handling. This idea would work as a safety net, where the water systems are strong enough to hold against climatical disasters like floods, droughts, and rising temperatures.

Participatory methods are used to collect local ecological data and consider the social pulse of the situation regarding fish killings in Taal Lake, Philippines. Magcale-Macandog et al. (2014) aim to understand how this community formulates its opinion about the incident. To achieve this, they include this psychological tool by expecting solutions they, as domestic citizens, think would have the highest success rate. This article emphasises how native knowledge is pivotal in handling environmental problems and pushes communities toward decision-making involvement.

Monitoring and modeling a watershed management program for a source of pollution that doesn't arise from an identifiable point is challenging for Wardropper et al. (2017) There, they call attention to the inevitable unknown when taking the labour of keeping under observation predictive models, especially when it comes to undertaking pollution sources such as agricultural runoff translated as water from farm fields oversaturating the soil due to irrigation, rain, or melted snow that flows over the earth that can absorb into the ground, enter bodies of waters or evaporate. They suggest that by being aware of this uncertainty and trying to be more flexible, it is easier to approach this problem and better protect water quality.

Somalia was the host country of a national workshop implementing the One Health framework, which focused on the intricate relations between human, animal, and environmental well-being. This ambitious project was outlined by the research team led by Osman Abdinasir Yusuf (2024). As seen previously, it also applied a participatory approach, inviting different stakeholders to discuss using the given protocol. By doing this, they noted the importance of experts' collaboration in addressing health challenges in Somalia through a holistic, integrated approach.

The final article presents us with a detailed bibliometric analysis conducted by Zheng et al. (2021) on the topic of energy poverty, going back to its roots in 1942 until 2020. They analyse directions taken in research, Identify notable scholars and publications, and identify gaps in the literature. The report illuminates the trajectory of energy poverty research and leads future research to address energy access and poverty on a global scale.

The advancements made in the environmental governance field exhibit a transparent reposition from state-imposed regulations to an inclusive, all-hands-on-deck approach. The ever-growing complexity of environmental issues, such as climate change, coastal shifts, and biodiversity loss, has made a silent call to adaptability by integrating scientific research, local knowledge, and stakeholder collaboration. So, to be more explicit, the ideology of social-ecological timelines can be seen as a priceless mechanism in tracking and informing the evolution of our topic. Past strategies conceived by policymakers and researchers can be a powerful tool to develop approaches to control environmental change while being robust, inclusive, and sustainable.

Our results highlight the importance of incorporating scientific research, local knowledge, and the expertise of non-state actors, such as NGOs and private enterprises, in shaping effective climate policies (Figure 3). Furthermore, integrating social-ecological timelines and using participatory methods emphasise the significance of collaborative, adaptive solutions grounded in scientific theory and real-world practice. These findings underscore the importance of multi-level governance and community involvement in fostering more sustainable and resilient environmental governance frameworks.

Figure 3: Advancements in Climate Governance: Scientific Approaches and Innovations

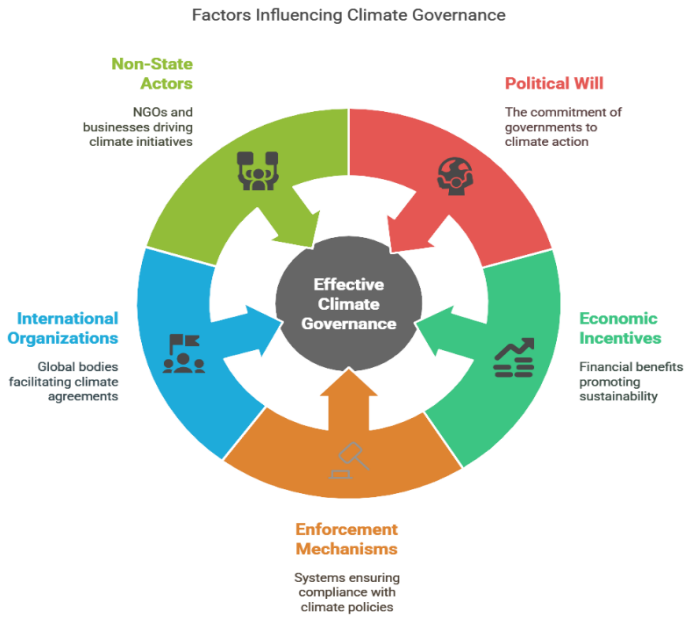


Source: Data processed by Author available at https://www.napkin.ai/

We take notice of how climate governance has become well-supplied in recent decades, moving from rigid, fitting-in-a-box approaches based on state authority to collaborative, participatory models that integrate local knowledge, scientific research, and the involvement of non-state actors to respond more effectively to environmental challenges.

Through the rigorous historical and comparative analysis backed by the systematic review approach, we have successfully captured the evolution of climate governance, highlighting its key milestones, persistent challenges, and significant advancements as it is portrayed below in Figure 4.

Figure 4: Major milestones, challenges, and advancements in climate governance



Source: Data processed by Author available at https://www.napkin.ai/

Our structured approach to selecting and analysing relevant contributions has provided a comprehensive and balanced perspective, synthesizing crucial insights into the dynamics of global climate policies. Figure 4 underlines the fact that difficult and constraining situations are still cemented, all while climate governance has made progress from early environmental awareness and acceptance to legally binding international protocols. The need for effective implementation involves stronger enforcement, increased financial support for developing nations, and increased collaboration between governments and non-state actors. As we advance, the ability to close these gaps will determine whether global climate policies can effectively mitigate risks and support long-term sustainability.

3. CONCLUSION

Together, these methodologies provided a comprehensive understanding of the dynamic trajectory of climate governance, highlighting both the progress made and the ongoing challenges in global environmental policy. The systematic review approach integrated scientific research, local knowledge, and non-state actors, highlighting the shift towards more inclusive, collaborative climate governance models and offering insights into how historical patterns and adaptive strategies could guide future policymaking. Our findings reveal a clear transition from a fragmented approach to a more structured and legally binding governance framework. While significant progress has been made, the effectiveness of climate policies remains highly dependent on political will, economic incentives, and enforcement mechanisms. Additionally, gaps in implementation persist, particularly in developing nations, underscoring the need for more efficient financial mechanisms and strengthened international cooperation. By having a glimpse of the past, and the remarkable evolution of the proposed subject, we can better understand how this has shaped the global approach and the call to action in a way that makes us aware of the challenges the world faces from the most insignificant bottle cap to oceans of waste. Humanity is going in the right direction, in terms of governance, when international cooperation took a turn for the better with significant agreements like the UNFCCC, Kyoto Protocol, and Paris Agreement providing platforms for collective action, but this doesn't offer a certainty that the disproportionate impacts of climate change can be restructured in the timeframe proposed by the governments. The outcomes of our perspective have significant indications that future research advancements in environmental policy management evolved from

skepticism to overwhelming agreement on the human impact on climate change. By going through many thoughts from different but intertwined fields, this study seems to have identified crucial perforations in real protocols, but also balanced the prospects of innovative sustainable development. Our findings suggest that an effective strategy would require tested scientific improvements, also with the help of ESG principles, being on the hunt for multidimensional collaboration. A significant message of these findings is the necessity to evolve governance protocols that promote partnership. Going from traditional thought regulations to more participatory procedures is a transformative way of action that gives a seat at the decision-making table to the non-state players, as documented in multiple studies analyzed here. Suppose we are attentive enough to acknowledge the expertise and points of view of various stakeholders such as scientists, legislators, business executives, and more importantly local communities. In that case, we can better assess the fact that in this way it is possible to respond to environmental issues more successfully. The examined papers also emphasize how crucial it is to incorporate historical and modern information when developing adaptation plans for the future. By offering essential insights into resilience-building and sustainable governance, lessons learned from previous environmental crises assist society in better anticipating and reducing future threats. The results also demonstrate how enhanced monitoring systems, predictive modeling, and participatory research techniques are examples of technological and methodological advancements that can boost adaptive capacity. From a tactics perspective, the results of our systematic review support the argument for adaptive governance that is flexible and responsive to emerging environmental threats. Policies need to be created with uncertainty and changing circumstances in mind so that they can be continuously learned from and adjusted to. Community participation in decision-making processes is essential to guarantee that adaptation strategies are not only theoretically sound but also socially just and practically feasible. This study supports the idea that solving environmental and climate-related issues requires an integrated and comprehensive strategy. Novel governance approaches, interdisciplinary partnerships, and context-specific adaptation techniques should all be investigated further in future studies. Societies may improve their sustainability and resilience to present and future environmental changes by promoting multi-stakeholder involvement and connecting scientific knowledge with real-world applications.

As we look to the future, it is clear that climate governance must evolve beyond traditional frameworks. Integrating local actions with global commitments, emphasizing adaptation and resilience, and a deeper commitment to climate justice are essential for addressing the escalating risks of climate change. Strengthening global cooperation, supporting vulnerable communities, and ensuring that all levels of governance are aligned with the urgent need for climate action will be critical in the coming decades.

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Sustainable Tourism Development in the Sharr Mountains Region

Alberta Tahiri[1] **Idriz Kovaçi[2]** **Diellza Misini[3]**

[1]Faculty of Management in Tourism, Hospitality and Environment, University "Haxhi Zeka" Pejë, UÇK 30000, Pejë, Kosovo, e-mail: alberta.tahiri@unhz.eu

[2]Faculty of Tourism and Environment, Tourism and Hotel Management, University of Applied, Sciences in Ferizaj, Ferizaj, Kosovo

[3]Faculty of Tourism and Environment, Tourism and Hotel Management, University of Applied Sciences in Ferizaj, Ferizaj, Kosovo, e-mail: diellza.misini@ushaf.net

Abstract: This paper investigates the potential for sustainable tourism development in the Sharr Mountains region, a biodiverse and culturally rich area spanning Kosovo, North Macedonia, and Albania. The study aims to identify strategies that balance environmental conservation with economic growth and community well-being. Utilizing a mixed-methods approach, including surveys, interviews with local stakeholders, and environmental impact assessments, the research highlights key opportunities and challenges in promoting sustainable tourism. Findings indicate that the region's unique natural landscapes and cultural heritage offer significant tourism potential, but also face threats from overdevelopment and environmental degradation. The paper proposes a framework for sustainable tourism that includes community-based initiatives, eco-friendly infrastructure, and policies that support conservation efforts. By integrating local knowledge and practices, the study emphasizes the importance of stakeholder collaboration in achieving long-term sustainability. The conclusions drawn from this research provide valuable insights for policymakers, tourism developers, and conservationists aiming to foster a sustainable tourism model in the Sharr Mountains region.

Keywords: Sustainable tourism, Sharr Mountains, Environmental conservation, Community-based initiatives, Cultural heritage

1. Introduction

Sustainable tourism has emerged as a vital concept for promoting both economic growth and environmental conservation, particularly in areas rich in natural and cultural heritage. The Sharr Mountains region, spanning across Kosovo, North Macedonia, and Albania, is a biodiversity hotspot with unique landscapes and a rich cultural history. However, like many tourism-dependent areas, the region faces challenges in balancing development with the need to preserve its natural resources and cultural heritage. This paper aims to explore the potential for sustainable tourism development in the Sharr Mountains, with a focus on identifying strategies that foster environmental conservation while ensuring local economic benefits and cultural preservation. The region's tourism potential lies in its diverse ecosystems, traditional villages, and religious sites, yet it remains underdeveloped and threatened by unregulated growth, illegal construction, and environmental degradation.

The research methodology employed in this study utilizes a mixed-methods approach, which includes qualitative data from surveys and interviews with local stakeholders, as well as environmental impact assessments. While the study does not rely on questionnaires or interviews exclusively, it emphasizes the importance of involving local communities, tourism operators, and government agencies in the development of a sustainable tourism framework. By assessing both environmental impacts and the socio-economic dynamics of the region, the study provides a comprehensive view of the challenges and opportunities associated with sustainable tourism development. The research questions guiding this paper include: What are the key factors influencing sustainable tourism in the Sharr Mountains? How can stakeholder collaboration contribute to the development of tourism practices that support both conservation and local community welfare?

The structure of this paper is organized into four sections. Section 1 provides an overview of the Sharr Mountains, focusing on its geographical, environmental, and cultural significance. Section 2 explores the challenges and opportunities associated with sustainable tourism development in the region, addressing issues such as infrastructure, environmental management, and community involvement. Section 3 discusses the strategic approaches for implementing sustainable tourism, emphasizing the role of stakeholder collaboration, policy frameworks, and eco-friendly initiatives. Finally, Section 4 offers conclusions and recommendations for policymakers and tourism developers, based on the findings of this study.

2. Overview of the Sharr Mountains Region

The Sharr Mountains, located in the southern part of Kosovo, extend across the borders of North Macedonia and Albania. Known for their spectacular natural beauty, rich biodiversity, and cultural heritage, the Sharr Mountains are a key geographical and ecological landmark in the Balkans. The region is home to a variety of ecosystems, ranging from alpine meadows and forests to wetlands, which support numerous plant and animal species, some of which are endemic to the area (Institute for Nature Conservation in Kosovo [INCK], 2020). The region's unique biodiversity has made it a prime candidate for conservation efforts and sustainable tourism initiatives aimed at protecting its natural resources.

In Kosovo, the Sharr Mountains are particularly significant for their role in the country's environmental and cultural landscape. The Sharr National Park, which is one of the main protected areas in Kosovo, encompasses parts of the mountains and provides a critical habitat for wildlife, including endangered species such as the Balkan lynx (Kosovo Ministry of Environment and Spatial Planning, 2016). The park also contains numerous archaeological and cultural sites, making it a potential hub for cultural tourism. The diverse landscapes and historical significance of the region offer significant opportunities for eco-tourism, rural tourism, and cultural tourism, all of which can be integral to sustainable tourism development (Rraci et al., 2018).

However, despite these opportunities, the Sharr Mountains region faces several challenges. One of the primary issues is the environmental impact of unsustainable tourism practices. Rapid development, particularly in infrastructure and tourism facilities, has led to the degradation of ecosystems in certain areas of the mountains. A study by the Kosovo Environmental Protection Agency (2020) highlights the detrimental effects of tourism-related infrastructure projects, including deforestation, soil erosion, and pollution of water sources. This has raised concerns about the long-term sustainability of tourism in the region and the need for better management practices that prioritize environmental protection alongside economic development.

Cultural preservation also poses a significant challenge in the Sharr Mountains. While the region boasts a rich cultural heritage, including traditional architecture, crafts, and festivals, the pressure of mass tourism could undermine the authenticity of local customs and traditions. As pointed out by Shala et al. (2020), uncontrolled tourism can lead to the commercialization of cultural heritage, resulting in the loss of identity and the weakening of local traditions. To mitigate these risks, it is essential to adopt a sustainable tourism model that respects local cultures and ensures that the benefits of tourism are distributed fairly among local communities.

The role of local communities in sustainable tourism development is another crucial factor. Effective governance and community engagement are vital to ensuring that tourism benefits residents and does not lead to social or economic inequalities. Research by the Kosovo Ministry of Tourism (2019) emphasizes the importance of involving local stakeholders in tourism planning and decision-making processes. This approach can help ensure that the development of tourism infrastructure aligns with the needs and priorities of the local population while promoting environmental conservation and cultural preservation.

In light of these challenges, this study aims to identify strategies for promoting sustainable tourism development in the Sharr Mountains region of Kosovo. By exploring the interplay between tourism, community engagement, and conservation, this research seeks to provide practical recommendations for achieving a balance between tourism development and sustainability. The ultimate goal is to contribute to the creation of a tourism model that supports the long-term environmental, cultural, and economic well-being of the Sharr Mountains region.

3. Stakeholder Engagement in Sustainable Tourism Development

Stakeholder engagement plays a vital role in ensuring that sustainable tourism development efforts in the Sharr Mountains region are effective and inclusive. Sustainable tourism, particularly in ecologically and culturally rich areas, requires the active involvement of various stakeholders to balance environmental conservation, economic growth, and community well-being. In the context of the Sharr Mountains, stakeholders include local communities, government bodies, tourism operators, and environmental organizations. Engaging these groups in the tourism planning and development process is essential for creating a tourism model that is both responsible and beneficial for all involved parties (Chavez, 2018).

Local communities are central to sustainable tourism development. As the primary beneficiaries and stewards of the region's cultural and natural resources, their involvement ensures that tourism activities align with their values and needs. Community-based tourism (CBT) is a strategy that promotes local engagement in tourism development, allowing communities to take ownership of their tourism assets and benefit directly from tourism

revenues. This model helps preserve cultural heritage and supports the integration of local knowledge and practices into tourism offerings (Scheyvens, 2011). In the Sharr Mountains, local communities depend on traditional livelihoods such as agriculture, livestock farming, and handicrafts, making it crucial to integrate tourism into these activities in a way that complements and sustains them. By involving local people in the decision-making process, CBT fosters a sense of pride and responsibility, encouraging the sustainable management of both cultural and natural resources. However, for such engagement to be effective, local communities must be provided with the necessary training and resources to manage tourism initiatives. This includes educating them about sustainable practices, environmental conservation, and hospitality, ensuring that they are equipped to handle the challenges of tourism development effectively (Perkins et al., 2016).

Government agencies at both the local and national levels play an essential role in supporting sustainable tourism by creating policies and frameworks that encourage responsible tourism practices. In Kosovo, the government has recognized tourism's potential to drive economic growth but also acknowledges the risks it poses to environmental and cultural heritage. Thus, the development of effective policies is crucial for achieving a balance between tourism expansion and the protection of the region's natural and cultural assets (Kosovo Ministry of Environment and Spatial Planning, 2020). The government is responsible for establishing legal regulations that promote the sustainable development of tourism, including rules for infrastructure development, environmental impact assessments, and conservation efforts. Moreover, governments can facilitate the involvement of stakeholders by creating platforms for dialogue, where various groups, including local communities, tourism businesses, and conservation organizations, can collaborate on tourism-related initiatives. By encouraging multi-stakeholder collaboration, governments help ensure that tourism development is equitable and that the benefits are distributed fairly (Maksuti et al., 2017).

Tourism operators and the private sector also play a significant role in sustainable tourism development. As the main providers of tourism services, such as accommodations, tours, and transportation, tourism businesses have a direct influence on the environmental and social outcomes of tourism activities. Sustainable tourism practices can be incorporated into their operations through the adoption of eco-friendly infrastructure, the promotion of local cultural experiences, and the reduction of environmental impacts. By adopting sustainable business practices, tourism operators can reduce their ecological footprint, minimize waste, and promote energy efficiency (International Centre for Responsible Tourism, 2018). In the Sharr Mountains, for example, tourism businesses can support the local economy by sourcing food and materials locally, offering eco-friendly tours, and promoting environmentally responsible behavior among visitors. Moreover, tourism operators can collaborate with local communities to create authentic, culturally enriching experiences that respect local traditions while providing economic opportunities. This partnership between the private sector and local communities is vital for creating a sustainable tourism ecosystem that benefits both the environment and the people (Wearing & McDonald, 2017).

Environmental organizations and conservationists also play a pivotal role in ensuring that tourism development in the Sharr Mountains does not compromise the region’s biodiversity or ecosystems. Organizations such as the Institute for Nature Conservation in Kosovo (INCK) and other environmental groups work to protect the region’s unique natural resources through conservation programs, habitat restoration, and biodiversity monitoring. These organizations provide valuable expertise in environmental management, helping to integrate sustainability into tourism development by conducting environmental impact assessments, identifying critical habitats, and developing strategies to mitigate tourism-related damage (INCK, 2020). For instance, the Sharr Mountains are home to a variety of endangered species, and tourism activities, if not properly managed, can lead to habitat degradation, pollution, and resource overuse. Environmental organizations help ensure that tourism infrastructure and activities are designed in a way that minimizes negative impacts on local ecosystems. Furthermore, their work in advocacy and policy development can support the creation of protected areas and conservation programs that safeguard the natural beauty and ecological health of the region for future generations (Kastrati et al., 2019).

The success of sustainable tourism development in the Sharr Mountains hinges on the active and collaborative engagement of these stakeholders. By working together, local communities, government agencies, tourism operators, and environmental organizations can create a tourism model that balances economic growth with environmental and cultural conservation. Stakeholder engagement is not only about including all relevant parties in the decision-making process but also about fostering collaboration and building partnerships that promote long-term sustainability. All stakeholders must recognize their roles and responsibilities in protecting the region’s natural and cultural assets while ensuring that tourism contributes positively to the local economy and community well-being (Chavez, 2018).

In conclusion, the Sharr Mountains region offers significant potential for sustainable tourism development, but achieving this requires the coordinated efforts of multiple stakeholders. Effective stakeholder engagement ensures that tourism development respects local traditions, minimizes environmental impacts, and provides equitable economic benefits. This approach helps build a tourism industry that can support local livelihoods, preserve cultural heritage, and protect the natural environment, contributing to the long-term sustainability of the region (Kosovo Ministry of Environment and Spatial Planning, 2020).

4. Key Findings on Sustainable Tourism Strategies in the Sharr Mountains

The study's findings underscore several important opportunities and challenges related to the promotion of sustainable tourism in the Sharr Mountains region. The region's diverse natural landscapes, rich biodiversity, and cultural heritage provide an excellent foundation for sustainable tourism development. However, this potential is accompanied by numerous environmental and social challenges that must be addressed through carefully planned strategies and stakeholder collaboration. The results of the study suggest that, with the right management and coordination, sustainable tourism in the Sharr Mountains can contribute significantly to local economic development, environmental conservation, and cultural preservation.

One of the key findings of the study is the region’s significant tourism potential, particularly in eco-tourism and cultural heritage tourism. The Sharr Mountains are home to unique natural features, such as alpine meadows, glacial lakes, and diverse flora and fauna, which attract nature-based tourists. Additionally, the region’s cultural heritage, including traditional villages, religious sites, and local crafts, offers valuable opportunities for developing cultural tourism that emphasizes local traditions and customs. These two pillars—eco-tourism and cultural heritage tourism—are closely aligned with the principles of sustainable tourism, as they focus on preserving the environment and promoting local culture. According to recent studies, eco-tourism and cultural heritage tourism are increasingly sought after by travelers who value authenticity, sustainability, and the preservation of nature (Gössling et al., 2018). By capitalizing on these trends, the Sharr Mountains can attract a growing number of responsible tourists who are conscious of the environmental and cultural impacts of their travel.

Despite this potential, several challenges hinder the development of sustainable tourism in the Sharr Mountains. One of the main obstacles is the lack of adequate infrastructure and facilities, particularly in more remote areas. Many of the villages in the region have limited access to modern infrastructure such as paved roads, electricity, and waste management systems, which can discourage tourists and hinder the development of tourism services. Moreover, the absence of proper tourism management frameworks has led to uncontrolled development, especially in areas with high tourism potential, resulting in environmental degradation. For instance, illegal construction of hotels, resorts, and tourist facilities has been a concern in some parts of the region, leading to habitat destruction and pollution. These types of unregulated developments threaten the very resources that attract tourists in the first place (UNWTO, 2019). The study indicates that addressing these infrastructure gaps and ensuring proper regulation of tourism development are crucial steps in maintaining the environmental integrity of the Sharr Mountains.

Environmental conservation is another critical aspect of sustainable tourism development in the region. While the Sharr Mountains are rich in biodiversity, the region faces several threats to its ecosystems, including deforestation, overgrazing, and pollution. Unsustainable agricultural practices, such as excessive use of pesticides and fertilizers, also contribute to the degradation of the soil and water resources, which further impacts biodiversity. According to recent reports, biodiversity loss and ecosystem degradation in tourist destinations are often exacerbated by poorly managed tourism activities that result in habitat disruption, waste accumulation, and wildlife disturbance (Balmford et al., 2015). The findings of this study stress the need for a comprehensive environmental management plan that includes strict regulations on tourism-related activities, such as limiting the number of visitors in sensitive areas, promoting eco-friendly infrastructure, and enforcing environmental protection laws.

Furthermore, the study reveals that there is a significant opportunity to integrate community-based initiatives into the tourism development process. Local communities in the Sharr Mountains have a deep connection to the land and its natural resources, and their involvement in tourism development can help ensure that tourism benefits are widely distributed and that the region's cultural and environmental heritage is preserved. Several successful models of community-based tourism have been implemented in other parts of Kosovo and the Western Balkans, demonstrating that local engagement can lead to greater tourism sustainability. Community-based initiatives, such as offering guided tours led by residents, promoting handicrafts and local food products,

and involving locals in the management of natural resources, can help create economic opportunities while ensuring the preservation of local culture (Fletcher et al., 2017). The findings suggest that strengthening local involvement through capacity-building programs, education, and training is crucial for the long-term success of sustainable tourism in the region.

The study also highlights the importance of multi-stakeholder collaboration in achieving sustainable tourism development in the Sharr Mountains. Effective collaboration between local communities, government agencies, tourism operators, and environmental organizations is necessary to create a tourism model that is both economically viable and environmentally responsible. One of the most promising strategies is the development of a regional tourism management plan that incorporates input from all stakeholders and is supported by government policies and regulations. A collaborative approach helps ensure that all perspectives are considered and that tourism development aligns with the region's long-term sustainability goals. Furthermore, partnerships between tourism operators and local communities can result in the creation of sustainable tourism products that meet the needs of both visitors and residents. For example, promoting eco-friendly tours that highlight the region's biodiversity, while simultaneously providing economic opportunities for local guides and artisans, can create a mutually beneficial relationship that supports sustainability (Pforr & Hosie, 2015).

In conclusion, the study identifies several key opportunities for sustainable tourism in the Sharr Mountains, as well as the challenges that need to be addressed to unlock its full potential. The development of eco-tourism and cultural heritage tourism, combined with strong infrastructure, community involvement, and effective environmental management, can help create a sustainable tourism model that benefits both the local economy and the environment. The findings emphasize the importance of a collaborative approach to tourism development, where all stakeholders work together to ensure that the region's cultural and natural resources are preserved for future generations.

5. Conclusion

This study highlights the substantial potential for sustainable tourism development in the Sharr Mountains region, emphasizing the need for a balanced approach that integrates environmental conservation, community engagement, and economic growth. While the region boasts exceptional natural and cultural assets that attract eco-tourism and heritage-based tourism, these resources are under threat from unsustainable development practices, lack of infrastructure, and environmental degradation. The findings reveal that addressing these challenges requires a concerted effort from multiple stakeholders, including local communities, government agencies, tourism operators, and environmental organizations.

A key takeaway from the study is the importance of stakeholder collaboration in fostering a sustainable tourism model. Local communities, with their intimate knowledge of the region's resources and traditions, must be actively involved in decision-making and management processes. Additionally, government policies must be aligned with sustainability goals to ensure that tourism development is regulated and environmentally responsible. The study also underscores the need for a robust infrastructure framework that supports both tourism growth and environmental preservation, including waste management systems, eco-friendly accommodations, and sustainable transport options.

Furthermore, the research emphasizes that community-based tourism initiatives offer significant promise for creating a more inclusive and sustainable tourism model. By promoting local cultural and environmental stewardship through tourism, the Sharr Mountains can achieve a dual benefit—empowering communities economically while safeguarding their heritage and ecosystems. Effective environmental management practices, such as limiting visitor numbers in sensitive areas and adopting conservation policies, are essential to preserving the region's unique biodiversity and natural landscapes.

Ultimately, the findings suggest that sustainable tourism in the Sharr Mountains will require long-term commitment, strategic planning, and continuous collaboration among all involved parties. Policymakers, tourism developers, and conservationists must work together to implement policies and frameworks that support both the preservation of the region's resources and the socioeconomic development of local communities. In doing so, the Sharr Mountains can become a model for sustainable tourism, balancing the needs of nature, culture, and the local economy for future generations.

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Culture and Hospitality in the Dukagjin Region

Blerina Bytyçi[1] Alberta Tahiri[2] Idriz Kovaçi[3] Diellza Misini[4]

[1]Faculty of Tourism and Environment, Tourism and Hotel Management, University of Applied Sciences in Ferizaj, Ferizaj, Kosovo, e-mail:blerina.bytyci@ushaf.net

[2]Faculty of Management in Tourism, Hospitality and Environment, University "Haxhi Zeka" Pejë, UÇK 30000, Pejë, Kosovo, e-mail:alberta.tahiri@unhz.eu

[3]Faculty of Tourism and Environment, Tourism and Hotel Management, University of Applied Sciences in Ferizaj, Ferizaj, Kosovo, e-mail: idriz.kovaci@ushaf.net

[4]Faculty of Tourism and Environment, Tourism and Hotel Management, University of Applied Sciences in Ferizaj, Ferizaj, Kosovo, e-mail: diellza.misini@ushaf.net

Abstract: This paper explores the rich cultural heritage and distinctive hospitality practices of the Dukagjin region in Kosovo. The study aims to provide a comprehensive understanding of how traditional customs and social norms shape the hospitality industry in this area. Through a combination of ethnographic fieldwork, interviews with residents, and analysis of historical documents, the research highlights the unique elements that define Dukagjin's cultural identity. Key findings reveal that hospitality in Dukagjin is deeply rooted in the concept of "besa" (a pledge of honor), which influences social interactions and community cohesion. The paper also examines the role of traditional music, dance, and culinary practices in fostering a sense of belonging and cultural continuity. By shedding light on these aspects, the study contributes to broader discussions on cultural preservation and the impact of globalization on local traditions. The findings underscore the importance of maintaining cultural heritage as a means of promoting sustainable tourism and enhancing the visitor experience in the Dukagjin region.

Keywords: Dukagjin region, Cultural heritage, Hospitality practices, Besa (pledge of honor), Traditional customs, Sustainable tourism.

1. Introduction

The Dukagjin region of Kosovo is renowned for its rich cultural heritage and unique hospitality practices, which have been preserved through generations. These customs are not only integral to the social fabric of the region but also play a significant role in shaping the local tourism industry. Cultural heritage can be understood as the practices, traditions, and values passed down through generations, which define the identity of a particular group (Smith, 2017). In the case of Dukagjin, these elements include traditional music, dance, and culinary practices, all of which contribute to the region's sense of belonging and community. The hospitality in Dukagjin is especially shaped by the concept of "besa," a pledge of honor that forms the foundation of social interactions and community cohesion (Hoxha, 2019).

This study adopts an ethnographic approach to explore the relationship between culture and hospitality in the Dukagjin region. By conducting fieldwork and analyzing historical documents, the research delves into the ways traditional customs influence the hospitality sector without relying on questionnaires or interviews. The central research questions include: How do cultural practices in the Dukagjin region shape its hospitality industry? What role does the concept of "besa" play in the region's hospitality practices? How do traditional music, dance, and culinary practices contribute to the cultural identity of Dukagjin and its tourism appeal?

The paper is structured as follows: Section one explores the cultural heritage of the Dukagjin region and its significance to local identity. Section two examines the hospitality practices and how these are influenced by social norms and traditions. Section three discusses the impact of cultural preservation on sustainable tourism and its potential for enhancing the visitor experience. Finally, the Conclusions section synthesizes the findings and offers recommendations for promoting cultural heritage through tourism in the region.

2. Cultural Heritage of the Dukagjin Region

The Dukagjin region in Kosovo is a significant repository of cultural heritage, where traditional customs, values, and practices continue to shape the identity of the local community. Cultural heritage encompasses both tangible and intangible elements, including customs, folklore, language, music, dance, and architecture, all of which serve to preserve and transmit the history and identity of a community (Smith, 2017). In Dukagjin, these elements are

deeply embedded in daily life, and they play a critical role in shaping the hospitality practices that are central to the region's tourism appeal.

One of the central tenets of Dukagjin's cultural heritage is the concept of *besa*, a pledge of honor that underscores the region's hospitality practices. *Besa* is not just a social custom but a moral and ethical principle that governs interactions and relationships. It is often described as a sacred pledge that guarantees the safety and protection of guests. The practice of offering hospitality in this context is seen as a deep commitment to one's integrity and the wellbeing of others (Hoxha, 2019). This notion of trust and honor is vital to the hospitality culture in Dukagjin, where hosts go to great lengths to ensure the comfort and security of their guests. As such, *besa* plays a crucial role in the social cohesion and identity of the Dukagjin people, shaping the way hospitality is understood and practiced within the community.

In addition to *besa*, the region's oral traditions, such as folklore, music, and dance, are integral to understanding its cultural heritage. Music and dance in Dukagjin are not only expressions of joy and celebration but also serve as vehicles for transmitting cultural values, historical narratives, and community identity. Folk music, with its distinct rhythms and melodies, often narrates stories of love, valor, and struggle, while traditional dances bring people together, fostering a sense of unity and shared cultural history (Mujaj, 2021). These performances are crucial during public events such as weddings, religious festivals, and communal gatherings, reinforcing the bonds between generations. As such, they act as a living testament to the historical and cultural continuity of the region (Bajrami, 2020).

The culinary practices of Dukagjin are equally significant to its cultural heritage. Traditional food not only reflects the agricultural and economic practices of the region but also serves as an expression of hospitality. Meals are often prepared using locally sourced ingredients, with recipes passed down through generations, showcasing the region's agricultural diversity. Sharing food in Dukagjin is a communal activity that promotes social interaction and strengthens relationships, making it a fundamental aspect of the region's hospitality (Bajrami, 2020). The culinary traditions of the region are also a key point of interest for tourism, where visitors can experience Dukagjin's culture through its food, enhancing their overall cultural immersion.

The preservation of cultural heritage in Dukagjin, however, faces challenges due to globalization and the rapid expansion of tourism. While these forces can bring economic benefits, they also pose a risk to the authenticity and sustainability of cultural practices (Gashi, 2022). Globalization often leads to the commercialization of cultural traditions, which may dilute their original meaning and significance. Therefore, efforts to balance the preservation of cultural heritage with the demands of modern tourism are crucial for maintaining the region's identity (Krasniqi, 2021). Sustainable tourism practices that focus on cultural preservation are essential to ensuring that Dukagjin's traditional hospitality and customs continue to thrive in the face of external pressures.

In sum, the cultural heritage of the Dukagjin region is a dynamic blend of traditional practices and modern influences, with *besa*, music, dance, and cuisine forming the core elements that define its identity. Understanding these traditions and their influence on hospitality is essential for promoting sustainable tourism and preserving the unique cultural landscape of the region.

3. Hospitality Practices in the Dukagjin Region

The hospitality practices in the Dukagjin region are deeply rooted in traditional cultural values and serve as an essential aspect of the region's identity. These practices are shaped by a long history of social customs that prioritize generosity, trust, and respect for others, particularly guests. Hospitality in Dukagjin is seen as a reflection of one's honor, with the concept of *besa* (pledge of honor) acting as the cornerstone of these interactions. Understanding how these practices manifest in the daily lives of Dukagjin residents is crucial for exploring the role of culture in the region's hospitality sector.

At the heart of Dukagjin's hospitality is the practice of welcoming guests with open arms and ensuring their safety and well-being. This tradition extends beyond the material aspect of providing food and shelter; it embodies a moral obligation to protect and respect the guest, often to the point of prioritizing their comfort over the host's interests. The *besa* concept plays a vital role here, where offering hospitality is not merely a social duty but a deeply ingrained ethical responsibility (Hoxha, 2019). This pledge creates a framework in which hosts, often unspoken, promise to offer guests a sense of security and peace. This idea of sacred trust can be traced back to the traditional structures of rural Kosovo, where communities relied heavily on reciprocal relationships to maintain harmony and ensure mutual survival (Bajrami, 2020).

The importance of *besa* can be understood in the context of how it is interwoven into everyday hospitality practices. When a guest enters a home in the Dukagjin region, they are offered food, drink, and shelter regardless of the host's circumstances. This extends beyond the formalities of mere hospitality to include an emotional connection, where the host feels personally responsible for the guest's well-being (Gashi, 2022). A host's reputation and social standing within the community are often determined by how well they treat their guests, which places significant value on the act of hospitality.

Another important element of hospitality in the Dukagjin region is the communal nature of social gatherings. Food plays an essential role in fostering social cohesion and creating bonds between individuals. Traditional meals are often prepared for large groups, and communal eating is a symbolic expression of unity. Meals are typically served in large platters, allowing guests to help themselves and share food in a manner that strengthens the sense of togetherness (Krasniqi, 2021). In many cases, the food served reflects local agricultural practices, with dishes prepared from ingredients grown or raised within the community. For example, *pite* (a savory pastry) and *flija* (layered pancakes) are staple foods that are commonly shared during family gatherings or festive occasions. The act of preparing and sharing these meals is an expression of hospitality that ties the region's culinary heritage to its social values.

In addition to food, traditional music and dance are integral components of hospitality practices in Dukagjin. They are often incorporated into social events, such as weddings, religious festivals, and family gatherings, to enhance the experience of hospitality and foster a sense of joy and unity. Folk music, played on traditional instruments like the *sharki* (a type of drum) and the *lahuta* (a single-stringed instrument), is frequently performed during these gatherings, with guests encouraged to join in singing and dancing (Mujaj, 2021). These communal celebrations of music and dance serve not only as entertainment but also as a means of reinforcing cultural identity and ensuring that traditions are passed down to younger generations.

Moreover, hospitality in the Dukagjin region is not confined to personal homes but extends to the broader community. In the past, when travel was more difficult and people relied on hospitality to complete their journeys, the region's inns and guesthouses became central to the hospitality infrastructure. These establishments were deeply influenced by the values of *besa*, and travelers were expected to be treated with the same respect and honor as they would be in a private home (Hoxha, 2019). Though modern hotels and accommodations have replaced many of these traditional inns, the values of hospitality and the welcoming spirit of Dukagjin remain vital in the tourism sector. The region's modern hospitality establishments continue to be influenced by these deeply embedded cultural norms, offering guests not only comfort but also a sense of belonging and connection to the local community.

While traditional hospitality practices are still prevalent, they are also being shaped by the growing tourism industry in the region. This brings both challenges and opportunities. The increasing number of tourists presents an opportunity for Dukagjin's hospitality sector to showcase its rich cultural heritage. However, it also necessitates a careful balance between preserving traditional practices and meeting the expectations of modern visitors (Gashi, 2022). As tourism becomes more commercialized, there is the potential for the region's authentic hospitality traditions to be diluted if not carefully managed. Therefore, the region must seek ways to integrate traditional hospitality practices into the tourism sector in a manner that remains true to the values of *besa* and other cultural traditions, ensuring that visitors can experience the unique social fabric of Dukagjin in its full richness.

In conclusion, hospitality in the Dukagjin region is far more than a simple exchange of services; it is an expression of cultural values, personal integrity, and social cohesion. Rooted in the principles of *besa*, hospitality in Dukagjin reflects deep-seated traditions that prioritize honor, respect, and generosity. These practices, which include communal meals, music, dance, and a welcoming spirit, not only contribute to the local identity but also play a vital role in the region's tourism economy. As the tourism sector continues to grow, maintaining the authenticity of these practices will be essential for preserving the unique cultural identity of the Dukagjin region.

4. Cultural Preservation and Sustainable Tourism in the Dukagjin Region

The relationship between cultural preservation and sustainable tourism has become a significant topic of discussion in the context of global tourism development. In regions like Dukagjin, Kosovo, where cultural heritage plays a central role in both community identity and the tourism industry, the integration of sustainable practices in tourism development is essential to ensure that cultural traditions remain intact. The challenge lies in maintaining the authenticity of these traditions while accommodating the economic growth brought by an

expanding tourism sector. This section delves into the opportunities and challenges of sustainable tourism in the Dukagjin region, focusing on how cultural heritage, particularly hospitality practices and social customs, can be preserved while promoting responsible tourism development.

Sustainable tourism is defined by the United Nations World Tourism Organization (UNWTO) as tourism that takes full account of its current and future economic, social, and environmental impacts, addressing the needs of visitors, the industry, the environment, and host communities (UNWTO, 2019). In the Dukagjin region, sustainable tourism practices must balance the preservation of cultural heritage with the influx of international tourists. The region's rich cultural heritage, including traditional hospitality, culinary practices, and music, is a key attraction for tourists, but tourism development mustn't erode these cultural elements. According to Agolli (2020), one of the primary concerns in cultural tourism is the commercialization of traditional practices, where cultural expressions become “commodified” to meet tourist expectations, potentially losing their authenticity.

A core principle of hospitality in Dukagjin is the concept of *besa*, which obligates hosts to provide protection, shelter, and care to guests, extending far beyond the simple act of serving food or providing lodging. This concept, which is deeply ingrained in local customs, is a fundamental aspect of the region’s cultural identity. However, the expansion of tourism presents challenges in maintaining the integrity of these practices. The commercial pressures of the tourism industry often encourage hosts to cater to tourists' desires for novelty or luxury, which may conflict with the traditional values of hospitality (Muja, 2021). Ensuring that *besa* remains central to hospitality practices requires the active involvement of local communities in tourism planning and the implementation of policies that emphasize cultural preservation alongside economic development.

One key strategy for promoting cultural preservation within tourism is the concept of community-based tourism (CBT), which involves residents in decision-making processes and encourages tourism that benefits the local community economically and socially (Puhalo & Marić, 2020). CBT ensures that the economic benefits of tourism are distributed fairly within the community, empowering locals to take ownership of their cultural heritage. This form of tourism allows visitors to experience Dukagjin's rich traditions while contributing to the preservation of those very traditions. For example, through CBT initiatives, local communities can offer visitors authentic experiences such as participating in traditional cooking classes, staying in guesthouses where traditional customs are followed, or engaging in folk music performances that highlight the region’s cultural identity. These activities promote the preservation of intangible cultural heritage while providing financial support for local artisans, chefs, and performers.

Furthermore, sustainable tourism in Dukagjin must also address environmental concerns to prevent overexploitation of natural resources. The region’s natural landscape is a key attraction for tourists, with its fertile plains, rolling hills, and traditional rural architecture. However, tourism activities such as increased construction, waste generation, and overuse of natural resources can have negative environmental impacts if not properly managed (Alijaj et al., 2022). Sustainable tourism practices, such as eco-friendly accommodations, waste reduction, and the use of locally sourced materials, can help mitigate these effects. Sustainable travel options, such as hiking tours, visits to eco-villages, and nature-based tourism, can also ensure that tourism supports the preservation of both cultural and environmental heritage. Integrating environmental sustainability into tourism development will allow Dukagjin to offer a comprehensive cultural and natural experience for visitors while minimizing the environmental footprint.

Education and awareness are crucial components in ensuring that sustainable tourism succeeds in Dukagjin. Tourists must be educated about the cultural values and practices that they are engaging with, as well as the importance of respecting local traditions and environmental practices. Tourism operators, local guides, and community leaders can play a significant role in educating visitors about the significance of *besa* and other regional customs, as well as the environmental challenges facing the region. According to Timotijevic & Jovic (2021), providing educational resources to both tourists and locals is a fundamental strategy in promoting sustainable tourism practices. This includes ensuring that tourists understand how their presence affects the community, encouraging them to support local businesses, and highlighting the importance of protecting the environment and cultural heritage.

In conclusion, sustainable tourism in the Dukagjin region can play a key role in preserving cultural heritage and supporting local economic development. By embracing community-based tourism models, promoting cultural education, and integrating environmentally sustainable practices, the region can ensure that its unique cultural identity remains intact while benefiting from the economic opportunities that tourism provides. The balance between preserving traditional practices and meeting the needs of modern tourists will require careful planning and collaboration among stakeholders, including local communities, government agencies, and the private

sector. Sustainable tourism that prioritizes cultural preservation will ensure that Dukagjin remains a vibrant and authentic destination for future generations.

5. Conclusions

The study of the Dukagjin region's cultural heritage and hospitality practices reveals a deep connection between local traditions and sustainable tourism development. As tourism continues to expand, it becomes crucial to preserve the region's unique cultural identity while fostering economic growth. The concept of besa, deeply embedded in Dukagjin's hospitality traditions, serves as both a social contract and a defining cultural practice that shapes the region's interactions with visitors. Maintaining the authenticity of such practices while embracing tourism opportunities requires a careful and balanced approach.

Sustainable tourism, when approached thoughtfully, has the potential to benefit the Dukagjin region in multiple ways, not only by contributing to local economic development but also by ensuring that cultural heritage remains intact for future generations. Community-based tourism has been identified as an effective model in this regard, providing a platform for local people to take an active role in the tourism industry and ensuring that the economic benefits of tourism remain within the community. However, the success of such an approach hinges on the education and active engagement of both tourists and locals, ensuring that the preservation of cultural values and environmental sustainability is prioritized.

Moreover, the preservation of the region's intangible cultural heritage, including traditional music, dance, and culinary practices, offers significant opportunities for enhancing the visitor experience while simultaneously safeguarding these traditions. By promoting initiatives that highlight these cultural aspects, Dukagjin can attract tourists seeking authentic experiences, while reinforcing the importance of cultural conservation.

Finally, as Dukagjin continues to develop its tourism sector, stakeholders must collaborate closely to establish policies and practices that balance tourism growth with cultural preservation and environmental sustainability. Only by integrating these values into the tourism framework can Dukagjin secure a sustainable future, where its cultural identity thrives alongside a robust and responsible tourism industry. This approach will not only protect the cultural and natural heritage of the region but also ensure that tourism in Dukagjin remains an enriching and mutually beneficial experience for both the local community and visitors alike.

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The Role of the Kaizen Philosophy in Sustainability

Boglárka Ipacs[1]

[1]bogi.ipacs@gmail.com

Abstract: Every manufacturing and service company strives to reduce its carbon emissions, which has evolved from being solely a voluntary corporate responsibility to becoming a requirement mandated by European Union regulations. The goals are ambitious, aiming for net-zero emissions by 2050 a formidable challenge for both small and large enterprises.

Beyond costly investments, many companies are exploring methodological tools that align with their foundational philosophies to operate more sustainably. One such approach is the Lean and Kaizen methodology, which fundamentally focuses on waste elimination, continuous improvement, and maximizing value creation. Originating from Japanese culture, the Kaizen philosophy was initially designed for production optimization and flow efficiency, particularly in the automotive industry. However, due to its success, it has been adopted in other sectors, including service industries, and now plays a role in sustainability initiatives.

This study presents a literature review aiming to uncover how the Lean/Kaizen methodology connects to sustainability efforts. The analysis clarifies key concepts related to corporate sustainability, elaborates on the importance of genuine sustainability initiatives in the corporate sector, and introduces one of the well-known tools for process improvement. The objective is to offer a potential alternative through a philosophy already present in multinational environments.

LITERATURE REVIEW

Sustainability is not a novel concept; discussions on environmental sustainability emerged in scientific and political discourse as early as the mid-19th century (Parham, 2017). Even during the Industrial Revolution, scholars and policymakers expressed concerns regarding the environmental consequences of rapid industrialization and societal transformation. However, a significant milestone in global environmental governance was the 1972 United Nations Conference on the Human Environment, commonly referred to as the Stockholm Conference (Kameri-Mbote & Kabira, 2024). This event marked the first concerted international effort to address environmental challenges, emphasizing the interconnectedness of human activities and environmental protection. It was acknowledged that environmental issues transcend national borders, necessitating coordinated global action to ensure long-term sustainability. The outcomes of the conference were encapsulated in the Stockholm Declaration, which was formally adopted by UN member states, outlining principles for global environmental management.

A further pivotal development was the formal articulation of the concept of sustainable development in 1987 by the Brundtland Commission in its report Our Common Future. The report provided a widely accepted definition of sustainable development, stating that it is "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Gerasimova, K., 2017). This definition underscores the necessity of balancing economic, social, and environmental considerations to achieve long-term global sustainability. The evolution of environmental sustainability has been significantly influenced by these key historical milestones and policy initiatives. In the industrial sector, sustainability has become a critical concern, largely driven by regulatory frameworks such as the European Union's Zero Carbon project. This initiative aims to achieve substantial reductions in greenhouse gas (GHG) emissions, with the strategic goal of decreasing emissions by at least 55% by 2030 compared to 1990 levels and attaining climate neutrality by 2050 (Stefanis et al., 2024).

The climate neutrality defined as " the idea of achieving net zero greenhouse gas emissions by balancing those emissions so they are equal (or less than) the emissions that get removed through the planet's natural absorption (Priti & Bhumika.,2022). This objective was established within the framework of the European Green Deal and was legally reinforced through the adoption of the European Climate Law in 2021. By codifying these targets into binding legislation, the EU has laid the foundation for its long-term climate neutrality commitments, ensuring that environmental sustainability remains a core component of industrial and economic development strategies.

The Zero Carbon project aligns closely with Goal 13 of the United Nations Sustainable Development Goals (SDGs), which emphasizes urgent action to combat climate change. A key objective of the project is to encourage developing nations to formulate strategic development plans aimed at reducing carbon emissions at the national level.

Figure 1. Evolution of sustainability efforts



Source: Own

Figure 2. Sustainable Development Goals



Source: https://unis.unvienna.org/unis/hu/topics/sustainable_development_goals.html

These efforts contribute to the broader global goal of limiting temperature increases to 1.4°C (Küfeoğlu, 2022). Furthermore, the project indirectly supports multiple other SDG targets, reinforcing the overarching agenda of sustainable development.

Integral to the achievement of these objectives is the Environmental, Social, and Governance (ESG) framework, which provides a structured approach for assessing corporate sustainability performance. The ESG framework consists of three core pillars—environmental, social, and governance—on which companies are required to report. The environmental pillar is particularly significant, as it mandates organizations to disclose their impact on the environment, including measures taken to reduce carbon emissions, the efficiency of natural resource utilization, waste management strategies, and climate-related risks associated with business operations (Agbakwuru et al., 2024). ESG reporting, therefore, plays a crucial role in advancing the SDGs at the corporate level by enhancing transparency and accountability.

Given the global scale of sustainability initiatives, standardized reporting mechanisms are essential to ensure consistency and comparability across industries and sectors. The Corporate Sustainability Reporting Directive (CSRD) was introduced to enhance corporate accountability and transparency regarding environmental and social responsibility. This directive plays a fundamental role in integrating ESG considerations into corporate business models and decision-making processes, thereby reinforcing sustainability principles in the private sector (Fornasari & Traversi, 2024).

While sustainability frameworks can be complex to navigate, they serve complementary roles in fostering both local and global efforts toward achieving sustainability objectives. In particular, they support the successful implementation of the Zero Carbon project by enhancing corporate transparency and accountability. Moreover, these frameworks play a critical role in mitigating the risks of greenwashing by ensuring that sustainability commitments are substantiated through measurable and verifiable reporting mechanisms.

Kaizen: A well-known philosophy for achieving sustainability

As environmental sustainability becomes an increasingly mandatory consideration for businesses, organizations are seeking effective methodologies to integrate sustainability into their operations. Among the well-established approaches that support this objective is the Kaizen philosophy, which has long played a significant role in corporate process improvement. Originating in Japan, Kaizen translates to "continuous improvement," deriving from the Japanese syllables kai (change) and zen (for the better). This philosophy gained prominence in Japan following World War II and subsequently achieved global recognition due to its effectiveness in fostering systematic and incremental improvements.

The introduction of Kaizen to the industrial world is primarily attributed to Toyota, which incorporated it into its Toyota Production System (TPS). Key figures such as Taiichi Ohno, Shigeo Shingo, and Kiichiro Toyoda contributed to the development of this system over several decades, integrating various methodological tools that transformed Kaizen from a mere set of techniques into a comprehensive corporate philosophy (Herron & Hicks, 2008). Unlike approaches that rely on radical, large-scale transformations, Kaizen emphasizes gradual, continuous improvements that cumulatively generate significant organizational advancements. A fundamental principle of Kaizen is the active engagement of all employees—from top management to frontline workers—in the improvement process. This participatory approach enhances operational efficiency while simultaneously fostering employee commitment and a sense of ownership over sustainability initiatives. By embedding Kaizen into corporate culture, companies can systematically enhance not only their production processes but also their sustainability efforts, ensuring long-term environmental and operational benefits. Kaizen distinguishes itself from earlier process improvement methodologies by emphasizing the optimization of the entire value stream and flow efficiency, rather than focusing solely on individual processes or process elements. Although the philosophy had been in practice for decades, it was not until 1986 that the term Kaizen gained widespread recognition. Masaaki Imai introduced the concept to a global audience through his book KAIZEN – The Key to Japan's Competitive Success (Imai, 1986), which highlighted its role in Japan's industrial achievements. The success of Kaizen within the Japanese automotive industry, particularly at Toyota, sparked international interest, especially in the United States. As part of a five-year research initiative, the Massachusetts Institute of Technology (MIT) conducted an in-depth study of high-performing Japanese manufacturers. This research culminated in the publication of The Machine That Changed the World by James P. Womack and Daniel T. Jones, in which the term Lean manufacturing was first introduced (Womack et al., 1990). The book described a revolutionary production system centered on communication, a problem-solving culture, and teamwork. Beyond offering case studies and practical examples, it also projected a vision of Kaizen's inevitable global expansion across industries. This prediction has since materialized, with Kaizen and Lean principles now widely applied beyond the automotive sector, extending into industries such as healthcare, supply chain management, public administration, and marketing. Moreover, as will be explored in this paper, these principles have also been integrated into sustainability initiatives, demonstrating their versatility in fostering continuous improvement across diverse domains. The concepts of Kaizen and Lean are not separate methodologies but rather complementary philosophies that share a common objective. While Lean represents the ultimate goal—maximizing value by eliminating waste—Kaizen serves as the continuous improvement pathway toward achieving that goal. Both approaches focus on reducing waste within the value stream to enhance overall added value. A variety of established tools support this waste elimination process, including 5S, Total Productive Maintenance (TPM) (Oliva-Rivera et al., 2024), the Seven Wastes methodology (Arunagiri & Gnanavelbabu, 2014), and Just-In-Time (JIT) (Lumbantobing & Nasution, 2023). These tools, originally developed for operational efficiency, can also be effectively applied to corporate sustainability initiatives. A shift in perspective allows

organizations to use these methodologies not only to eliminate process-related inefficiencies but also to minimize energy consumption and emissions, reinforcing environmental sustainability goals.

A notable adaptation of Lean-Kaizen methodologies for sustainability is the Energy Treasure Hunt (ETH), also referred to as Energy Kaizen. This structured, multi-phase event has been tested in the United States as a means of identifying and eliminating corporate energy losses. ETH follows the well-established Kaizen principle of waste hunting, focusing on operational inefficiencies that lead to excessive energy consumption (Miera et al., 2024). The ETH process typically unfolds over three days, during which improvement opportunities related to energy use are identified, particularly those arising from suboptimal operations or maintenance practices. The event primarily targets low-cost or no-cost improvements, ensuring that changes are both feasible and economically viable. Additionally, similar to the Plan-Do-Check-Act (PDCA) cycle, ETH is designed to be an iterative process, fostering continuous improvement and promoting an energy-conscious corporate culture. A crucial component of ETH is the presence of a facilitator, whose role is to guide the organization through three key phases: the preparation phase, the ETH workshop phase, and the follow-up phase. Beyond simply measuring energy losses, ETH emphasizes knowledge transfer, educating corporate participants with the skills needed to independently conduct future assessments. The use of readily available and cost-effective energy measurement devices ensures that the process can be repeated indefinitely, further embedding energy efficiency into corporate operations and fostering long-term sustainability awareness.

RESULTS

The initial implementation of the Energy Treasure Hunt (ETH) methodology was conducted in 17 manufacturing companies. Over the course of 17 workshops, a total of 371 opportunities for resource savings were identified, including 339 related to energy efficiency and 32 focused on water conservation. Among the most significant outcomes observed, the test period demonstrated a substantial reduction in CO_2 emissions, amounting to 146.45 million tons across the 17 participating companies. Furthermore, the overall financial savings totaled 16.2 million USD. Although financial return was not the primary objective of the workshops, the economic implications of energy losses remain a critical metric. This monetary dimension serves as a strong incentive for corporations, particularly those operating within profit-driven frameworks, to engage in sustainability efforts. The findings of this study confirm that the ETH methodology is not only effective in achieving tangible energy efficiency results but also highlights that existing Lean and Kaizen tools can be repurposed to drive sustainability. Rather than necessitating entirely new theoretical frameworks, the application of well-established process improvement methodologies provides a viable pathway for reducing environmental impact.

CONCLUSION

To align with global sustainability targets, companies employ various methodological tools, advanced machinery, and maintenance strategies. Among these approaches, those that generate substantial results with minimal or no investment hold particular significance, as profit maximization remains a key corporate priority. The Lean and Kaizen philosophies, as explored in this study, present an effective strategy for integrating sustainability into operational practices.

By shifting the focus of Lean methodologies from production efficiency to optimal energy utilization, organizations can systematically identify and mitigate inefficiencies, including energy losses, mechanical faults, and operational errors. This perspective not only contributes to emissions reduction but also enhances the overall sustainability of corporate activities.

The application of Kaizen thinking and tools offers a practical and results-oriented approach to sustainability, distinguishing it from superficial environmental initiatives often associated with greenwashing. By embedding these principles into corporate culture, businesses can enhance transparency, simplify sustainability reporting, and more effectively meet Zero Carbon targets. Ultimately, Kaizen methodologies provide a structured and impactful means of supporting sustainability objectives, demonstrating that environmental responsibility and business efficiency can be achieved simultaneously.

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Evaluation of the Sovereign Equal Two-State Solution Proposal in the Cyprus Issue*

Büşra Yağmur Mungan[1] **Doç. Dr. Müzehher Yamaç[2]**

[1]Uluslararası İlişkiler Uzmanı. munganbusra@gmail.com , ORCID: 0009-0009-6159-7369

[2]Tekirdağ Namık Kemal Üniversitesi/İktisadi İdari Bilimler Fakültesi, Uluslararası İlişkiler Bölümü, myamac@nku.edu.tr , ORCID: 0000-0001-8587-330X

Abstract: One of the significant unresolved issues in international law and diplomacy nowadays is the Cyprus issue. After in the process Turkey's Peace Operation in 1974, based on its guarantor rights, the island of Cyprus was de facto divided into two parts: North and South. In 1983, the declaration of independence by the Turkish Republic of Northern Cyprus (TRNC) sparked a new debate in the international arena. Immediately afterwards the United Nations Security Council adopted Resolution 541, which rejected the recognition of TRNC's independence. However, efforts to resolve the Cyprus issue first centered on a federal model, with the 1977-1979 High-Level Agreements under the mediation of the UN Secretary-General. These agreements laid the groundwork for a bi-zonal, bi-communal federal partnership with equal political status. In the 2000s, the most comprehensive proposal under the federal model was the Annan Plan. Although Turkish Cypriots accepted the Annan Plan in the 2004 referendum, it was rejected by Greek Cypriots. Subsequent negotiations failed due to ongoing disagreements between the parties. The last attempt at negotiations under the federal model, the Crans-Montana talks, collapsed due to a lack of trust between the parties, disputes over guarantor rights, and property-related disagreements.

In recent years, Turkey and TRNC have proposed a sovereign equal two-state solution. However, international actors such as the UN and the European Union continue to support the federal model. This study examines the two-state solution proposal and the potential for cooperation as a new alternative for a lasting resolution to the Cyprus issue. Additionally, it analyzes whether self-determination can be applied to the island instead of negotiating a federation or a weakened federal model by ensuring international support and fostering a conciliatory approach between the parties.

Keywords: UN Cyprus Negotiations, Turkish Republic of Northern Cyprus, Greek Cypriot Administration of Southern Cyprus, Peace Plans, Two-State Solution

Kıbrıs Sorununda Egemen Eşit İki Devletli Çözüm Önerisinin Değerlendirilmesi

Özet: Uluslararası hukuk ve diplomasi alanında günümüzde hala çözülemeyen önemli sorunlardan biriside Kıbrıs sorunudur. 1974 yılında Türkiye'nin garantörlük hakkına dayanarak gerçekleştirdiği Barış Harekâtı sonrasında Kıbrıs Adası fiilen Kuzey ve Güney taraf olmak üzere ikiye bölünmüş, 1983 yılında ise Kuzey Kıbrıs Türk Cumhuriyeti'nin (KKTC) bağımsızlığını ilan edilmesi uluslararası alanda yeni bir tartışmaya neden olmuştur. Hemen ardından Birleşmiş Milletler Güvenlik Konseyinin 541 sayılı KKTC'nin bağımsızlık ilanını tanımama kararını almıştır. Ancak Kıbrıs sorunun çözümü adına ilk olarak federasyon temelinde 1977-1979 Doruk Anlaşmalarıyla BM Genel Sekreter arabuluculuğunda yürütülen iki kesimli iki bölgeli eşit siyasi statüde federal ortaklığa dayanan müzakereler önemli bir yere sahiptir. 2000'li yıllara gelindiğinde ise federasyon modelinde en kapsamlı çözüm Annan Planı olmuştur. 2004 yılında yapılan referandumda Kıbrıslı Türkler Annan Planını kabul etmesine rağmen, Kıbrıslı Rumlar tarafından reddedilmiştir. Devam eden süreçte gerçekleştirilen müzakereler de taraflar arasındaki görüş ayrılıkları nedeniyle sonuçsuz kalmıştır. Federasyon modelinde son müzakere Crans Montana görüşmelerinde, taraflar arasındaki güven eksikliği, garantörlük tartışmaları ve mülkiyet anlaşmazlıkları nedeniyle başarısız olmuştur.

Son yıllarda ise, Türkiye ve KKTC, egemen eşit iki devletli çözüm modelini önermiştir. Buna karşın BM ve Avrupa Birliği gibi uluslararası aktörler federasyon modelini desteklemeye devam etmektedir. Bu çalışmada, Kıbrıs sorununa kalıcı bir çözüm bulunabilmesi adına yeni alternatif olarak iki devletli çözüm önerisi ve işbirliği incelenecektir. Ayrıca uluslararası desteğin sağlanarak tarafların uzlaşmacı bir yaklaşım benimsemesi müzakere sürecinde görüşülen federasyon, zayıflatılmış federasyon değil de self determinasyonun adaya uygulanabileceği karşılaştırılması analiz edilecektir.

Anahtar Kelimeler: BM Kıbrıs Müzakereleri, Kuzey Kıbrıs Türk Cumhuriyeti, Güney Kıbrıs Rum Yönetimi, Planlar, iki devletli çözüm

1. INTRODUCTION

The United Nations (UN) is the principal administrative organization responsible for international conflict resolution and management today. It is common for negotiations to take a long time to resolve disputes between parties in the international arena (Mumcu, 2006: 129). In this context, Cyprus negotiations hold a significant

* Bu çalışmada, Doç. Dr. Müzehher Yamaç danışmanlığında Büşra Yağmur Mungan tarafından yazılan "Kıbrıs'ta Çözüm Önerileri Çerçevesinde BM Müzakerelerinin Değerlendirilmesi (2000-2021)" başlıklı yüksek lisans tezi çalışmasından yararlanılmıştır.

place. The UN-led negotiations, which began with the Beirut Agreement in 1968 to find a solution to the Cyprus issue, have continued to the present without yielding a resolution (Akgün, 2018: 89). Within UN-mediated Cyprus negotiations, several solution models, including federation, confederation, and a weakened central federation, have been proposed. During the past fifty years, discussions involving Turkey, Greece, the Turkish Cypriot, and Greek Cypriot communities have centered on the federation proposal attempt by the UN (Buruk & Demir Atay, 2020: 30). While negotiations often extend due to disagreements on unresolved issues, the real challenge lies not only in the complexity of the disputes but also in how the parties manage the conflict (Mumcu, 2006: 129-130). The approaches to disputed issues are shaped by the state or government's own roadmap (Mumcu, 2006: 130). Additionally, the socio-psychological conditions created following the British colonial period led to nationalism becoming a liberation movement, with Turkish Cypriots establishing the Turkish Resistance Organization (TMT) to advocate partition, while Greek Cypriots formed the National Struggle Organization (EOKA), escalating violence in an attempt to legitimize nationalist goals (Anastasiou, 2014: 38).

On March 4, 1964, the UN Security Council adopted Resolution 186, recognizing the Republic of Cyprus, which had collapsed in 1963, as the island's sole legitimate government and deploying the United Nations Peacekeeping Force in Cyprus (UNFICYP). This resolution deepened the division between the two communities by reinforcing the Greek Cypriot-dominated government while neglecting the Turkish Cypriots (Bulunç, 2007: 76). In the decade leading up to Turkey’s 1974 Peace Operation, the UN peacekeeping force failed to prevent massacres against Turkish Cypriots. Furthermore, Resolution 186 effectively legitimized the Greek Cypriot administration while disregarding the legitimacy of Turkish Cypriot governance (Şahoğlu, 2023: 2).

The failure of the Annan Plan referendum in 2004, in which Greek Cypriots overwhelmingly rejected a federal solution despite Turkish Cypriot acceptance, marked a turning point in the Cyprus issue (Önalp, 2007: 214-215). This study first examines the historical background of Cyprus negotiations, then explores the concepts of federation and confederation, and finally evaluates the UN’s refusal to recognize the TRNC by comparing it with other island states that have achieved recognition. The potential of the two-state solution as a new alternative in resolving the Cyprus issue is also analyzed. Additionally, the study investigates how this model could foster future cooperation between the Turkish and Greek Cypriot communities based on equal political status rather than revisiting unsuccessful federal models.

2. HISTORICAL PERSPECTIVE OF THE CYPRUS NEGOTIATION PROCESS

After the 1950s, the British Empire gradually relinquished its colonial territories to their rightful local communities, and its presence in the Mediterranean inevitably brought attention to Cyprus. However, he island was inhabited by two communities: Turks and Greeks, who had been experiencing conflicts since the late 19th century (Manisalı, 2003: 31).

While maintaining its influence within the Commonwealth, Britain viewed its military bases on the island as sovereign territory while allowing limited political organization under a nominal autonomy framework (Manisalı, 2003: 32). In 1947, constitutional assembly efforts began, with Greek Cypriots led by AKEL (Progressive Party of Working People) demanding self-governance, whereas Turkish Cypriots opposed this. The British governor, who introduced a self-government draft, dissolved the assembly on August 12, 1948, using AKEL's withdrawal as a pretext (İşyar, 2009: 755).

Subsequently, AKEL opposed British rule, advocating Enosis union with Greece “irrendentist policy” and initiating a self-determination movement, while the Church prioritized Enosis over AKEL. With Archbishop Makarios III's ascension in the 1950s, the Church's influence grew, but Britain opposed both the island’s union with Greece and its independence (İşyar, 2009: 756). In November 1957, the Turkish Resistance Organization (TMT) was established as an underground movement under Turkish leadership. On January 14, 1958, Turkish politician Nihat Erim stated that a Turkish state with a population of 120,000 could be established in Cyprus (An, 2017: 17).

On February 13 and 19, 1959, the Zurich and London Agreements were signed, proclaiming the independence of the Republic of Cyprus. However, Turkey, Greece, and Britain retained their rights over Cyprus, allowing Britain to maintain its bases, while Greece and Turkey stationed military contingents on the island with guaranteed intervention rights (Akşin, 2021: 253). Although Archbishop Makarios was elected president and Dr. Fazıl Küçük vice president, ensuring a seemingly resolved Cyprus issue, Greek Cypriots as soon as began efforts to dismantle the power-sharing system (Akşin, 2021: 253).

An important development in the 1962 Cyprus Constitution was the existence of separate municipalities for Greek Cypriots and Turkish Cypriots in the cities of Nicosia, Limassol, Famagusta, Paphos, and Larnaca. However, during the same period, Archbishop Makarios proposed the establishment of a single municipality in these five

cities, with Turkish Cypriots being represented in proportion to their population. This proposal effectively sought the abolition of Turkish municipalities (Aydın & Taşkın, 2020: 123). During his visit to Ankara from November 22-26, 1962, Makarios III proposal could not be altered by Ankara, and on December 6, 1963, a 13-article constitutional amendment that would have granted minority status to the Turkish Cypriot community was rejected by the II. İnönü government (Aydın & Taşkın, 2020: 123). Although Turkish municipalities announced on January 1, 1963, that they would continue their operations in these five cities, the Makarios government did not recognize them and placed them under blockade (An, 2017: 22).

During the intercommunal conflict that erupted on December 21, 1963, underground organizations with foreign affiliations revived the ideals of partition (Taksim) and union (Enosis). The Cyprus issue once again gained international prominence. On September 8, 1964, while addressing the Turkish Grand National Assembly (TBMM) on the future of Cyprus, Prime Minister İsmet İnönü stated, "We have begun discussions not under the official term of partition but in the form of a federation" (An, 2017: 22-23). The United Nations Security Council (UNSC), through Resolution 186 on March 4, 1964, deployed the UN Peacekeeping Force in Cyprus. However, this force failed to prevent Greek Cypriot attacks against Turkish Cypriots. Dr. Fazıl Kücük addressed a letter to the UN Secretary-General, condemning the Peacekeeping Force's inaction in the face of massacres (Göksan, 2022: 244).

The situation escalated further in 1967 with the Geçitkale and Boğaziçi attacked, during which many Turkish Cypriots lost their lives. Instead of a military intervention, Turkey apply for diplomatic measures, leading to an agreement with Greece (Önalp, 2007: 113). As a result, under orders from Greek Prime Minister Kollias, the Greek National Guard withdrew from Turkish villages after this period, known as the 1967 crisis, ultimately provided an advantage for Turkish Cypriots, who subsequently established the "Provisional Turkish Administration of Cyprus" (PTAC), marking the first step toward federation (Oran, 2020: 737-738). Dr. Fazıl Kücük was appointed as the president of PTAC, with Rauf Denktaş serving as his deputy. The administration declared 19 principles, effectively establishing a federal governance mechanism that structured legislative, executive, and judicial functions (Oran, 2020: 738).

During the civilian casualties years for Turkish Cypriots, following the 1963 "Bloody Christmas" and the 1964 Erenköy massacre, Turkey began considering the use of amphibious military forces and consequently, Turkey broke away from the Atlantic framework for the first time, developing an independent national strategy and diverging from NATO's military planning regarding Cyprus (Gürdeniz, 2021: 414).

The first intercommunal negotiations, known as the "intercommunal talks," began on June 24, 1968, at Ledra Palace in Nicosia, with Rauf Denktaş representing the Turkish Cypriot community and Glafkos Clerides representing the Greek Cypriot community. These negotiations proceeded in four phases until September 1971 but continued inconclusively until 1974 (Cerrahoğlu, 1998: 29-30). On July 15, 1974, the Greek military junta, with the support of Athens and in cooperation with the paramilitary organization EOKA-B, staged a coup against Makarios, who was labeled by the West as the "Castro of the Mediterranean." Consequently, on July 20, Turkey launched a full-scale military intervention by land, air, and sea, securing control over one-third of the northern part of the island (Broome & Anastasiou, 2012: 298).

Prior to the declaration of the Turkish Republic of Northern Cyprus (TRNC), the UN General Assembly issued Resolution 37/253 on May 13, 1983, which contained unfavorable elements for the Turkish Cypriots. The resolution, supported by Greek Cypriot leader Spiros Kyprianu, called for the complete demilitarization of the island and stated that "there is only one people in Cyprus" thereby categorizing Turkish Cypriots as a minority (Beratlı, 2020: 389-391).

By 1999, Greece abandoned its traditional foreign policy and supported Turkey's candidacy for European Union (EU) membership. At the Helsinki Summit in December 1999, EU leaders, including Greece, approved Turkey's candidacy (Broome & Anastasiou, 2012: 301). The Helsinki decisions led to a positive shift in Turkish-Greek relations. In January 2000, an agreement was signed to enhance cooperation in areas such as migration, illegal activities, and tourism development (Hale, 2021: 239). Greek Foreign Minister George Papandreou visited Ankara, talks the first visit by a Greek foreign minister to Turkey's capital in 36 years and after his Turkish counterpart, İsmail Cem, reciprocated the visit to Athens, where agreements were signed on non-contentious issues such as cultural and economic cooperation (Hale, 2021: 239).

Regarding the Cyprus issue, İsmail Cem acknowledged that progress was slow. However, in late January 2002, UN Secretary-General's Special Adviser on Cyprus, Alvaro de Soto, announced that Rauf Denktaş and Glafkos Klerides would resume negotiations (Özmen, 2018: 352). On June 15, 2002, UN Secretary-General Kofi Annan

visited the island for the first time since 1979, meanwhile Annan first met with Greek Cypriot leader Glafkos Klerides and later with TRNC President Rauf Denktaş, urging further steps toward resolving the Cyprus issue (Özmen, 2018: 353).

On November 11, 2002, United Nations Secretary-General Kofi Annan presented the "Annan Plan," named after him, to both the Turkish and Greek Cypriot sides. The plan underwent five revisions before being put to a simultaneous referendum on both sides of the island on April 24, 2004. While 64.96% of the Turkish Cypriots voted in favor, 75.83% of the Greek Cypriots rejected it (Yılmaz S., 2021: 73). Consequently, the Greek Cypriot Administration of Southern Cyprus (GCASC) was unjustly admitted to the European Union (EU), granting it veto power within the EU, while the Turkish Republic of Northern Cyprus (TRNC) continued to face isolation and embargoes (Yılmaz S., 2021: 73-75).

The Annan Plan contained several critical provisions. Primarily, it proposed the transfer of sovereignty to a single administration under the United Cyprus model. However, despite incorporating an equality clause, the plan effectively relegated the Turkish Cypriot administration to a minority status. Additionally, the plan lacked economic provisions and included clauses for the gradual withdrawal of Turkish troops from Cyprus while failing to address the British bases, thereby revealing its lack of impartiality (Yılmaz S., 2021: 73).

3. FEDERATION AND CONFEDERATION CONCEPTS

In the Cyprus negotiations, the Greek Cypriot side preferred a federation model with a centralized unitary state structure, whereas the Turkish Cypriot side favored either a federation with a weakened central authority or a confederation composed of two separate states (Erhüman, 2012: 1). The confederation model, long advocated by the Turkish side, is based on two fundamental principles (Kuzu, 2011: 38). The first principle posits that a confederation does not possess the attributes of a state or a distinct legal personality; rather, it operates solely through the mandates conferred by its constituent states. The second principle asserts that while a confederation has international legal status, it does not itself constitute a state, with its member states retaining their sovereignty and legal personality (Kuzu, 2011: 38). In general, a confederation is a contractual political entity rather than a legal one, as it lacks a common government superior to its member states and reflects a cooperative relationship based on shared political objectives. Moreover, member states retain sovereignty in both internal and external affairs (Kuzu, 2011: 38).

Unlike a confederation, which is founded on international agreements, a federation derives its authority from a federal constitution, allowing the federal government to exercise its powers over the federated states without requiring their consent. The primary point of contention in the Cyprus negotiation processes has been the issue of centralization versus decentralization. While the Greek Cypriots, representing the numerical majority, advocate for a centralized federation, the Turkish Cypriots insist on granting greater autonomy to the constituent states (Erhüman, 2012: 129).

4. NEW ALTERNATIVE APPROACHES IN NEGOTIATIONS

The Cyprus negotiations under the UN framework commenced with the 1977-1979 High-Level Agreements, and the federal model was once again proposed during the Annan Plan referendum and the 2017 Crans-Montana talks (Işıksal, 2024: 3). Following the failure of the Annan Plan referendum, on March 21, 2008, GCASC President Dimitris Hristofyas and TRNC President Mehmet Ali Talat agreed to address six key issues: "EU matters, governance and power-sharing, economic issues, territory, property, and security and guarantees" (Öğün & Tatar, 2019: 87). Both leaders were willing to make concessions, leading to new negotiations and progress over the next two years. On January 7, 2007, the Ledra Street Border in Nicosia, which had been closed since the 1963 events, was reopened, facilitating pedestrian crossings between Turkish and Greek Cypriot citizens and paving the way for additional border crossings (Akgün, 2018: 95).

In 2011, the discovery and exploration of natural gas and oil resources in the Eastern Mediterranean introduced a new dimension to the Cyprus issue. GCASC's collaboration with Israel to grant hydrocarbon and oil exploration licenses led to a dispute, as Turkey asserted that the exploration areas fell within its continental shelf. This development adversely affected the negotiation process (Zürcher, 2020: 397-398). By October 2014, Greek Cypriot leader Hristofias withdrew from negotiations, citing Turkish intervention in gas reserves as a justification, while GCASC was experiencing a severe economic crisis and sought to leverage natural gas as a means of economic recovery (Keser & Akbaba, 2020: 176). The significant hydrocarbon reserves has been discovered in the Eastern Mediterranean, GCASC could have engaged in constructive negotiations with Turkey and TRNC to facilitate resource transportation (Keser & Akbaba, 2020: 176).

TRNC President Mustafa Akıncı, advocating for a federal solution based on a bi-zonal, bi-communal model, participated in negotiations in Mont Pelerin, Switzerland, from November 7-11, 2016. However, no agreement was reached with Greek Cypriot leader Anastasiades on territorial and property issues (Akgün, 2018: 89-107). In the subsequent two rounds of negotiations in Geneva on January 12, 2017, Turkey and Greece also participated. However, the Greek Cypriot Parliament's February 2017 decision to commemorate the January 15, 1950 plebiscite in Greek Cypriot schools effectively halted negotiations (Osiewicz, 2020: 141-151).

Under the leadership of UN Secretary General Antonio Guterres, the Crans-Montana Cyprus negotiations were held from July 2-12, 2017, with the participation of foreign ministers from Turkey, the UK, and Greece, along with Turkish and Greek Cypriot leaders. However, the negotiations collapsed as the Greek Cypriot side insisted on the "zero troops, zero guarantees" proposal, while the Turkish Cypriot side demanded "sovereign equality" and a rotating presidency (Adıgüzel, 2019: 296). During the summer of 2020, discussions within TRNC regarding the withdrawal of Turkish troops underscored a critical point: while the EU permitted GCASC's militarization under PESCO decisions without controversy, Turkey's military presence in TRNC remains vital for the security of Northern Cyprus and the Eastern Mediterranean (Gürdeniz, 2021: 418).

4.1. Proposal For A Sovereıgn Equal Two-State Solution

For a sustainable resolution in Cyprus, Turkey has endorsed a two-state solution. Newly elected TRNC President Ersin Tatar first introduced this proposal at the informal 5+UN meeting in Geneva from April 27-29, 2024. This proposal aimed to establish a fair balance between both sides and initiate a formal negotiation process (Işıksal, 2024: 3). Following the establishment of political equality on the island, friendly relations and bilateral cooperation would be fostered.

The six point proposal included in Tatar's cooperation proposal were: *"i. Hydrocarbons resources, ii. Electricity Interconnection, iii. Renewable Energy, iv. Water, v. Demining of Cyprus, vi. Irregular Migration"* in additionally, Tatar emphasized the necessity of recognizing TRNC as a sovereign entity in line with UN parameters (Anadolu Agency, 2022).

Another critical issue for Cyprus is access to potable water. Due to the island's insufficient freshwater resources, the "TRNC Peace Water Project" was inaugurated by TRNC President Mustafa Akıncı on October 17, 2015 and morover this project involved the construction of an 80 km-long undersea pipeline at a depth of 250 meters, transporting freshwater from Anamur, Mersin, Turkey, to the Geçitköy Dam in Kyrenia (Yılmaz S., 2021: 124).

Through this approach, the significance of the Turkish Republic of Northern Cyprus (TRNC) will increase, facilitating potential cooperation and supporting initiatives such as the Manavgat Project, especially this will ensure the proper utilization of freshwater supplied from Turkey, especially in light of potential water scarcity in countries like Israel, Jordan, Palestine, and Malta beyond 2025, with a hydro-political perspective (Yılmaz S., 2021: 124).

4.2. The Recognition Process of States

The concept of a state essentially refers to the mechanism formed by a community of people within a specific territory. There are three fundamental elements that symbolize the existence of a state: territory, population, and sovereignty (Yılmaz R., 2014: 375). Recognition is considered a complementary element of statehood. For a newly established state to be recognized, it must meet three primary criteria: "i. having a defined territorial boundary, ii. maintaining sovereignty with an established political regime, iii. demonstrating the ability to fulfill international obligations"(Yılmaz, 2014: 375).

According to the Montevideo Convention, there are four essential conditions for statehood: "i. possessing a defined territory, ii. having a permanent population, iii. maintaining a government with effective authority over the entire territory, iv. possessing the capacity to engage in foreign relations" in ddition to Article 6 of the same convention states that "Recognition of a state is unconditional and irrevocable within the framework of international law" (Azarkan, 2016: 1063). Despite these principles, the TRNC is not recognized as a state by the United Nations, except by Turkey, and is instead disregarded in the international arena, with the so-called "Republic of Cyprus" being accepted as the legitimate authority (Söhret, 2019: 69).

4.2.1. Examples of Two-State Islands: A Comparative Analysis of Indonesia-East Timor and Haiti-Dominican Republic

Globally, there are island states recognized by the United Nations. One such example is the island of Hispaniola in the Americas, which hosts two separate and internationally recognized states: the Dominican Republic and

Haiti (Çeçen, 2014: 42). Another example is the island of Timor, where the eastern part constitutes the sovereign state of East Timor, recognized by the UN, while the western part remains under Indonesian sovereignty, and ın particularly, the western region has a predominantly Muslim population, whereas East Timor has a Christian majority demographic and occurs international recognition (Çeçen, 2014: 42).

Currently, the UN does not endorse the acquisition of territory through the use of force, aligning with the principle of "non-recognition of unlawful territorial acquisitions". However, there have been instances where the UN has recognized states that emerged from conflicts, contradicting this principle. Examples include the recognition of South Sudan following prolonged conflicts with Sudan, as well as the recognition of East Timor's independence despite Indonesia's opposition, demonstrating exceptions to the principle of non-recognition (Şöhret, 2019: 74).

5. CONCLUSION

This study has examined the negotiation processes concerning the Cyprus issue. Following the declaration of the Republic of Cyprus in 1960, efforts to maintain a unified Cyprus model based on political equality failed within three years. Throughout the negotiations, both Greece and Turkey have pursued their national interests in accordance with the prevailing political conjuncture. The international community, including the UN and the EU, has largely favored a federal solution for Cyprus. However, this study highlights that the decision not to recognize a founding state like the TRNC is primarily a political one.

The ongoing negotiation process has evolved from an initial inter-communal dialogue to a de facto division of the island into northern and southern regions. The Greek Cypriot administration represents the Greek Cypriot population, while the Turkish Cypriot administration represents the Turkish Cypriot population. Even before the 1974 Peace Operation, these communities maintained distinct cultural identities. The involvement of the EU in the Cyprus issue has further transformed the situation, particularly after the Greek Cypriot administration's accession to the EU following the rejection of the Annan Plan. The EU's insistence on a unified Cyprus model has been imposed on both communities.

For a fair and sustainable resolution, the political equality of the Turkish Cypriots as a co-founding community must be acknowledged. Given the failure of the federal, bi-communal, and bi-zonal approaches over the years, the statement by the UN Secretary General indicating openness to new ideas provides an opportunity for alternative solutions. The TRNC's advocacy for a two-state solution presents a new avenue for regional cooperation. Considering the strategic advantages of an equal and sovereign two-state solution in the Eastern Mediterranean, negotiations should prioritize the rights of both parties and adopt a sustainable model of cooperation.

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The Impact of Digitalization on Accounting Education and the Challenges for the Accounting Profession

Ciocșan Violeta-Diana[1] **Mihăilă Cosmin**[2]

[1] Bucharest University of Economic Studies, Faculty of Accounting and Management Information Systems,e-mail: ciocsanvioleta20@stud.ase.ro, ORCID: 0009-0009-0603-5670

[2] Bucharest University of Economic Studies, Faculty of Accounting and Management Information Systems, e-mail: mihailacosmin23@stud.ase.ro, ORCID: 0009-0000-9860-909X

Abstract: Digital transformations profoundly influence education and the accounting profession, necessitating a rapid adaptation to new technological realities. This paper examines the evolution of digitalization in Romania, Bulgaria, Slovenia, Croatia, and Greece, highlighting its impact on accounting education and practice while analyzing the historical and economic implications of this process. The study explores how these countries have embraced digitalization over the years and provides a current analysis of their digitalization levels using the Digital Economy and Society Index (DESI). In this article, DESI data has been analyzed to assess the degree of digital technology adaptation in SMEs and its influence on accounting education.

For the accounting profession, digitalization presents both significant opportunities and major challenges. The paper emphasizes the necessity for accounting professionals to continuously adapt to emerging technologies, considering the transition towards process automation and the integration of artificial intelligence. In this context, accounting education must address new requirements by updating curricula and adequately preparing future accountants to navigate the challenges of digitalization. This study also suggests that closer collaboration between the education sector and the business environment could support a more effective digitalization process for the accounting profession across the region. However, these changes require continuous retraining and adaptation of educational programs to include advanced digital skills.

The results highlight disparities between countries, highlighting factors such as digital infrastructure, investment in technology and the adaptability of education systems.

Keywords: digitalization, education, profession, accounting, DESI.

1. INTRODUCTION

In recent decades, digitalization has had a major impact on the accounting profession and the education it provides. Thus, people in this field have had to adapt to new learning methods and constantly changing skills. In the 1990s, technology was not advanced, the work performed by accountants was basically based on physical documents and manual calculations. While currently, due to the new requirements from users of financial information regarding the evolution of technology in recent years, accountants are forced to comply, requiring a shift towards accounting more in the IT environment. In education, digitalization has brought benefits in terms of information from online platforms, thus facilitating the way in which teachers and students interact. Moving from a learning environment provided with physical teaching through textbooks, to models in which it can also be taught online. Thus, the information is updated, compared to textbooks, and the teaching method is more flexible. Digitalization has brought many benefits, but at the same time with many challenges, which must be constantly met by accounting professionals and teachers.

2. REVIEW OF THE SPECIALTY LITERATURE

Accounting education has faced numerous changes in recent decades, adapting to the transition from planned to market economies and the integration of international financial reporting standards. In order to respond to market changes and the requirements of the modern business environment, Universities in the region have moved from a curriculum based predominantly on traditional accounting and taxation, to a curriculum that is based on current issues, such as IFRS-based reporting, advanced financial analysis and digital auditing. The development of higher education in the field of accounting is essential to ensure adequate training of future accounting professionals, with an emphasis on practical and theoretical skills (McGee, 2009).

For the Balkan countries that joined the European Union, such as Greece, Bulgaria, Croatia, Romania and Slovenia, harmonizing accounting education with Western standards has been a priority. This process has progressed much faster in these countries compared to those that are not part of the EU, due to the pressure and support provided by the European Union for alignment with community standards

Gradually, in addition to harmonizing with international requirements and regulations, accounting education has also had to keep pace with technological developments. From simple theories to the practical application of knowledge, to case studies and the use of advanced IT technologies in accounting to meet the needs of global markets. Digitalization has significantly influenced accounting education in Romania, bringing both benefits and challenges. This has led to the integration of innovative technologies and ERP systems into accounting education, improving efficiency and transparency, but also encountering obstacles related to financial resources and limited digital expertise (Marioara et al., 2022; Căldăraru, 2024; Guşe and Mangiuc, 2022).

The technologies with the greatest potential for the accounting profession are those capable of processing huge volumes of data, exceeding the analytical capacity of a human expert. "The analysis of the specialized literature reveals that the technologies considered to have the greatest influence on accounting in the near future are blockchain, robots and big data" (Knudsen, 2020).

Big Data refers to huge volumes of data generated rapidly from various sources, which are too complex to be managed effectively through traditional processing and analysis methods. "Big Data will determine the emergence of more radical forms of specialization by industries in education" (Fogarty & Campbell, 2024). In recent years, Big Data technology has started to play a key role in accounting, influencing both accounting practices and accounting education in the Balkan countries. Although its implementation varies from one country to another, there are common trends that show a gradual transition towards digitalization and advanced data analysis. However, the concept is currently in its infancy, with high implementation costs. According to the specialized literature, most accountants do not have knowledge about Big Data, which is an obstacle to adapting to the new demands of the profession, which is why it would be necessary to start studying this field in schools, thus ensuring adequate preparation for the future.

Robots and artificial intelligence (AI) are playing an increasingly important role in accounting, automating repetitive tasks such as data entry, account reconciliation and financial report generation. This development increases efficiency, reduces errors and allows accountants to focus on their core activities strategic, such as financial analysis and consulting. However, the success of integrating robots into accounting depends on the education and adaptability of professionals, who need to develop their digital skills and understand new technologies. Instead of replacing accountants, robots become essential tools that optimize processes and transform the profession into one more focused on decision-making and innovation.

Blockchain is an innovative technology that can transform the accounting profession and education by ensuring transparency, security and automation of financial processes. Blockchain is a trusted, distributed, open system, available with minimal usage costs (Deloitte,2016b). Blockchain technology in accounting should be implemented first in schools, by including it in study programs, to train future specialists familiar with this innovation, and later applied in the profession, thus facilitating the transition to a more transparent, automated and secure accounting system. Currently, the adoption of blockchain technology in accounting is hampered by a lack of knowledge and expertise, as many accountants are unfamiliar with its impact on the profession, high implementation costs, which require significant investments in infrastructure and training, unclear regulations, as many countries do not have a well-defined legislative framework, as well as resistance to change by traditional accounting firms, which are reluctant to such a profound transformation of existing processes.

Accounting education is the main pillar of the profession's adaptation to the era of digitalization in the Balkan countries. As technology transforms accounting through automation, artificial intelligence and computerized systems, only solid and up-to-date training can ensure the relevance and competitiveness of specialists in the field. More than just a technical process, accounting is becoming a strategic activity, where expertise and analytical thinking are essential. Although there is notable progress in adapting to digitalization in the Balkan countries, a strategic approach and continued investment in education and infrastructure are essential to overcome existing challenges and ensure effective digital integration across the region.

In recent years, the digitalization of accounting systems has become widespread and rapid, representing a major impact on the labor market (Lacurezeanu, et al., 2020). Artificial intelligence, robotic process automation (RPA) or blockchain are just a few examples of technologies that occupy a wide spectrum in accounting activities, helping to increase efficiency by reducing repetitive tasks and the possibility of human errors (Edwards, 2024).

These technologies can reduce the usual human factor because data entry or account reconciliation, which in the past were written by hand, can be replaced by digital software, which represents a major change in the role of the accounting professional (Nicolaescu, 2019). If in the past people considered this repetitive work, now they need to develop their analytical and technological side in order to understand the information obtained through

automation. Thus, accountants are forced to adapt to new requirements and work on developing data analysis skills and using ERP systems. At the same time, they need to acquire skills in working with robotic process automation (RPA). RPA helps automate repetitive, rule-based work and can be seen as a technology that reproduces the activities of a human being in order to perform a professional task (Lacurezeanu, et al., 2020).

The digitalization of accounting entities depends largely on the financial resources they have, their size and the level of technological expertise of their employees. In the case of small and medium-sized enterprises, the study conducted by Cult Research shows that half of them have adopted digitalization in recent years, representing approximately 57% of accounting firms in Romania. Digitalization is perceived by these entities as a process that brings benefits and added value to the company, by giving up manual work (CECCAR, 2024). They also face implementation barriers, such as the lack of funding to enable the adoption of digitalized technologies or the low skills of employees in technology (Structural Funds Team, 2021). Looking at large entities, a study conducted by Cult Market Research shows that most of them are willing to continue investing in digitalization, but the biggest obstacle is the level of digital skills of human resources (a situation also present in SMEs). Based on the study, we observe that the majority of companies, approximately 74%, believe that digitalization is a major factor that helps to make the activity more efficient (CECCAR, 2019).

Looking at the overall digitalization in terms of financial and tax reporting in the Balkan countries, they have evolved differently, depending on the technological infrastructure and tax regulations of each country.

In Romania, the “e-Factura” system was implemented, which deals with electronic invoicing, and the “SAF-T” system, which contains detailed data flow regarding the financial transactions of an entity. In Bulgaria, similar systems are used, such as “E-Faktura”, and “SAF-T” is intended to be implemented mandatorily from 2026. In Croatia, the “E-factura” system is implemented. Also, in Greece, the platform called “myData” is used, which deals with digital reporting, and in Slovenia, “E-faktura” is used.

As we can see, the countries concerned have in common the majority of the use of the "e-Invoice" emblem, but the main barrier that we can observe in this case is represented by the differences between their tax systems, thus the exchange of data between international entities is difficult.

The problems that these countries encounter often refer to the underdeveloped digital infrastructure. For example, in some places, there are problems with electricity (more in rural areas), which makes technological evolution difficult. Thus, problems such as financing, which rely on other infrastructure projects more "vital" than technological evolution. The European Commission has written the "Economic and Investment Plan" covering the period from 2021 to 2027, which supports technological projects through financing. At the same time, a problem could be the trust of people in the Balkans that technology could make their lives easier, as the data shows, we note that 65% of people use the internet as a source of communication, 38% of them to learn, 15% to pay bills online, and only 9% of citizens use services for e-government purposes, which is a small percentage.

Through technology, this region can evolve in several areas if changes continue to be made.

3. History and digitalization: How have countries evolved in the technological age and what implications do they have on the accounting profession and education?

The way in which the accounting profession has evolved was due to several factors, such as the transition from a centralized economy to a market economy, including integration into the European Union and the adoption of technology. The countries that we will analyze in this chapter, had a unique, special evolution, but at the same time with common points between them, regarding the evolution of the accounting profession.

3.1 The period before 1990: Centralized and planned economies

During the communist period, the accounting profession in most Balkan countries was voiceless, as was the general population. Accounting specialists and the population alike were no longer allowed to communicate with foreign researchers and, as a result, the enthusiasm for research was greatly reduced. (Barbu, et al., 2010). Thus, the entire accounting system became centralized and controlled by the state. The coercive forces that had been used to exert pressure against freedom, against the right to free speech, against investment, free thought and action, dominated the accounting system. Concepts such as efficiency, investment, profitability and capital markets were replaced by other concepts, such as cost reduction and production achievement, as emphasized in communist plans and programs (Albu, et al., 2010).

During the communist regime, a form of Soviet accounting was introduced, in which prices were regulated by the state, and accounting was only a means of collecting information by it. It did not serve for decision-making by any other user (CECCAR, 2011).

Financial statements were not public and contained irrelevant information for economic decision-making. Within this system, financial statements served the sole purpose of reporting on the fulfillment of the plan (Albu et al., 2010).

Also, in Yugoslavia (part of this federation were also: Slovenia, Croatia), the accounting system was similar to that of Romania, being regulated by a socialist economic framework and accounting was subject to centralized economic planning. However, its accounting differed through self-management. Self-management refers to the fact that the state had access to control of the economy, but the entities were run by workers in self-management councils (Glenny, 2021).

In Romania, the economy was controlled by the state. To control industrial production, infrastructure, but also agriculture, a centralized economy was used. The state controlled all universities and collective agriculture, and because of the foreign debts that the country had, this country experienced a strong crisis. Romania came out of communism in 1989, thus starting the transition to capitalism (CECCAR, 2011).

In Bulgaria, the state was of a socialist type, where the economy was centrally planned. As in the case of Romania, the state controlled the entities and agriculture, but economic planning was strict. They wanted to grow a difficult industry and have a collectivized agriculture. Like in Romania, the exit from communism was made in 1989 (Krasteva, Todorov, 2020)

On the other hand, Greece was never a communist state, but it still experienced economic and political instability after World War II. Although it was a capitalist state, they faced poverty until the 1960s. The economy stagnated during the period when it suffered from a military dictatorship, between 1967-1974 (Potamianos, 2018).

3.2 Years 1990-2000: Transition to market economies

During this period, Romania, Bulgaria, Croatia and Slovenia underwent transformations towards market economies and consolidated essential changes so that their accounting systems could adapt to new economic requirements, but also to international standards. These changes had important effects on the accounting profession.

Croatia gained independence in 1991 and began a process of developing accounting. This country began to adhere to international accounting standards, such as IAS and IFRS, taking into account its entry into the European Union and because it wanted to attract foreign investment. Continuous learning was encouraged in order to quickly adapt to new international standards and economic requirements. Also, the Croatian Association of Accountants was created to support the continuous education of accountants and to be able to give them certifications (Vašiček, 2019)

In Slovenia, because it was part of the former Yugoslav republic, having a developed economy, it has therefore made important steps towards the new international accounting standards, such as IAS and IFRS, being the first country from the former Yugoslav republic to make this complete transition to international standards. It entered the European Union in 2004. Also, the Slovenian Association of Accountants represented an important pillar in the continuous education of accountants and in giving them certifications (Konovšek, 2021).

In Romania, in 1990, accounting was based on a socialist model, but since 1997 it has begun to adhere to international accounting standards. It implemented international standards that had principles such as IAS, and later IFRS. Due to its integration into the European Union, the use of international accounting standards was accelerated. The Body of Certified Public Accountants and Certified Public Accountants of Romania played a very important role in the continuous learning of accountants, the implementation of international standards and the opportunity for their certification (CECCAR, 2011).

In Bulgaria, after the communist regime fell and the economy became from a centralized economy to a market one, it adopted IAS. Also, the accounting changes were important for transparency and the possibility for foreign investors to choose this country, but adopting the first accounting standards that were close to IFRS. The Bulgarian Association of Accountants was created to create regulations regarding the accounting profession and to be able to implement international accounting standards and to be able to certify accountants.

In Greece, accounting reforms were implemented in order to comply with the requirements of the European Union. In this country, the accounting system was based on national rules and did not comply with international

standards. In 1997, they integrated regulations that were closer to IAS in order to integrate into international economies and to facilitate foreign investment. The Institute of Certified Public Accountants of Greece regulates the accounting profession in this country and is essential for promoting continuing education and certification of the profession, but also for the application of international accounting standards (Stergios, Tasos, 2019).

During this period, the mentioned countries made significant progress in adopting international IAS/IFRS standards. These changes were necessary to be able to move to market economies and to be able to benefit from foreign investment. The creation of institutions that support continuing education, the implementation of international accounting standards and the certification of accountants was an essential pillar in order to be able to regulate the accounting profession.

3.3 Years 2000-2010: Integration into the European Union

The period 2000-2010 marked a profound transition for the Balkan countries, with the accession to the The European Union (EU) of Romania and Bulgaria in 2007, followed by Croatia in 2013. The process of legislative and institutional harmonization has imposed reforms in accounting education and adaptation to European standards, in the context of the emergence of digital technologies. Starting with 2000, the Lisbon Strategy set the EU objectives of transforming Europe into a knowledge-based economy, with an emphasis on digitalization and IT skills. Balkan states, especially those with candidate status, have been obliged to align their education systems with these objectives. Programs such as “Digital Europe” have financed the purchase of equipment and the training of teachers. For example, in Romania, economic universities introduced mandatory courses in enterprise resource planning (ERP) and cloud computing between 2005-2010. Balkan countries have revised their curricula to include digital skills. In Romania, the discipline “Electronic Accounting” has been introduced as mandatory, with an emphasis on software such as SAP and Oracle. In Croatia, the 2004 reform required the use of business intelligence platforms for financial data analysis, supported by European funds. In Slovenia, the adoption of ERP systems in enterprises reduced human errors by up to 40%, and projects financed by the European Social Fund allowed the training of over 1,000 accountants.

The introduction of ERP (Enterprise Resource Planning) systems revolutionized accounting processes. Large companies adopted integrated modules for transaction management, reducing processing time by 30%. Digitalization transformed the role of the accountant from an executor of repetitive tasks to an analyst and strategic advisor. Transversal skills have become essential:

• Advanced knowledge of accounting software (e.g., SmartBill, Saga).

• Cybersecurity, given the increasing risks of online fraud.

• Data analysis for financial forecasts, using business intelligence tools.

University curricula in the Balkans lagged behind private sector requirements. In Albania, only 20% of accounting graduates in 2010 were prepared to operate ERP systems, while 70% of companies used them. In Romania, the “Accounting Education in the Digital Age” project (2007-2010) enabled the purchase of 500 software licenses for universities, but only 30% of institutions had dedicated laboratories. EU accession required the transposition of financial reporting directives. In Croatia, courses on IFRS became mandatory in 2006, preparing accountants for the globalized environment. In Romania, the “Electronic Accounting” project integrated modules on cybersecurity and blockchain into the curriculum.

The European integration process has accelerated the digitalization of accounting education and practice in the Balkans, but progress has been uneven, requiring investments in digital infrastructure, updating curricula with a focus on emerging skills such as cybersecurity and data analytics, and promoting partnerships between universities and the private sector, measures that have underpinned a continuous transformation of the accounting profession in the digital economy.

3.4 Years 2010-2020: Digitalization and adaptation to new technologies

In the decade 2010-2020, digitalization has become a key factor in the evolution of accounting profession in the Balkans, aligning with global trends and significantly transforming the way financial information is managed. The automation of accounting processes has accelerated, with specialized software and cloud technologies enabling easy access to data and streamlining financial activities. At the same time, blockchain technologies have begun to be explored to improve the transparency and security of financial reporting. Amid the global economic crisis and the COVID-19 pandemic, remote accounting has become a common practice, and accountants have adopted digital solutions for collaboration and client management. In this context, online continuing education has

become essential, with universities and vocational training institutions integrating distance learning platforms to support professionals' adaptation to the new technological requirements of the field.
The Eu Strategy for a European Education Area (2018) has mandated the modernization of curricula to include advanced digital skills. Structural funds, such as the European Social Fund and the Recovery and Resilience Mechanism, have enabled the purchase of software licenses, teacher training and high-speed connectivity in universities. In the Balkan countries, these initiatives have supported the integration of ERP (Enterprise Resource Planning) systems and cloud platforms into curricula.
Bulgaria has made progress in modernizing higher education through digital labs and teacher training, but disparities persist between urban and rural areas, limiting equal access to digital resources. Croatia has implemented effective digitalization policies, successfully integrating technology into education and the private sector, facilitating the transition of companies to electronic invoicing. Romania has made progress in automating accounting and training students, but poor infrastructure remains an obstacle to the full implementation of new technologies. The economic crisis between 2010 and 2018 had a negative impact on the digitalization of accounting education in Greece, slowing the adaptation of modern technologies in universities. By 2016, Greece did not have a clear national strategy for the digitalization of education, and only a quarter of universities were using integrated platforms for teaching accounting, indicating a low level of technological integration. However, with the launch of the "The New School" project in 2015, progress was made by introducing ERP (Enterprise Resource Planning) and data analysis courses, partly financed by European funds (PHARE). Slovenia is a successful model, with a well-defined strategic approach, which has led to an advanced integration of digital tools in education and industry, consolidating its position as a regional leader.
This period has been a crucial moment for the digitalization of accounting education in the mentioned countries, with Slovenia and Croatia moving towards integrated models, while Greece and Romania have made uneven progress. To consolidate this transition, investments in rural infrastructure are needed to reduce the digital divide, continuous updating of curricula with a particular focus on emerging skills such as blockchain and artificial intelligence, as well as the development of partnerships between universities and the private sector to align student training with market requirements. The implementation of these measures will ensure the formation of a generation of accountants capable of adapting to the demands of the global digital economy.

Table 1: Ranking and DESI score

Country	Position in DESI		DESI Score	
	2020	2022	2020	2022
Romania	26	27	32,9	32,9
Bulgaria	28	26	36,4	36,8
Greece	27	25	37,3	44,9
Slovenia	16	11	51,2	54,0
Croatia	20	19	47,6	47,6
Eu Average	-	-	52,6	52,3

Source: UE Digital Economy and Society Index (DESI) 2022 Report

DESI scores and data on digital technology integration have significant implications for the digitalization of accounting and the accounting profession. First, low digitalization scores for countries such as Romania and Bulgaria suggest limited integration of digital technologies in the accounting sector, which can lead to low efficiency and higher costs. On the other hand, countries with higher scores, such as Slovenia and Croatia, highlight extensive use of digital technologies, which can increase the efficiency of accounting processes and facilitate collaboration through digital tools.
Secondly, the need for continuous training becomes essential in countries with low levels of digital skills in accounting, as professionals need to develop their digital skills to remain competitive. Alignment with international standards also becomes a priority, as these standards increasingly require the use of advanced technologies in accounting, such as artificial intelligence and data analytics.

The integration of digital technologies also allows for the automation of accounting processes, reducing the time and resources required for repetitive tasks. This allows accountants to focus more on analysis and consulting activities, thus bringing more added value to clients. At the same time, rapid accessibility to financial information facilitates more prompt reactions to client requests and allows for more agile services.
Romania registered a decline in the DESI ranking, falling from 26th place in 2020 to 27th place in 2022, with an unchanged DESI score of 32.9. In contrast, Bulgaria showed an improvement, moving up from 28th place to

26th place, with a slight increase in the score from 36.4 to 36.8. Greece also made significant progress, moving up from 27th place to 25th, with a remarkable increase in the score from 37.3 to 44.9. Slovenia made the biggest jump, moving up from 16th to 11th place, with an increase in the score from 51.2 to 54.0. Croatia registered a slight advance, from 20th to 19th place, maintaining its score at 47.6. As for the European Union average, it slightly decreased from 52.6 to 52.3.

Table 2: Main components of DESI

Country	Integration of digital technology in business		Enterprises using cloud computing		Enterprises analyzing big data		Enterprises using AI		Adoption of e-invoicing		Basic digital skills (% of individuals)	
	2020	2022	2020	2022	2020	2022	2020	2022	2020	2022	2020	2022
Romania	28%	28%	7%	14%	11%	5%	-	1%	-	23%	31%	28%
Bulgaria	33%	33%	6%	13%	7%	6%	-	3%	-	15%	29%	31%
Greece	49%	49%	7%	17%	13%	13%	-	6%	-	56%	51%	52%
Slovenia	75%	75%	26%	38%	7%	7%	-	4%	-	55%	55%	55%
Croatia	57%	57%	22%	45%	10%	14%	-	5-10%	-	45%	53%	53%
Average UE	**55%**	**55%**	**18%**	**34%**	**12%**	**14%**	**-**	**8%**	**-**	**32%**	**58%**	**54%**

Source: UE Digital Economy and Society Index (DESI) 2022 Report

In the analyzed period, 2020-2022, the European Union average regarding the integration of digital technology in enterprises was 55%, in both years. Comparing this value with Romania, Bulgaria, Greece, Slovenia, Croatia, we can see important differences in the pace at which each country adapts to digitalization.

Romania has a percentage of 28% in 2020, but the same in 2022, representing 27 pp below the EU average, being in last place among the analyzed countries. This aspect is a negative thing for the accounting profession because many of the SMEs in the country still use traditional methods in terms of financial management. If the adoption of ERP solutions and automation of accounting processes is lacking, it results in additional work for accountants. Insufficient digitalization can limit the efficiency of accounting entities, thus remaining in bureaucratic processes.

In Bulgaria, we observe that the percentage of 33% remains constant over the analyzed period, approximately 22pp below the EU average. This presents a slightly higher level of digitalization than the previously analyzed country but remains below the European average. Accounting professionals in this country face similar problems, such as the slow implementation of digital systems. Thus, the manual workload of accountants increases, resulting from the lack of a developed digital infrastructure.

In Greece, the percentage is 49% in the analyzed period, being 6 pp below the EU average. This shows that Greece is relatively close to the EU average, which means that the level of digitalization is moderate. Regarding the accounting field, this means that this country has more widely adopted accounting management software and electronic reporting.

In Slovenia, the percentage in the analyzed period is 75%, 20pp above the EU average, being the country with the highest percentage of digital technology integration in enterprises. This advancement in technology is directly reflected in accounting, where almost all enterprises use digital software for tax management and reporting.

Croatia also exceeds the European average by 2pp, with a percentage of 57%. This represents a good degree of digitalization in the accounting profession as many firms work with digital solutions for tax management and reporting.

The level of digitalization of the firm largely represents how efficient a profession is and its productivity. Romania and Bulgaria are at the bottom of the DESI ranking, meaning that the accounting environment is in many cases bureaucratic. Greece is in the middle of these countries, but still with progress on digital reporting. Croatia and Slovakia lead the DESI ranking, being above the EU average, representing the fact that digitalization can be possible and can bring major benefits in the accounting profession as well, reducing employee workload and repetitive tasks, thus resulting in quality work.

Cloud technologies used in enterprises represent an important indicator of the digitalization of the economy and the transformation of business processes.

In Romania, cloud usage increased from 7% in 2020 to 14% in 2022, representing a doubling of the percentage, but remains below the EU average which was 18% in 2020 and 34% in 2022. The slow pace at which this indicator is developing can be explained by the fact that the digital infrastructure is insufficiently developed, high costs or the reluctance of entrepreneurs to adopt such technology. Regarding the accounting profession, this technology involves solutions such as online accounting or automatic financial reporting. In this country, many accounting firms still rely on the traditional work environment, which may mean a slowdown in the transition to digitalization.

Bulgaria had a percentage of 6% in 2020 and reached 13% in 2022, being even less developed than Romania in this regard. This confirms that the adoption of cloud technology in the Balkan region is slow.

In the case of Greece, cloud usage was 7% in 2020 and increased to 17% in 2021, which may represent a wider openness to digitalization. These advances can be linked to government initiatives supporting digitalization, especially after the COVID-19 pandemic, where many companies were forced to adopt cloud solutions to be able to work remotely. For the accounting profession, the move to the cloud represents a good integration of financial and tax systems. However, Greece still faces problems regarding digital education and how small businesses adapt to new technologies.

In the case of Slovenia, it is in a much more advanced position compared to the other countries analyzed, increasing from 26% in 2020 to 38% in 2022, being even above the EU average by 4pp. This means that the business environment is better digitized than in other countries and there has been investment in technological infrastructure. Regarding the accounting profession, the use of cloud technology is standard in most companies. So, these cloud technology solutions are integrated with national financial systems.

Croatia recorded a percentage of 22% in 2020, and in 2022 it increased to 45%, being the country with the best evolution among those analyzed, even exceeding the EU average. This development represents the fact that entities in this country have adopted cloud technologies quickly and are more open to innovation. Thus, Croatia has managed to transform the challenges of digitalization in the accounting profession into opportunities for growth.

We observe the increase in the EU average from 18% in 2020 to 32% in 2022, which means that the general trend of digitalization has increased, and for the accounting profession, this increase represents a major transformation in the way the work environment is.

The differences we observe in the analyzed countries show that the adoption of cloud technologies has developed differently from country to country, hitting barriers such as investments in infrastructure, education level of entrepreneurs, etc. Slovenia and Croatia have advanced rapidly, while Romania and Bulgaria have remained below the EU average, which represents the need to accelerate digitalization. Regarding the accounting profession, the transition to cloud technologies is no longer just an option, but a necessity. The risks of error can thus be reduced by integrating these technologies, and the work of accountants can be reduced.

In the field of Big Data, Croatia increased from 10% to 14%, thus reaching the European Union average. Romania, on the other hand, recorded a significant decrease, from 11% to 5%. The other countries remained relatively stable in this category, still below the average.

Greece leads in adopting AI technologies with a percentage of 6%, followed by Croatia with a range of 5-10%. Romania has the lowest adoption rate, only 1%, and all countries analyzed are below the European Union average of 8%.

The adoption of the system called E-invoice is an essential indicator in the evolution of the digitalization of the economy, having an impact on the transparency and efficiency of commercial transactions.

In Romania, in 2022 we have a percentage of 23% regarding the adoption of E-invoice, being below the EU average of 32%, yet representing a promising start. This percentage is due to the acceleration of government initiatives regarding invoicing in relation to public institutions. For the accounting profession, E-invoice brings major benefits such as reducing the time for checking/processing invoices, accounting records are automated and reducing fraud risks.

In Bulgaria, only 15% of entities used E-invoice, ranking last among the analyzed countries, representing a slow pace of development of accounting digitalization. This may be due to a lack of strict legal obligations regarding the use of electronic invoices or the reluctance of entities to use such technology. For the accounting profession

in this country, this lack represents a dependence on traditional invoicing methods, being preceded by a high volume of work and lack of efficiency.

Looking at the case of Greece, it has a percentage of 56%, even higher than the EU average of 32%. This rapid progress is represented by recent tax reforms and clear strategies regarding digitalization. The implementation of the digital platform for tax reporting, MyData, has forced entities to adopt electronic invoicing. For the accounting profession, this digitalization significantly reduces errors, and tax reporting is facilitated, and greater transparency can be present in commercial relations.

In Slovenia (almost representing the European leaders), it has a percentage of 55% of entities that use E-invoice, representing that Slovenia has a very well-developed digital ecosystem. In the accounting profession this adoption represents a drastic reduction of bureaucracy and data accuracy. Slovenia is one of the well-digitalized EU countries.

Croatia has a 45% share of E-invoice usage, above the EU average. For the accounting profession, this system makes tax reporting easier, reducing human errors. This country is making important steps towards digitalization in the accounting profession.

The adoption of E-invoices varies from country to country, with Romania and Bulgaria needing to evolve to avoid tax compliance delays. On the other hand, Greece, Croatia and Slovenia are the leaders in the Balkans, demonstrating that tax digitalization can be possible.

This indicator is essential for understanding the education regarding the digitalization of the population. Digital skills have become indispensable to be able to effectively use the technologies of the moment, even in accounting, where technological development is increasingly necessary.

In the case of Romania, it is the only country among those analyzed where a decrease is recorded, from 31% in 2020 to 28% in 2022. This fact is alarming because instead of advancing, this country is losing in terms of digital skills among the population. This fact can be explained by limited access to IT infrastructure in rural areas or the lack of programs that educate digitally. Also, for the accounting profession, this is problematic because accountants must use software for financial management and tax reporting. If people do not have basic digital skills, the adoption of digital solutions becomes difficult.

In Bulgaria, an increase from 29% in 2020 to 31% in 2021 can be observed, being ahead of Romania in this regard. The pace is slow, but still the interest in digitalization exists. Regarding the accounting profession, the situation is similar to that in Romania.

In Greece, the percentage is maintained from 51% to 52%, being high, approaching the EU average. These percentages show that the population in this country is prepared to use digital technology in their daily activities, which helps to implement accounting solutions.

In Slovenia, the percentage remains the same in both years, but at a high level of 55%, being 1pp above the EU average. For accountants in this country, this means that they understand digital concepts, which makes the implementation of technological accounting tools easier. In Croatia, the similarity with Slovenia is observed, with a percentage of 53% in both years. This stability reflects the fact that the population is prepared for digitalization.

We see that the EU average is decreasing, which may be a warning sign because the development of digital skills among the population has stagnated. This decrease may be due to insufficient digital education programs, but also to large differences between member states.

So, Romania and Bulgaria are at a critical level in terms of digital skills, which affects the adoption of modern technologies in accounting. Greece, Slovenia and Croatia have prepared populations, resulting in a digitalized economic environment. The regression analysis performed aims to determine the relationship between the DESI Score (digitalization index) and the degree of integration of digital technology in enterprises for the year 2022. Specifically, we want to see whether countries with greater digitalization in business tend to have a higher DESI score.

Table 3: The linear regression between DESI Score 2022 and Digital Technology Integration in Enterprises

Pas	Formula	Calculation	Result
1. X's average (Technology Integration)	$\bar{X} = \frac{\Sigma Xi}{n}$	$\bar{X} = \frac{28 + 33 + 49 + 75 + 57}{5}$	48,4
2. Y's average (DESI score)	$\bar{Y} = \frac{\Sigma Yi}{n}$	$\bar{Y} = \frac{32,9 + 36,8 + 44,9 + 54 + 47,6}{5}$	43,24
3. Slope b	$b = \frac{\Sigma(Xi - \bar{X})(Yi - \bar{Y})}{\Sigma(Xi - \bar{X})^2}$	$b = \frac{634,88}{1435.2}$	0,442
4. Intercept a	$a = \bar{Y} - b\bar{X}$	$a = 43,24 - (0,442 \times 48,4)$	21,83
5. Regression equation	$Y = a + bX$	Y= 21,83+0,442X	Y= 21,83+0,442X
6. Sum of squared total deviations	$SS_{total} = \Sigma(Yi - \bar{Y})^2$	$SS_{total} = 107 + 41,47 + 2,76 + 115,64 + 19,02$	286,89
7. Sum of squared residuals	$SS_{rezidual} = \Sigma(Y_i - \hat{Y}i)^2$	$SS_{rezidual} = 1,77 + 0,14 + 1,96 + 1,04 + 0,32$	5,23
8. Coefficient of determination R^2	$R^2 = 1 - \frac{SSrezidual}{SStotal}$	$R^2 = 1 - \frac{5,23}{286,89}$	**0,982**

Source: Made by the authors..

The linear regression between DESI Score 2022 and Digital Technology Integration in Enterprises demonstrates a strong correlation between the level of digitalization and a country's performance in the DESI index. This has significant implications for the digitalization of education and the accounting profession, as a high level of technological integration can directly influence the ability of the education system and accounting professionals to adopt new technologies.

The regression equation is:

Y= 21,83+0,442X unde:

- Y = DESI Score (2022) (estimated value)
- X = Integration of digital technology in enterprises (%)
- 21.83 is the intercept (the estimated value of the DESI Score when X=0)
- 0.442 is the regression slope (for every 1% increase in technology integration, the DESI Score increases by 0.442 points)

The intercept (21.83) shows us the estimated value of the DESI Score if technology integration in businesses were 0%. In practice, this value is purely hypothetical, since no country has 0% digitalization. However, it shows us that there are additional factors that influence DESI, in addition to business digitalization.

The slope of the regression (0.442) indicates that for every 1% increase in digital technology integration in businesses, the DESI Score increases by 0.442 points. If a country improves its degree of technology integration in businesses by 10%, this will lead to an estimated increase of 4.42 points in the DESI Score. For example, from 32.9 to 37.32 (approximately).

The coefficient of determination R^2 is 0.982, which means that 98.2% of the variation in the DESI Score is explained by the integration of digital technology in enterprises.

This model suggests that improving enterprise digitalization is an effective strategy to increase a country's digital performance.

In Romania, the impact on accounting education and the profession is considerable, as the lack of digitalization limits access to modern data analysis tools and the automation of accounting processes. Accountants and

professionals in the field are forced to work with outdated systems, which reduces their efficiency and competitiveness in the European market. Romania has a low degree of integration of digital technology in business (28%) and a DESI Score of 32.9. If Romania were to adopt measures to increase this percentage to 38%, the model predicts that the DESI Score would increase by approximately 4.42 points, which could improve the country's position in the European digitalization ranking. Among the main possible measures we can highlight: subsidies and incentives for the digitalization of SMEs, digitalization of employee education on the use of cloud and AI, tax incentives for companies that adopt digital technologies.

Comparing Romania's position with the other countries analyzed, we can see that:

• Slovenia (75% digitalization in business, DESI Score = 54.0) confirms that a high digitalization of companies is correlated with a high DESI Score. The high degree of adoption of digital technologies in companies is directly reflected in the field of education and accounting. The Slovenian education system is strongly oriented towards the development of digital skills, which ensures a well-prepared workforce to face new technological challenges.

• Bulgaria (33% digitalization, DESI Score = 36.8) is slightly above Romania, suggesting that a small progress in digitalization can improve the DESI. Even though the level of digitalization is still low, the increase compared to Romania indicates a positive trend in the adoption of new technologies. For the education and accounting sectors, this means that there are favorable premises for the development of digital skills, but greater involvement of educational institutions and companies in the field is needed to support this transition. Automation of accounting processes in Bulgaria is limited, and adaptation to new technologies is still at an early stage, which requires additional investments in software and professional training.

Even though the model explains 98.2% of the variation in the DESI Score, we must keep in mind several limitations:

• Causality is not guaranteed – The strong correlation between business digitalization and the DESI Score does not mean that one directly causes the other. Other factors, such as digital education, IT infrastructure, and government regulations, play an important role.

• Other important factors – Our model only considers business digitalization, but the DESI Score also depends on: the digital skills of the population, internet usage, digital public services

Countries with a high DESI score tend to have better integration of technology in education, facilitating access to online learning platforms, open educational resources and technologies based on AI and Big Data. Digitalization in the private sector (including the use of cloud computing, big data and AI) reflects the ability of accountants to adopt technologies such as accounting process automation, e-invoicing and digital reporting. Through the analysis we identify that there is a strong and positive relationship between the integration of digital technology in business and the DESI Score. Also, 98.2% of the variation in the DESI Score can be explained by business digitalization, which shows that this factor is extremely important. Both Romania and Bulgaria have high potential for improvement – if they increase the digitalization of their SMEs, they can significantly climb the DESI ranking.

4. CONCLUSION

Digitalization is evolving differently in Romania, Bulgaria, Greece, Slovenia and Croatia. Slovenia and Greece are leaders in adopting cloud technologies and e-invoicing, with high digital skills and rapid adoption of modern technologies. Croatia is making steady progress, while Romania and Bulgaria are lagging behind with low digital skills and slow adoption of cloud and e-invoicing solutions.

In the accounting profession, digitalization is an important factor, but in less advanced countries accountants face difficulties in adopting new technologies. Education plays a key role, and without investment in this area, Romania and Bulgaria risk falling behind economically.

Accelerating digitalization is crucial for long-term competitiveness.

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Farklılıklar Arasında Dilsel İletişimin Anahtarı: Çeviri

Öğr. Gör. Dr. Coşkun DOĞAN[1]

[1]Trakya Üniversitesi /Eğitim Fakültesi, Yabancı Diller Bölümü, e- mail:coskundogan2002@yahoo.de,

ORCID: 0000-0002-6072-2721

Özet: İnsanlar arasındaki en özel iletişim aracı dildir. Dil, bireylerin hem kendilerini ifade etmelerinde hem de faklı olanı anlama bağlamında anahtar rolü oynanmaktadır. Ayrıca geçmişten geleceğe uzanan bir köprü görevi üstlenmektedir. Dünyada konuşulan dillerin çokluğuna ve onların dayandığı kültürlerin zenginliğine bakıldığında, onları anlamak, tanımak için yine dilin iletişim olanaklarından faydalanmak gerekmektedir.

İletişimin ve ulaşımın inanılmaz bir hız kazandığı günümüz dünyasında, her bir dilin temsil ettiği toplumun ve kültürün gizli kalması olası değildir. Bu bağlamda onları açığa çıkarmak ve kültürel zenginlik bağlamında dünyaya tanıtmak, ortak dilsel iletişim aracı olan çeviri ile gerçekleştirilebilmektedir. Çevirinin farklılıkları bir araya getirmek ve birbirleri arasında iletişim kurmalarını sağlamaları gibi önemli bir işlevi söz konusudur. Çevirinin farklılıklar arasında kültürlerarası iletişimi sağlaması, nitelikli bir uzlaşma çalışmasıdır. Birbirleri arasında doğru ve sağlıklı bir iletişim kurulan farklılıkların çatışma ortamı ortadan kalmaktadır.

Bireylerin, iletişimleri sürecinde doğru etkileşimleri sağlayabilmeleri, her birinin ötekini doğru anlamasıyla olanaklıdır. Ortak dil olan çevirinin doğru ve stratejik kullanımı, farklılıkların kendi aralarında kabul görmelerini sağlamaktadır. İnsan yaşamının her anında gerekli bir olgu olan iletişim, farklı kültürlerarasında etkileşimi de sağlamaktadır. Toplumsal ve kültürel yaşamın iletişim bağlamında kaçınılmaz bir parçası olan duygu ve düşüncelerin ortaya konması, çeviri dili aracılığı ile anlaşılmasını sağlamaktadır.

Dil, insana özel ve karmaşık bir iletişim olanağı sunmaktadır. Dillerin çokluğu, kendi aralarında anlaşmanın sağlanması gerekliliği çevirinin bu bağlamda özel bir dilsel iletişim yönünü öne çıkarmaktadır. Bu çalışmada, farklılıkların arasında gerçekleştirilecek dilsel iletişimde anahtar rolü oynayan çeviri nitel bir araştırma yoluyla betimlenerek irdelenecektir.

Anahtar Kelimeler: Dil, İletişim, Çeviri

The Key to Linguistic Communication Across Differences: Translation

Abstract: The most special means of communication between people is language. Language plays a key role in individuals' ability to express themselves and to understand what is different. It also acts as a bridge extending from the past to the future. Considering the multitude of languages spoken in the world and the richness of the cultures on which they are based, it is necessary to benefit from the communication opportunities of the language in order to understand and recognize them.

In today's world, where communication and transportation have gained incredible speed, it is not possible for the society and culture that each language represents to remain secret. In this context, revealing them and introducing them to the world in the context of cultural richness can be achieved through translation, which is a common linguistic communication tool. Translation has an important function of bringing differences together and enabling communication between them. Translation provides intercultural communication between differences and is a qualified work of reconciliation. The conflict environment between differences disappears when correct and healthy communication is established between them.

It is possible for individuals to have correct interactions during their communication process if each of them understands the other correctly. Correct and strategic use of translation, the common language, ensures that differences are accepted among themselves. Communication, which is a necessary phenomenon at every moment of human life, also provides interaction between different cultures. Expressing emotions and thoughts, which are an inevitable part of social and cultural life in the context of communication, enables them to be understood through translation language.

Language offers humans a special and complex communication opportunity. The multiplicity of languages and the need to ensure agreement among them highlight a special linguistic communication aspect of translation in this context. In this study, translation, which plays a key role in linguistic communication between differences, will be described and examined through a qualitative research.

Key Words: Language, Communication, Translation

1. GİRİŞ

İnsanı diğer canlılardan ayıran konuşma yetisidir. Bu yetkinlik, insanın duygularını, düşüncelerini dışa vurmak için, farklı yetkinliklerinin olmasını da berberinde getirmektedir. Özellikle verilen mesajı dinleme, anlama ve mesajı analiz süreci, mesaja verilecek tepki için çok önemlidir. Ayrıca dilin ifade ettiği konular sadece sözlü aktarılmamakta, yazılı dilsel iletişim olmaktadır. Dilsel iletişimin hem sözlü hem de yazılı olması, bireyler arasında

yaşanan dilsel yetersizliklerden kaynaklanan olumsuzlukların ortadan kaldırılmasını sağlamaktadır. Dilsel iletişimde tüm becerilerin bir bütünsellik içerisinde anlatılanın ve anlaşılanın doğru şekilde doğru ortaya konmasını gerçekleştirmektir.

Dilsel iletişim, insanlığın yaşamının devamı için yaşamsal bir olgudur. İnsan, yaşadığı dünyayı anlama ve anlatma olgularını dil aracılığı ile gerçekleştirmektedir. Her toplumun tarihsel süreç içerisinde gerçekleştirdiği yaşamsal deneyimler ve bu deneyimlerin motif olduğu bir ana dili vardır. Dil ve kültür arasında birbirini tamamlayan ilişki söz konusudur. Bu nedenle, dil üzerinden her toplum kendi deneyimlerini gelecek kuşaklalar paylaşmaktadır. Toplumsal yaşamda tanık olduğumuz bu döngü her toplum için geçerlidir. Bu bağlamda farklı kültürlerin ortak kültürel paylaşımı için ortak bir dil üzerinden etkileşim içerisinde olması gereklidir.

Dil, en az iki bireyin arasında gerçekleşen bir etkileşim sürecidir. İletişim, mesajı gönderen ile mesajın alıcısı olan kimse (ler) arasında gerçekleşen duygu, düşünce ve bilgi alış verişidir. Dilsel iletişim sayesinde paydaşların ortak bir noktada buluşma yeridir. Etkin bir iletişim için, anlatılmak istenen veya ifade edilmek istenen düşünce ve duyguların en iyi aktarılması mesajı gönderenin sorumluluğunda iken, mesajı alan kimsenin de ifade edilen olgunun iyi anlaması veya anlamlandırması gerekmektedir. Bu bağlamda mesajı aktaran ile mesajı alan arasında dil ortaklığının olması bir koşuldur. Aynı zamanda ortak yaşam değerlerinin içerisinde barındıran dilin yansıtıcısı olduğu kültürün de tanımaları gerekmektedir. Mesaj alıcı ile verici arasında ortak kültürel olguların keşfedilmesi, dilsel iletişimin çok yönlü olmasıyla iniltilidir.

Her toplumun kendine özgü bir kültürü ve bu kültürün ifadesini bulduğu dili mevcuttur. Toplumların bu günün dünyasında kapalı kalması olası olmayacağı düşüncesinden hareketle; farklı kültürlerin kendilerini anlatmak, ötekilerini tanımak ve her birinin kendi yaşamsal zenginliklerini tanıtmak amacıyla, ortak bir dilin yani çeviri dilinin olması gerekmektedir. Çeviri farklılıkların gizli kalmış yönlerini ortaya çıkaran ve farklılıkları bir paydada buluşturan dilsel aracıdır. Çevirinin en temel amacı farklı dil ve kültürler arasında dilsel iletişimi sağlamaktır. Ancak dünyada yaşanan gelişmelere paralel olarak çeviri olgusu da kendi çalışma alanını genişletmiştir. Özgün bir bilim dalı olarak araştırmaların yapıldığı bir alan haline gelirken, diğer taraftan farklı bilimsel disiplinlerle de araştırmalar yapılmaktadır. Bu tür çalışmalar, farklı kültürlerin zenginliklerini ortaya çıkarmakta ve çeviri de bu bağlamda anahtar rolü oynamaktadır.

2. DİLSEL İLETİŞİM VE KÜLTÜR

Dil, insanoğlunun doğuştan getirdiği en büyük yetisidir. Bu yetenek, çocuğun hemen doğumundan sonra gelişmeye başlar ve nerdeyse çoğu fiziksel, bilişsel, biyolojik yeteneklerin gelişiminden önce gerçekleşmektedir. Çünkü dilsel iletişim, sosyal bir varlık olan insan için yaşamsal öneme sahiptir. Dil gelişiminin iletişimsel bağlamda tesadüfi bir gelişimi söz konusu değildir. İnsan dilsel iletişim yoluyla öğrenir ve toplumsallaşır. Bu süreç tüm toplumlarda benzer şekilde gerçekleşmektedir. Bozkurt'a (2013) göre, dil, iletişim sürecinde en önemli öğrenme aracıdır. "Bir mesajın kaynaktan alıcıya bir kanal aracılığıyla aktarılmasıdır." şeklinde ki iletişimin tanımında, yazı, görüntü, işaretler ve sembollerden oluşan dil iletişimin yapı taşıdır (Akt: Yavuz, 2023: 3). .

Kültür kavramının tanımı çok ve geniş bir kavram olarak bilinmektedir. Kültür insana özgü bir kavram olup toplumdan topluma farklılık göstermektedir. Tarihsel süreç içerisinde oluşmuş, yaşantıların bir bütünüdür. Sosyolojik olarak tanımı toplumsal bir miras şeklinde verilmektedir. Kültürün alt özellikleri sayesinde kuşaktan kuşağa aktarılmakta ve sürekli olarak varlığını korumaktadır. Özellikle dil, kültürün gelecek nesillere aktarılmasında önemli rol oynamaktadır. İnsanın dilsel yetisi bağlamında kültür birikimleri unutulmamaktadır. Latince "culture" sözcüğünden gelen ve TDK sözlüğünde tarihsel toplumsal gelişme süreci içinde yaratılan bütün maddi ve manevi değerler ile bunları yaratmada, sonraki nesillere iletmede kullanılan, insanın doğal ve toplumsal çevresine egemenliğinin ölçüsünü gösteren araçların bütünü, hars, ekin" (www.turkedebiyati.org). şeklinde tanımlanan kültür sözcüğü, wikepdia verilen tanımı ise şu şekildedir. "İnsana ilişkin bir kavram olarak kültür, tarih içerisinde yaratılan bir anlam ve önem sistemidir. Bir grup insanın bireysel ve toplu yaşamlarını anlamada, düzenlemede ve yapılandırmada kullandıkları inançlar ve adetler sistemidir" (www.wikipedia.org).

Kültür insani bir eylemdir düşüncesinden hareketle, aslında insanın elinden ve dilinden çıkan her şeyin kültür adı altında toplanması ve bu tür insani etkinlikleri doğa olayları dışında tutulması gerekliliği söz konusudur. Bu anlamda Bauman'da (1996/1998, s.159) kültürün insani bir eylem alanı olduğunu söylemektedir. Bu tanım, kültürün insanın etkinlikleri ve üretimleri anlamında tanımlanması gerektiğini vurgulamaktadır. Ancak kültürün sadece insani eylem boyutunda irdelenmesi eksik kalmaktadır. Kültür, birçok bilim alanının inceleme konusudur. Bu açıdan bakıldığında da tanımları çok ve bazı farklılıklar göstermektedir. Yeterince açıklayıcı olmayan bir çok tanıma karşın F.Taylor kültürü şu şekilde tanımlamaktadır; "kültür ya da uygarlık, toplumun üyesi olarak, insan

türünün öğrendiği, edindiği, bilgi, sanat, gelenek, görenek ve benzeri yetenek, beceri ve alışkanlıkları içine alan karmaşık bir bütün"dür (Akt: Oguz, 2011:132).

Kültürün oluşumunda ve aktarımında dil önemli bir rol oynamaktadır. Dilin kültür aktarım işlevi, toplumların varlıklarının sürmesine ve bireylerin de toplumsallaşmasına katı sağlamaktadır. Her toplumun farklı bir dili ve bu dilin ait olduğu bir kültürü olduğu düşüncesinden hareketle; farklılıkların karşılaşmasında ortak özel bir anlaşma dili olması zaruridir. Bu dilin adı çeviridir. Çeviri dili, tarihsel süreç içerisinde kullanılmış ve duruma göre çeşitli işlevleri yerine getirmiştir. Farklı toplumlar arasında oluşan veya oluşacak ilişkilerin gelişimine İletişim dili olarak çevirinin katkısı büyüktür.

3. İLETİŞİM DİLİ OLARAK ÇEVİRİNİN TANIMI VE İŞLEVİ

Dilsel çeviri, insanoğlunun var olduğundan beri mevcuttur. Doğada var olan yaşam içerisinde yaşamın sürdürülebilmesi için yapılan sözlü taklitler de bir tür çeviri şeklidir. Çeşitli nedenlerle farklı dil ve kültüre sahip kimselerle iletişim halinde bulunan ortak dil çeviri dilidir. Bu sözlü bir dil olabildiği gibi insani duyguların dışa aktarımını beden hareketleriyle ifade eden ve evrensel olarak kabul gören beden dilidir. Çeviri için mutlaka iki dil gereklidir. Bunun için çeviri her zaman iki dil arasında gerçekleştirilen dilsel aktarım olarak bilinmektedir. Bu çeviri etkinliği anlayışında, kaynak dilde ifade edilen metnini hedef dildeki anlamına en uygun sözcüklerle aktarılması söz konusudur. Çeviri etkinliği için bu klasik tanım halen geçerlidir. Bu düşünce daha önce dilbilimin içerisinde bir alan olarak incelenen çeviriyi, yapısal bağlamda tanımlama şeklidir. Dilbilim etkisinde gerçekleşen çeviri etkinliği tamamen sözcüklerin karşılığının bulunmasından ibaret oluşmaktaydı (Odacıoğlu, 2021: 388). Ancak son çeyrek yüzyıl içerisinde çeviri etkinliği farklı bir paradigma içerisinde araştırmalara yönelmiş ve kendine özgün bir bilim dalı olarak ortaya çıkmıştır. Bu değişimin temelinde, çeviri etkinliğinin kültür ve toplum odaklı çalışmaları etkili olmuştur (Arı, 2014:28).

Çeviri etkinliğinin çeşitliği ve çalışma alanı son yüzyılda oldukça artmıştır. Bu bağlamda çeviri bilimsel bir alan olarak ortaya çıkarken, günün koşullarına uygun olarak farklı çeviri türleri de gelişmiştir. Özellikle özlü çeviri alanında dünyada yaşanan gelişmelere paralel olarak, (göç, küreselleşme ve medya) çevirinin işlevleri değişme göstermiştir. Çeviri ortak anlaşma dilinden daha da öteye giderek uygarlıkların gelişimine katkı sunmakta ve kültürel etkileşimleri sağlamaktadır (Durmuş, 2018:10). Sağlıklı ve doğru bir iletişimle farklılıklar arasında kurulacak çevirinin önemi tartışılamaz. Bu bağlamda hemen hemen her alanda ihtiyaç haline çeviri etkinliğinin hem kaynak hem de hedef dilin sadece dil yapılarını değil, düşünce anlayışını, kültürünü ve uygarlık tarihini bilmek gerekmektedir. Ayrıca toplumların yaşadığı zaman ve mekan da dilsel iletişimin doğru kurulmasında rol oynamaktadır.

Çevirinin temel işlevi, farklı toplumlar ve bunların yaşamsal deneyimlerinin yansıması kültürel olguların arasında bir köprü oluşturmasıdır. Karşılıklı bilgi akışının sağlandığı bu köprünün temellerinin sağlam olması ve köprünün sürekli olarak karşılıklı açık bulundurulması gerekmektedir. Çünkü dünya uygarlığının gelişimine katkı sunacak iletişim ağının kurulması çeviri dilinin etkinliği aracılığı ile sağlanmaktadır. Bunun yanında uluslararası barışın yaygınlaşmasında ve sürekliliğinde, bilgi alış verişi kanalı görevini üstlenen çeviri etkinliğinin yaşatılması yaşamsal önem kazanmaktadır (Durmuş, 2018: 15). Çeviri etkinliği dillerin gelişimine ve yeni düşüncelerin ortaya çıkmasına da olanak sağlamaktadır. Gerek dil içi gerekse dil dışı çeviri etkenlikleri, geçmiş ile bugünün arasında bağlantı kurulmasına yardımcı olurken, farklılıklar arasında da iletişimin canlı tutulmasını mümkün kılmaktadır.

Çeviri bilimsel çalışmaların çoğalmasına ve içeriklerinin zenginleşmesine farklı dillerden yapılan dilsel aktarımlarla yardımcı olmaktadır. Farklı ulusların bilim alanında olan çalışmalarının öteki toplumlarla paylaşımı çeviri etkinliği aracılığı ile gerçekleşmektedir. Çeviri etkinliği toplumların kalkınmasına refah ve huzur içerisinde yaşamasına katkı sunmaktadır (Doğan, 2017: 63). Ayrıca toplumların birbirlerini yakından tanımalarına ve birlikte uyum içerisinde yaşamalarına olanak sağlayan bir etkinliktir. Çeviri etkinliğinin zamanın koşulların uygun işlev değişimi söz konusu olabilir. Bunun en bariz örneği, bugün yaşanan yapay zekâ ve çeviri ilişkisidir. Çeviri etkinliğinin günümüz de en çok uğraş alanı olarak farklı diller arasında gerçekleşen kültür aktarımıdır.

4. KÜLTÜRLERARASI AKTARIM ARACI OLARAK ÇEVİRİ

Dil, kültürün en önemli alt ögelerinden biridir. Dil aracılığı ile kültürel olgular gelecek kuşaklara aktarılmakta ve toplumun yaşamsal devamlılığı sağlanmaktadır. Dilbilimsel anlamda çeviri etkinliğini dilsel aktarım bağlamında gerçekleştirmek kolay görünse de, sosyo-kültürel olgular, dilin ifade şeklini yakından etkilemektedir. Bu bağlamda çeviri etkinliğini toplumsal ve kültürel etmenlerden ayrı düşünmek uygulamak olanaksızdır. Dilin kültürel motiflerle donatılmış anlatım biçimini salt sözcükleri çevirerek aktarmak yanlış anlaşılmalara yol

açacaktır. Çevirmenlerin sadece kaynak dilin değil, erek dilin de kültürüne hâkim olması zorunludur. Çünkü her dilin kendine özgün oluşturduğu sözcük öbekleri, deyimleri ve kültürel zenginliklerini yansıtan özgün sözcükleri vardır. Bu anlamda çevirmen, diller arası çeviri etkinliği yaparken, kültürlerarası donanıma da sahip olmalıdır (Öztürk, 2019: 1633).

Çeviri etkinliği ihtiyacı, insanın farklı dil ve kültürle karşılaştığı zaman, anlama ve anlaşılma ihtiyacını karşılamak için kullanması gerek bir araçtır. Kültür sadece bir metnini farklı birde anlaşılmasını sağlamak değildir. İlgili metnin oluştuğu toplumun inançlarını, dünya algılarını, ifade etme şeklini kısaca her türlü kültürel değer yargılarının yansıtıldığı olgudur. Bu anlamda çeviri, bu olguları tüm boyutlarıyla hedef dilde anlaşılır kılmak zorundadır. Kültürün bünyesinde barınan dil, din, hukuk, ekonomi,, edebiyat v.s. gibi alanların sözlü veya yazılı paylaşımında sosyo- kültürel odaklı çeviri etkinliğine ne kadar ihtiyaç olduğunu göstermektedir. Bu tür çeviri etkinliği kültürel ve dilsel gelişimleri de tetiklemektedir (Gezer ve Can, 2019: 357).

Kültürlerarası çeviri etkinliğinde kaynak dil metinlerinin hedef dile aktarılması oldukça zorlu bir süreçtir. Her kültürün kendi özgünlüğünden hareketle, kaynak dilde verilen mesajın hedef dil okuruna tam olarak aktarılması her iki kültürün inceliklerini bilen çevirmen kimliği ile olanaklıdır. Eksik çeviri yanlış anlaşılmalar yol açmaktadır. Kültürün ana taşıyıcısı dildir. Dil, aynı kültüre sahip bireylerin amaçlarını ifade etmelerinde anlaşma aracıdır. Ancak çeviri farklı kültürlere sahip bireylerarasında gerçekleşeni iletişimin özel bir şeklidir. Bu yüzden çeviri etkinliği oldukça karmaşık bir işlem gereklidir. Farklı kültürler arasında gerçekleşen iletişimde "neyi-nasıl ve hangi durumda- hangi amaçla" aktaracağımızın planlamasını her iki kültürün değerlerini yok saymadan çeviri diliyle aktarmak özel ve çok çaba zorunluluğu söz konusudur (Amman, 2008:41).

Kültürlerarası iletişim sürecinde çevirmen kimliği oldukça büyük rol oynamaktadır. Çevirmen farklı kültürler arasında bağlantı kuran birey olarak konu alanında uzman bir kimliği olmak zorundadır. Çünkü çevirmen kaynak metinden hedef okura servis ettiği, metni hedef kültüre uygun şekilde yeniden oluşturmaktadır. Hedef kültür okuru, ilgili metni kendi yaşam deneyimleri bağlamında okuyup anlamaya çalıştığından dolayı, çevirmen çevirinin hangi amaca hizmet edeceği konuda bir ürün ortaya çıkarması beklenmektedir (Amman, 2008:51). Çevirmen, kültürlerarası iletişimin gerçekleşmesini sağlarken, geçici bir dilsel anlaşma sağlayan herhangi bir turist rehberi değildir. Eco'ya göre, çevirmen, ormanda yolunu kaybetmiş kimselere rehberlik eden kimsedir. Yani farklı kültüre sahip bireyin, öteki kültürleri tanımasına yardımcı olan kimsedir (Doğan, 2020:47).

Çeviri etkinliğinin dilbilimin kuramsal yapısalcılık uygulamalarından ayrılıp, özgün bir bilim dalı olmasında, kültür odaklı çeviri çalışmalarının önemi büyüktür. Bu anlamda çeviri etkinliği kültürlerarası bir iletişim rolü üstlenmiş ve farklı kültürlerin birbirlerini tanımalarına aracı olmuştur. Kültürlerarası iletişim, farklı toplumlar arsında bilgi alış verişini ön plana çıkarmış ve uygarlık düzeyinin gelişimine katkı sağlamıştır. Çeviri etkinliği, toplumsal değişimlere neden olurken, kültürel değerlerin korunmasında etkin rol oynamıştır. Aynı kültür veya farklı kültür bünyesinde üretilen ve unutulmaya yüz tutmuş eserlerini gün yüzüne çıkarmış ve yeniden değerlemesinin yapılmasını sağlamıştır (Doğan, 2020: 57). Çeviri etkinliği bir taraftan kültürlerarası aktarım aracı olurken, diğer taraftan bir kültür içerisinde geçmişte oluşturulan ve unutulmuş metinleri bugüne uyarlayarak, insanlığın hizmetine sokmuştur.

5. SONUÇ

Dilsel iletişim insanların arasında dile özgün olan semboller aracılığı ile toplumsal bir etkileşim şeklidir. Dil, bireyler için bir uzlaşma aracıdır. Bu bağlamda dil becerilerine sahip olma bireyin sosyal yaşamında büyük faydalar sağlamaktadır. Çünkü iletişim esnasında dilin kullanımı belli bir statü kazandıracaktır. Dilsel iletişim sözlü veya sözsüz şeklinde gerçekleştirilebilir. İletişimin temelinde duygu ve düşünceler paylaşılmaktadır. Bu paylaşım,, ilgili toplumun kültür olgularının kabul ettiği çerçevede gerçekleşmektedir. Her toplum kendine özgün bir kültüre ve bu kültürü taşıyan bir dile sahiptir. Bugün farklı kültürlerin bir arada bulunması ve karşılaşmaları kaçınılmaz hale gelmiştir. Bu anlamda farklı kültürlerin ortak bir zemininde buluşmalarını ve birbirlerini tanımaları sağlamak çeviri dili ile olanaklıdır. Bu süreçte zamanla farklı kültürler arasında etkileşimi berberinde getirmektedir.

Çeviri etkinliği, sadece farklı diller arasında sözcüklerin eşdeğerliliğini oluşturmayı gerektirmez. Çeviri etkinliği, kaynak metinleri, hedef kültür bağlamında hedef okura aktarımını sağlamak zorundadır. Kültür odaklı çeviri çalışmaları ve araştırmaları, kültürlerarasında etkileşimin oluşmasını sağlarken, farklılıkların birbirlerini tanımasını ve uzlaşmasını da sağlamaktadır. Farklılıkların kültürlere yönelik karşılıklı saygı içerisinde olmaları kendilerini ifade etmelerine ve anlaşılmalarına bağlıdır. Bu durum çeviri etkinliğinin etkin iletişiminin sağlanması ile mümkündür. Kültürler arasında dilsel iletişimin doğru zeminde oluşturulması için, alanında uzman çevirmenlere ihtiyaç vardır.

Her iki dili ve kültürü de bilen çevirmenler, kültürlerarası aktarım konusunda başarılı olmaktadır. Bunun temel nedeni, iletişim için gerekli dilsel aktarımın amacının belirlenmesi ve çevirinin hedef dil okurunun beklentisine uygun olarak gerçekleştirilmesidir. Çevirmen bu bağlamda, aynı metni yeniden oluşturmakta ve aynı içerikte bir ürün gibi sunmaktadır. Hedef okur, hizmetine sunulan çeviri ürününü kendi yaşamsal deneyimleri üzerinden değerlendirmektedir.

.Çeviri etkinliği, karmaşık ve özel bir çalışma alanıdır. Bu anlamda kültürlerarası aktarım konusunda çevirinin özel bir dil çalışması olması ve kültürlerarasında anahtar tol oynaması çok önemlidir. Özellikle küreselleşmenin berberinde getirdiği dünyada çokkültürlü yaşam için çeviri etkinliği vazgeçilemez bir olgudur. Kültürlerarası etkileşime katkı sağlayacak çeviri etkinliği, karşılıklı kabullenişi ve birlikte uyum içerisinde yaşamı da getirmektedir.

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Beden Dilinin Kültürlerarası Etkileşime Etkisi

Öğr. Gör. Dr. Coşkun DOĞAN[1]

[1]Trakya Üniversitesi /Eğitim Fakültesi, Yabancı Diller Bölümü, e- mail:coskundogan2002@yahoo.de,

ORCID: 0000-0002-6072-2721

Özet: Bireylerarası iletişim genelde dilsel olarak sözlü gerçekleşmektedir. Ancak her zaman dilsel iletişim duygu ve düşüncelerin ifadesinde yeterli olmamaktadır. Bu bağlamda, sözsüz olan beden dili devreye girmekte ve bireyin davranış tutum, jest ve mimikleri iletişim açısından önemli hale gelmektedir. Bu durum tüm dil ve kültürlerde aynı amaçla ancak farklı şekillerde gerçekleşmektedir. Farklılıkları anlamaya ve tanımaya yönelik çabalar için, toplumların yaşamları ve beden dilleri arasında ki uyum oldukça önemlidir. Beden dili her ne kadar sözsüz bir iletişim şekli de olsa kültürel motiflerle bezenmiştir.

Kültürlerarası etkileşim, farklı kültürlerin birbiri ile kurdukları sıkı iletişimin bir sonucudur. Bu iletişim, farklılıkları anlamak ve kendini ifade etmek bağlamında gerçekleşmektedir. Beden dili çoğu zaman evrensel bir özellikler taşısa da, bazen de kültürden kültüre farklılık göstererek iletişimin zenginleşmesini sağlamaktadır. Karşılaştırmalı bir öğrenme şeklinde kültürlerarası etkileşime olumlu yönde etki etmektedir. Çünkü jest ve mimikler, ilgili toplumun psikolojisinin ve dilsel anlayışlarının bir göstergesidir. Beden dili, farklı sosyo- kültürel yaşamlar hakkında ipuçları verirken, onları daha yakından tanımaya ve etkileşime yardımcı olmaktadır. Beden diline dayalı kültürlerarası etkileşim uygulamaya dayalı bir etkileşim şeklidir. Etkilenme daha hızlı ve öğrenilmesi daha kolay olmaktadır.

Bu çalışmada, beden dilinin bireyler arası iletişimi bağlamında kültürden kültüre farklılık göstertirken, birçok şekilde evrensel boyutu olduğu ortaya konacak ve farklı kültürleri tanımanın sadece sözlü çeviri dili ile gerçekleşmediği, bunun yanında beden dilinin de etkili olduğuna vurgu yapılacaktır. Çalışmada, beden dilinin iletişim çağında kültürlerarası etkileşime katkısı, nitel araştırmaya dayalı betimleme şeklinde irdelenecektir.

Anahtar Kelimeler: Beden Dili, Kültür, Kültürlerarası Etkileşim

The Effect of Body Language on Intercultural Interaction

Abstract: Interpersonal communication generally takes place verbally. However, linguistic communication is not always sufficient to express feelings and thoughts. In this context, non-verbal body language comes into play and the individual's behavior, attitude, gestures and facial expressions become important in terms of communication. This happens in all languages and cultures for the same purpose but in different ways. The harmony between the lives and body languages of societies is very important for efforts to understand and recognize differences. Although body language is a form of non-verbal communication, it is adorned with cultural motifs.

Intercultural interaction is the result of close communication between different cultures. This communication takes place in the context of understanding differences and expressing oneself. Although body language often has universal characteristics, it sometimes differs from culture to culture and enriches communication. It has a positive impact on intercultural interaction in the form of comparative learning. Because gestures and facial expressions are an indicator of the psychology and linguistic understanding of the relevant society. While body language gives clues about different socio-cultural lives, it helps to get to know them more closely and interact. Intercultural interaction based on body language is a practice-based form of interaction. It is faster to be influenced and easier to learn.

In this study, it will be revealed that while body language varies from culture to culture in the context of interpersonal communication, it has a universal dimension in many ways, and it will be emphasized that getting to know different cultures does not only occur through verbal translation language, but also that body language is effective. In the study, the contribution of body language to intercultural interaction in the age of communication will be examined in the form of a description based on qualitative research.

Key Words: Body Language, Culture, Intercultural Interaction

1. GİRİŞ

İnsanı diğer canlılardan ayıran en önemli özelliği konuşma yeteneğidir. Konuşma yeteneği insanın düşünce ve duygularını karşısındakine aktarmasına ve kendini ifade etmesine olanak sağlamaktadır. Ancak konuşma yetisi insana özgün olan her şeyi her zaman ifade etmede yeterli olmamaktadır. Bu bağlamda insanın evrensel dili olarak nitelendirilen “Beden Dili” devreye girmektedir. Bireyler arasında söze dayalı olmaksızın sözsüz mesaj verme eylemi olan beden dili, insanoğlunun ilk ana anlatım dilidir. Sözsüz dil olarak adlandırılan beden dilini kontrol etmek zor bir süreçtir. Ancak sözlü dili kontrol emek daha kolaydır. Beden dili çoğu kez kendiliğinden harekete geçmekte ve yaşanan olaylara istemsiz tepki vermektedir. Beden dili aracılığı ile karşı tarafa verilmek

istenen mesajların gizlenmesi söz konusu olamamaktadır. Bireyin gerçek duygu ve düşüncelerinin ifade ediliş şekli beden ili ile olanaklıdır.

Bireyler aynı dili konuşsa dahi duygu ve düşüncelerin karşılıklı doğru bir şekilde anlaşılması için beden dili bir koşuldur. Beden dili iletişim esnasında mesaj alıcıya doğru bilgilenme açısından ipuçları vermektedir. Çünkü dünyada her ne kadar farklı dil varsa da özellikle duyguların beden dili benzerdir. Fakat farklı kültürlere sahip dillerin özgün beden dili söz konusu olmaktadır. Bu farklar iletişim anında gözlenebilmektedir. Beden dilini, bireyin toplumsallaşmasına katkıda bulunmakta ve toplum içerisinde kabul görme konusunda olumlu etki yaratmaktadır. Bu bağlamda birey kendi hareketlerini denetleyerek bulunduğu ortama daha kolay uyum sağlayabilmektedir. Etkili bir iletişim kurma bağlamında beden dili bireyin yaşamında anahtar rolü oynamaktadır.

İletişimde beden dilinin etkisi, doğrudan kurulan sözlü iletişimden oldukça yüksek olduğu bilinmektedir. Bu anlamda farklı kültürlerin çok kolay bir araya geldiği günümüzde iletişim temelinde beden dilini etkin kullanılması, karşılıklı anlaşmanın temelini oluşturacaktır. Beden dilinin kullanımı iletişimde bireylerin kendi içsel durumlarının dışa vurumudur. Bu da bireyin içerisinde aidiyetinin bulunduğu toplumun özelliklerini yansıtan bir olgu olarak kabul edilmektedir. Kültürlerarası iletişimde, farklı kültürlerin, içsel ifadelerin dili olan beden dili aracılığı ile karşılıklı doğru bir zeminde anlaşmaları mümkün olacaktır.

Bireylerin de günlük yaşamında karşılaştığı en büyük sorunların temelinde doğru iletişim kuramamak yatmaktadır. Bireyin doğru bir şekilde iletişim kuramaması aynen farklı kültürler arasında olduğu gibi beraberinde çatışmaları da getirmektedir. Özellikle farklı kültürler arasında oluşabilecek olumsuzlukların beden dilinin evrensel dil olma özelliğinden hareketle kültürlerarası ortak buluşma ve uzlaşma noktası olması önem arz edecektir. Beden dilinin kaçınılmaz ve yok saylamayacak kadar doğru tepkileri kültürlerarası iletişimin önyargısız bir şekilde doğru kurulmasına katkı sağlayacaktır.

2. BEDEN DİLİNİN TANIMI VE ÖZELLİKLERİ

Beden dilinin tanımı, kolay gibi görünse de, oldukça karmaşık bir ifade şekline sahiptir. Beden dili, bireyin kişilik özelliklerine uygun olarak sergilenen davranış ve tutumların dışal görünümüdür. Beden dili, kaynaklara göre, kinesik biliminin alanında incelendiği belirtilmektedir. Kinesik sözcüğü Yunanca hareket anlamına gelmekte ve beden dili bağlamında kullanılan bir sözcüktür ((Habacı/Ürker/Bulut/Atıcı/Habacı, 2013:1643). Çoğu beden hareketleri evrensel olsa da, bireyin toplumsallaşma sürecinde, aidiyeti olduğu toplumunda özelliklerini yansıtacak şekle bürünmektedir. Beden uzuvlarının her birinin tepkisi iletişim esnasında belli bir gösterge olarak ifadesel şekilde anlamını bulmaktadır. Beden dili; daha çok duygular, istek ve arzularla ifadesini bulmaktadır. Ancak tanım bağlamında beden dili, hareket, jest-mimikler, duyguların ifade edilmesi, duruş şekli, ses tonu, vücut hareketleri gibi birçok önemli unsuru içinde bulunduran ve iletişimde çok önemli yeri olan bir araçtır (www.wikipedia.org). Beden dili, bireyler arasında iletişim başladığı anda devreye girmektedir. Kişiliğimizin bir göstergesi olan beden dili iletişimde oldukça etkilidir. Her ne kadar sözsüz bir iletişim şeklide olsa davranış ve tutumlarımıza yüklediği belli anlamlar söz konusudur. Temelde paylaşılan bilgilere tam ve doğu şekilde ulaşama amacı olan iletişim, sözlü veya sözsüz kodlanan düşüncülerin atarımı ile çözümlenir. Sözlü dilde mesajın ne içerdiği önemlidir. Sözsüz beden dili bağlamında ise nasıl söylendiği önemlidir.

Beden dilinin sözlü dili destekleme ve anlaşır kılma işlevi tartışılmaz bir gerçektir. Sözsüz ve insan bedeninin durumsal tepkileri ile iniltili beden dili iletişim esnasında aktarılan mesajların tam olarak yerini bulması açısından oldukça etkili olmaktadır. Bu düşünceden hareketle; bireyler arasında gerçekleşecek iletişim bağlamında beden dilinin etkin rol oynadığı görülmektedir. Siegman ve Feldstein, (2014) göre; bedenimizin aktardığı mesajlar, iletişimin %60'lık bir bölümünü oluşturmakta, sözler %10, sesin etkisi ve tonlama ise %30'luk bir yer kaplamaktadır (Akt: Çakmak, S.& Kazan, F. 2023: 258). Sözlü dille ifade edilen mesajın beden dili ile birlikte verilmesi, beden dilini her ne kadar görünmez hale soksa da, beden dilinin bireylerin karşılıklı iletişimi konusunda oldukça etkili olduğu görülmektedir.

Beden dilinin mesajı ileten ve alan bireyler arasında oluşturduğu olumlu ve olumsuz etkiler, sözlü aktarılan mesajın yanında ona uygun beden hareketleri ile çoğu zaman istemli ya da istemsiz verilmektedir. Bu anlamda beden dilinin iletişim esnasında karşı tarafta bıraktığı etki, insan bedeninin çeşitli uzuvları ile gerçekleştirilmektedir. Beden dilinin özelliklerini yansıtan uzuvların çeşitli hareketleri, beden dilinin özelliklerini yansıtmaktadır. Bunlardan göz ilişkisi, yüz ifadesi, baş hareketleri, jestler, bedenin duruşu, iletişim kurulan kimseye yakınlık, bedensel temas, yön, dış görünüm, ses tonu ve hızı gibi beden dilinin özellikleri sözlü iletişim esnasında karşı tarata bırakacağı olumlu veya olumsuz izlenimleri belirlemektedir (http://www.antalyaozelegitim.com/blog/kisisel-gelisim/iletisimde-beden-dili-ve-onemi.html).

Beden dilinin verdiği tepkiler, doğuştan gelen kendiliğinden olan hareketlerdir. Sözlü dil gibi sonradan öğrenilmez. Beden dilinin en büyük özelliklerinden bir de sözlü dil gibi değişken olmamasıdır. Bu anlamda beden dilinin kontrolünün oldukça zor olduğu bilinmektedir. Böylece birey önce beden dili ile iletişime geçmekte, sonrasında da sözlü dille isteğini ifade etmektedir. İletişim esnasında ilk iletişime geçen beden dilidir. Sözcüklerle birlikte beden dilinin özellikleri ön plana çıkmakta ve mesaj verilen kimsede olumlu veya olumsuz etkiler bırakmaktadır (Habacı/Ürker/Bulut/Atıcı/Habacı, 2013:1643). Baltaş ve Baltaş'a (2011) göre; bireyler arasında iletişimde beden dilinin egemenliği oldukça fazla düşüncesinden hareketle; insanların dillerin tam anlamayla oluşmadan önce beden dilleri ile iletişim kurdukları söylenebilinir. Bunun en büyük örneği, bebeklerin, isteklerini sözel olarak ifade edemedikleri için beden dilinin çeşitli özelliklerini kullanarak göstermeleridir (Akt: Habacı/Ürker/Bulut/Atıcı/Habacı, 2013:1642).

Bireyler arasında iletişimin gerçekleşmesinde en etkin rol oynayan başta beden dili olmak üzere, ses ve söz öğeleridir. Beden dili, görsel anlamda ilk göze çarpan ve doğal olduğu için güvenirliliği söz konusu olan bir iletişim aracıdır. İnsan sözlü dilde ifade etmek istemediği olguları saklamak istese de, özellikle suç işlediklerinde ve yalan söylediklerinde bu durumu yüz ifadelerinden anlamak olasıdır. Çünkü beden dilini kontrol etmek oldukça zordur (Erol ve Erol, 2015). Gerginlik, öfke, korku; memnuniyet ve üzüntü gibi ruh halleri, kişinin yüz hatlarında somut olarak yansımaktadır. Çok doğal olan bu bedensel ifadeler, özellikle çocuklarda belirgin halde ortaya çıkmakta ve bu tür duygu yüklü bedensel ifadeleri saklayamamaktadırlar. Bu yüzden çocuklar için, "kötü yalancılar" deyimi kullanılmaktadır.

Tüm toplumlarda dil ve kültür etkisi altında oluşan beden dili hareketleri, farklılık gösterse de verdiği mesajlar bağlamında ortak özelliklere sahip evrenseldir. Bu anlamda beden dilinin bireylerarası etkin iletişim kurma yetkinliği, sözlü dile oranla çok daha fazladır. Aynı zamanda beden dilinin evrensel bir dil olması düşüncesinden hareketle, kültürlerarası etkisi de aynı oranda yüksek olacaktır.

3. KÜLTÜRLERARASI ETKİLEŞİMİN TANIMI VE BEDEN DİLİNİN KÜLTÜRLERARASILIK ETKİSİ

Dünya üzerinde yaşayan çok çeşitli dil ve kültürlere sahip farklı toplumlar mevcuttur. Tarihsel süreç içerisinde bu toplumlar herhangi bir nedenle ve bir yerde karşılaşmaları kaçınılmaz olmuştur. Özellikle ulaşımın ve iletişimin çok hızlı olduğu bugün farklı kültürlerin karşılaşmaları daha kolay hale gelmiş, uluslararası bağlamda insan hareketlilikleri artmıştır. Tüm bunlar farklı kültürlerin buluşmasını sağlarken, birbirleri ile iletişimi de gerekli kılmıştır. Kültürlerarası iletişim berberinde kültürlerarası etkileşimi de tetiklemiş, tüm homojen toplumların yapılarını yakından etkilemiş ve birçok ülkede çokkültürlü toplum yapısının oluşmasına neden olmuştur (Ulusoy, 2017:166). .Çokkültürlülük belli bir siyasi şemsiye altında farklı kültürlerin bir arada uyum içerisinde yaşaması anlamına gelirken (Doytcheva, 2009: 15)., kültürlerarasılık ise, farklı kültürlerin birbiri ile etkileşimi gerçekleştirmek için, farklı kültürlerin üyeleri karşılaştıklarında, birbirlerini anlamak için yararlandıkları medyum (dil, sözsüz iletişim kodları vs.) bu medyumu kullanmayla ilgili birbirlerinden farklı olan kurallar nedeniyle sorun yaratabilmektedir (Kartarı, 2014: 50).

Her bir kültürün ses bayrağı olan iletişim dili, bireylerin istek ve arzularını farklı biçim de ifade etme şekilleri söz konusu olabilmektedir. Ayrıca farklı olgulara farklı anlamlar da yükleyebilmektedir. Bu anlamda bir kültürde kabul gören davranışlar ve sözlü ifadeler diğer bir kültürde kabul görmeyebilmektedir. Ya da bu sürecin tam farklı da gerçekleşmesi olasıdır. Farklı kültürlerin üyeleri ile kendi düşünsel bağlamları içerisinde anlaşmaya çalışmanın ve davranışsal olarak onları anlamaya çalışmanın kültürlerarası iletişime katkı sağlayacağı muhakkaktır. Bu uygulama aynı zamanda faklı kültürlerin varlığını kabul etmek, kültürlerarası iletişimde yanlış anlamalardan ve ön yargılardan uzaklaşmamızı sağlayacaktır (Ulusoy, 2017:179).

Kültürlerarasılık, farklı toplumların içlerinin birbirine açılımıdır. Farklı kültürler arasında inşa edilmiş bir köprü işlevi görmektedir. Kültürlerarasılık bağlamında, her bir kültür, öteki hakkında bilgilerini genişletmeye ve onlar hakkında daha fazla bilgi edinmeye ve hatta etkileşim içerisinde bulunmaya çalışmaktadır. Kültürlerarası arabuluculuk görevini üstlenen öncellikle ortak dil olan çeviri ve buna bağlı olarak her iki kültürde de uzmanlaşmış çevirmenler sözsel bağlamda anlaşmayı sağlamaktadır. Ancak burada önemli olan bireylerin insan oluşlarından kaynaklanan beden dilidir. Beden dilinin de karşısındakini olumlu veya olumsuz etkileme bağlamında bir çeviri dilidir. Beden dilinin özellikle insani duygusal davranış göstergesel özellikleri, evrensel bir dil niteliği taşımaktadır. Bu dil farklı kültürlerin birbirlerini daha iyi anlamalarını, kaynaşmalarını ve her birinin diğerine var oluşundan ötürü saygı duymayı sağlamaktadır.

Kültürlerarasılık bir çok kültürün kendine yer edindiği, belirli alanlarda iletişimin kurulduğu, her kültürün ötekini tanıma fırsatı bulduğu bir ortamdır. Birey, kültürlerarasıık bağlamında karşılaştırma yapma olanağı da

bulmaktadır. Farklı kültürlerin değer yargılarını, inançlarını, yaşamını, ilkelerini ve davranışlarını da tanımak kültürlerarasılık sürecinin kazanımlarıdır (Ulağlı ve Eriş, 2018:234). Farklı kültürlerin tanınması ve kendi kültürü ile karşılaştırılması ortak dil yoluyla olsa bile, her kültürün sözcüklere yüklediği anlamlar anlamlar ve bunları bağdaştırdığı davranışlar sonucu farklı algılanması olasıdır. Bu bağlamda evrensel olan beden dili yoluyla ifade edilen duygu ve düşüncelerde de farklı anlamalar söz konusu olacaktır. Bunun temel nedeni her bir kültürün kendine özgün yapısal, sosyal ve farklı özel kullanım alanlarıdır. Kültürün bu özelliği göz önüne alınmadığında hem davranışsal hem de anlamsal eksik ve yanlış anlamalara yol açılabilecek iletim gerçekleşecektir. Bu da bireyin ilgili kültür hakkında önyargılı yaklaşımlarına neden olacaktır. Gerek sözlü çeviri gerekse sözsüz beden dili ile farklı kültürlerin iletişiminin gerçekleştirilmesi esnasında, dil ve kültürlerarası farklılıklara özen gösterilmesi, saygı gösterilmesi kültürlerarası etkileşimi arttıracağı gibi, farklılıklar arasında çatışmaları da ortadan kaldıracaktır (Ulağlı ve Eriş, 2018:238).

4. YAPAY ZEKÂ, KÜLTÜRLERARASILIK VE BEDEN DİLİ İLİŞKİSİ

Bugünün dünyasında yapay zekâ gün geçtikçe insan yaşamını etkilemekte ve hatta günlük yaşamının vazgeçilmez bir parçası haline gelmiştir. Teknolojinin çok hızla gelişmesi, her kültürden bireyin her an yeni bir teknolojik değişiklikle karşılaşmasına neden olmaktadır. Bu gelişmeler, insan yaşamını oldukça kolaylaştırırken, dünya yaşamının renkliliğini hızla tek tipliliğe doğu götürmektedir. Dünyada her bir toplumun farklı kültürel dokusu olduğu düşüncesinden hareketle, yapay zekanın küresel hizmet götürme isteği, kültürel zenginliklerin göz ardı edilmesine ve kültürlerarası etkileşimin ortadan kalkmasına neden olmaktadır. Yapay zeka temel olarak tek dilliği öncelemektedir. Bu da hem çok dilliliği hem de çok kültürlülüğü yok etmektedir. Kapsayıcı ve kültürel çeşitliği koruyucu bir yapay zeka bu eksikliği giderebilecektir (https://tr.shaip.com). Yapay zeka her alanda çok çeşitliği planlamakta ve uygulamaktadır. Bu bağlamda insanlığın yaşamsal inanç ve değerlerinin de yaşatılması yönünde çalışması, kültürel çeşitliliğin yok olmaması ve kültürlerarası etkileşimin devam etmesi açısından önemlidir. Beden dili düşünce ve duyguların vücudumuzun çeşitli hareketleriyle sözsüz olarak ifade edilmesi anlamına gelmektedir.

Yapay zeka, bedeninin vücut sıcaklığı, stres, çeşitli beyin fonksiyonlarını belirlerken, beden dili ile bütünleşik davranışsal ifadeleri anlamakta ve ortay koymakta zorluklar yaşadığı belirtilmektedir (www.forbes.com). Beden dili evrensel sözsüz dil düşüncesinden hareketle; bulunulan durum, kültür ve bireysel farklılıklardan etkilendiği için yapay zeka her bir farkı anlamakta zorluk çekecektir. Yapay zeka, ortak katı kurallı ve sabit kalıplı dil yapılarını kolay anlamaktadır. Bu bakımdan, beden dili olan bir farklı yüz ifadesi, bir jest durumsal bağlamda farklı ve yanlış anlaşılacaktır. Beden dilinin yorumlama ve özellikle cinsiyete göre farklılık göstermesi, yapay zekanın algoritmalarının yanılmasını ve belirginsizleşmesine kaynak oluşturmaktadır. Beden dili her kültürde iletişim esnasında, zamanla yaşamsal deneyimlerle yoğrulmuş, ince detayları ifadesel olarak ortaya koymaktadır. Yapay zeka ile bu detaylar pek fark edilemez. Kısacası yapay zeka, insanının duygusal dünyasını anlamaktan uzaktır. Beden dili, duygularla bezenmiştir. İletişimin her türünde duygularını kullanmak zorundadır. Aksi halde sadece sözlü iletişim, yanlış anlamalara neden olacaktır. Yapay zeka çok ilerlemişte olsa, beden dilini anlamakta ve okumakta başarısızdır. Çünkü insan beyninin beden verdiği gizli komutlar, yapay zeka tarafından tamamen öngörülebilir değildir. Bu anlamda beden dilinin ifadesel anlamı için insan beynine güvenmek yerinde olacaktır.

5. SONUÇ

Sosyal bir varlık olan insan için iletişim hem endi hem de aidiyeti olduğu toplum için oldukça önemlidir. İletişim, sözlü ve sözsüz şekilde gerçekleşmektedir. Sözsüz olan iletişim, her ne kadar farklı dillere sahip kimseler tarafından yapılsa da, bireyin beden dilidir. Beden dili, aynı zamanda sözlü dilin pekiştiricisidir. Ancak tek başına evrensellik özelliği vardır. Çünkü tüm insanların biyolojik yapısından kaynaklanan ortak duygusal ifade biçimini açık eden beden dilidir. Bu anlamda beden dili, farklı kültürlerin arasında oluşacak etkileşimde anahtar rolü oynamaktadır.

Beden dili, farklı kültürlerin zenginliklerinin toplandığı bir alandır. Bu alanda farklı kültürler birbirlerine açılmaktadır. Farklı kültürlere sahip toplumlar bir taraftan bilgi alış verişi yaparken diğer taraftan da kendi bilgi alanlarını genişletmektedir. Kültürel etkileşim sonucu oluşan kültürel çeşitliliğin yaşanması, toplumları önyargılardan ve çatışmalardan uzak barış içerisinde bir dünya yaşamı oluşmasını sağlayacaktır. Bu anlamda beden dilinin kaynak olduğu kültürlerarası etkileşim, küresel sorunların ortak çözümünde de aktif rol oynayacaktır. Kültürlerarasılık, bugünün dünyasında, çeşitli kültürel değişim araçları ile birlikte, farklı olanı tanımak, farklı olana ait inanç, gelenek görenek ve yaşamsal deneyimleri tanımak anlamına gelmekte ve bireyin bu farklılıkların zenginliklerinden ötürü karşılaştırma yaparak kendinin farkına varmasını sağlayacaktır. Bu bağlamda bireye evrensel sözsüz ve görsel beden dili katkı sunacaktır.

Dünyada her toplumun yaşamsal deneyimlerinin bir bütün olarak ortaya konduğu zengin çeşitli kültür olgusu, yapay zeka ile tek kültürlülüğe yöneltilmektedir. Yapay zeka ile her bir toplumun sözlü dilinin, belli bir dil ve kültür yapısı bağlamında farklı dillere çevrilmesi, kültürlerarası etkileşimi yok ettiği gibi, kültürel olaraktan tek kültüre götürmesi açısından sakıncalıdır. Yapay zeka bireyin sözlü bildirimlerinden hareketle, bireyin duygusal durumunu belirleme çabaları olsa da, bireyim duygularını ifade ettiği beden dili kültür, durum ve özellikle bireysel özelliklere bağlı olduğundan, çözümlemekte sorunlar yaşamaktadır. Yapay zeka ile bir dilde kültürel motiflerle bezenmiş incelikler ve ifadesel güç belirlemek oldukça güçtür. Yapay zeka oluşum itibarıyla genele yönelik hazırlanmış bir hizmettir. Bireysel özelliklerin beden dili ile dışa vurumu henüz yapay zekâ ile algılanamamaktadır.

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The Effects of Digital Transformations, Innovation, and AI on the Competitiveness of EU Member States

Cristian Romeo SPĂTARU[1] **Cristian Constantin POPESCU[2]**

[1]Department of Economics, The Doctoral School of Economics and Business Administration, "Alexandru Ioan Cuza" University of Iasi, Iași, Romania, cspataru1970@gmail.com

[2]Department of Economics, Faculty of Economics and Business Administration, "Alexandru Ioan Cuza" University of Iasi, Iași, Romania, popescu@uaic.ro

Abstract: Digitalization, innovation, and artificial intelligence (AI) are essential factors in the profound transformation of economic, social, and technological processes, significantly impacting global development. In the first part of this study, a systematic review of the specialized literature is conducted to analyze the interdependencies between digital technologies and AI, as well as their effects on the economy. Additionally, the challenges and risks associated with adopting these technologies are examined, including ethical aspects, data security, and digital inequalities. In the empirical section, by applying econometric methods, we will test the research hypothesis H1: "Digital transformation and innovation contribute to increasing national competitiveness." In this regard, the analysis conducted for the 2017–2022 period focuses on assessing the influence of four key determinants: the Digital Economy and Society Index (DESI), exports of goods and services (% of GDP), the number of patents per million inhabitants, and Venture Capital investments in Artificial Intelligence (% of GDP). The results highlight the significant contribution of digitalization and innovation to improving competitiveness and sustainable development in EU states, thus providing a solid foundation for developing public policies to accelerate innovation and digital transformation processes.

Keywords: competitiveness, digitalization, DESI, AI, innovation, exports

J.E.L. classification: O33, C21, F43, H54, L86, Y10

1. INTRODUCTION

The 2030 Agenda for the Digitalization of the European Union is part of the digital transition that the EU is promoting to become a global leader in technology and digitalization. In this regard, Europe's Digital Decade sets ambitious goals for the development of digital infrastructure, skills, and the data-driven economy.

Digitalization and artificial intelligence (AI) are two essential drivers of global economic transformation, significantly impacting productivity and sustainable development. These technologies foster innovation, revolutionize industries, support the Sustainable Development Goals (SDGs), and contribute to process automation.

AI is a rapidly expanding field that is transforming various aspects of society, including business, governance, and sustainable development. With its ability to analyze and process vast amounts of data, AI plays a crucial role in the digitalization of processes and services, offering significant opportunities for efficiency and innovation.

Innovation plays a crucial role in enhancing competitiveness at the organizational, industrial, and national levels, offering substantial advantages through the development of new products, technologies, and business models. The influence of innovation on competitiveness can be examined from various perspectives:

- Efficiency and productivity – Automation and digitalization optimize processes, reduce costs, and increase performance.
- Differentiation – Innovative products and disruptive solutions strengthen market positioning.
- Adaptability – Innovation helps companies respond quickly to economic shifts and consumer demands.
- Market expansion – New technologies enable access to international segments and markets.
- Brand and reputation – Innovative companies attract new customers, investors, and partners.
- Macroeconomic impact – Countries with strong innovation ecosystems (e.g., the U.S., Germany, Japan, China, Switzerland, South Korea, etc.) drive economic growth and dominate specific industries and global markets.

Last but not least, it is important to highlight the contribution of this study through the analysis of the synergy between digitalization, innovation, and artificial intelligence (AI) - a trio that enhances both the private sector (especially businesses) and the public sector, contributing to the growth of socioeconomic competitiveness. Specifically:

- *Digitalization* optimizes processes, reducing costs while increasing efficiency and effectiveness.
- *Innovation* generates new products and solutions tailored to market demands.
- *Artificial intelligence* enables advanced data analysis and intelligent automation.

Together, these three components accelerate digital transformation, foster innovation, and provide a sustainable competitive advantage for countries committed to implementing appropriate policies for digitalization, research and development, and the adoption of cutting-edge technologies, including AI.

This study focuses on a literature review and quantitative analysis, aiming to demonstrate the significant impact of digitalization, innovation, and AI on the competitiveness of European Union member states.

2. LITERATURE REVIEW

The impact of digitalization on economic development has been the focus of numerous specialized studies. Digital development has a significant positive effect on economic growth, an effect that was amplified during the COVID-19 pandemic (Piddubna et al., 2024). For example, the COVID-19 pandemic disrupted the movement of people and supply chains, accelerating the digitalization of trade. In this context, digital trade is expected to become dominant globally, supported by advanced technologies such as big data, cloud computing, artificial intelligence, and blockchain (Zhang et al., 2022). Digitalization is driven by factors such as digital infrastructure, the level of innovation, investments in research and development (R&D), and workforce skills. These elements play a crucial role in integrating digital technologies and fostering innovation, directly impacting the global competitiveness of nations (Sheng-jun Yuan et al., 2021; V. Khaustova et al., 2024). Moreover, digitalization contributes to total factor productivity growth through digital infrastructure, the digital industry, and digital integration. It stimulates technological progress and expands consumption, having a positive impact on high-quality economic development (Zhang et al., 2021; Pang et al., 2022; Li & Wu, 2023). On the other hand, digitalization positively affects urban economies by facilitating labor market restructuring, modernizing industrial structures, and increasing industrial efficiency (Jiao & Sun, 2021). According to Solomon et al. (2020), digital technologies have had a positive impact on economic growth in Africa. Last but not least, digitalization facilitates structural changes and economic diversification. The benefits vary depending on a country's level of development (Myovella et al., 2020; Matthess & Kunkel, 2020). In a systematic review of the literature, Matthess & Kunkel (2020) present current trends indicating that the digitalization of economic activities and structural transformations occur variably, both across different regions and within regions.

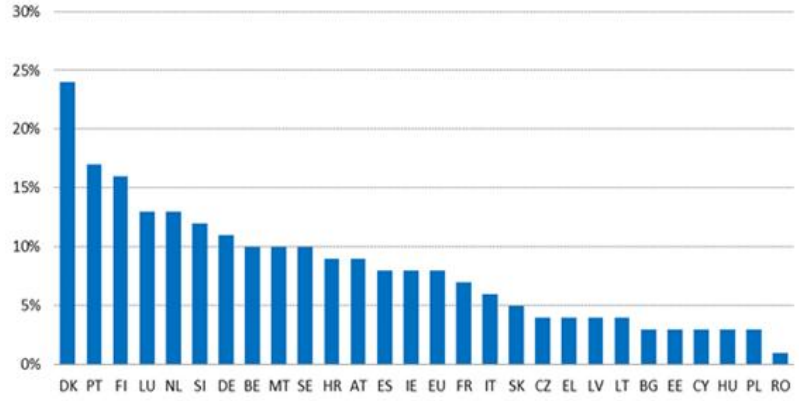
Regarding economic complexity and innovation, digitalization contributes to innovation, cost reduction, the development of the financial sector (Ha, 2022), and increased industrial productivity (Yoo & Yi, 2022). The integration of the digital economy into the socioeconomic sphere leads to the modernization of society, industry, and businesses, contributing to sustainable economic development based on innovative models (Mottaeva et al., 2023).

Regarding the impact of artificial intelligence (AI) on the digital economy, it is evident that AI is used in the digital transformation of various sectors (healthcare, education, finance, agriculture) to enable predictive analytics and the development of innovative products (Brock et al., 2019; Aldoseri et al., 2024). At the same time, AI-powered digital assistants and chatbots are becoming increasingly present in daily life but raise concerns regarding privacy and security (Maedche, 2019). Understandably, AI facilitates process automation and human-robot interaction, contributing to sustainable development (Huang et al., 2021). According to Gao (2022), AI is a key factor in digital transformation, offering unique advantages in the global economy. In this regard, countries such as the United States, China, and Russia are developing national strategies to promote AI and improve living standards. From another perspective, AI has revolutionized industries such as e-commerce, finance, supply chain management, and manufacturing, leading to greater efficiency and personalized customer experiences. The influence of AI on the digital economy is expected to continue growing, with significant contributions from the Internet of Things (IoT) (Riley, 2023). AI is widely used across various sectors, including healthcare, education, finance, and construction, to automate tasks, reduce risks, and enhance efficiency (Dwivedi et al., 2019; Pan & Zhang, 2021). AI is also transforming digital marketing by automating campaigns and optimizing customer interactions, though there is still much to explore in this field (Van Esch & Black, 2021). Lastly, AI is revolutionizing product

development by significantly reducing development times and improving the commercial success of projects. Companies such as GE and BASF use AI to rapidly test product designs and identify new market opportunities (Cooper, 2024). This demonstrates that AI has the potential to transform traditional product development processes, offering a significant competitive advantage (Zhang et al., 2021; Cooper, 2024).

The EU's Path to the Digital Decade target aims to have more than 75% of EU companies by 2030. At present, however, the rate of adoption of AI at the European level remains modest, at an average of 8%, with significant variations between member states.

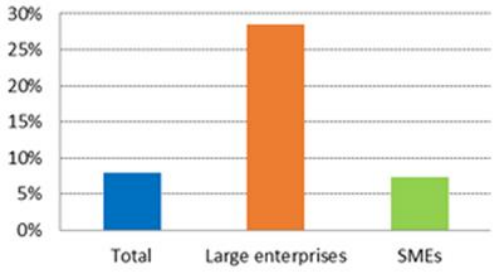
Fig. 1. Enterprises using an AI technology (% of enterprises), 2021, source: Eurostat



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

The uptake of AI technologies is significantly higher in large EU companies, three times higher in 2021 compared to SMEs (specifically, 29% compared to 7%).

Fig. 2. Enterprises of AI technology by enterprise (% of enterprises), 2021, source: Eurostat



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

Moreover, the overall sectoral picture reveals that in the EU, the ICT sector is driving the use of AI technologies, with 25% of businesses adopting AI, followed by the advertising industry with 18%, and the rest is far behind.

Fig. 3. Use of AI technology by sector, (% of enterprises), 2021, source: Eurostat



Source: Eurostat, European Union survey on ICT usage and e-commerce in enterprises.

The synergy between artificial intelligence (AI) and digitalization is a topic of great interest, as together, they have immense potential to transform industries and optimize organizational processes. AI plays a crucial role in business digitally, enhancing efficiency and innovation through data analysis and process automation. Thus, AI is a central element in digital transformation, enabling predictive analytics, the development of innovative products, and the improvement of decision-making processes (Aldoseri et al., 2024; De Fátima Soares Borges et al., 2020). AI is often implemented alongside other advanced digital technologies in companies' digital transformation projects. These projects primarily support firms' existing businesses, demystifying some of the transformative claims made about AI (Brock & Von Wangenheim, 2019). For example, in the banking sector, AI is integrated to enhance personalized services, fraud detection, and financial advice, although it faces challenges related to data privacy, the need for technological investments, and employee training (Oprea & Duță, 2024). On the other hand, AI, along with other emerging technologies such as blockchain, cloud computing, and data analytics, contributes to the digital transformation of businesses, offering both new opportunities and challenges (Kaur et al., 2019; Akter et al., 2020). Digitalization and artificial intelligence are critical drivers of economic transformation and sustainable development. These technologies offer significant opportunities for productivity growth, modernization of industrial structures, expansion of consumption, and innovation stimulation. However, to maximize their benefits and minimize risks, a collaborative, responsible, and well-regulated approach is necessary (Gupta et al., 2020; Gao, 2022; Trocin et al., 2021). Additionally, AI and digitalization are essential for digital innovation, improving decision-making processes and providing personalized recommendations, which lead to better resource management and increased operational efficiency (Trocin et al., 2021; Ahmad et al., 2021).

The study conducted by Bhatt & Muduli (2022) explores the integration of AI in learning and development, focusing on innovations, advantages, and factors influencing the effective adoption of AI in this field.

AI has the potential to accelerate progress toward the United Nations Sustainable Development Goals (SDGs) by integrating into organizational, technical, and processing practices. It can contribute to societal stability and development by creating algorithms that address global challenges and support the internal transformation of companies (Goralski & Tan, 2020; Kulkov et al., 2023).

Regarding challenges, risks, and future directions, several approaches can be noted. Future research should focus on integrating AI with digital twins and IoT to enhance industrial and social processes (Kaur et al., 2019; Pan & Zhang, 2021). Some authors highlight imbalances and asymmetries in the implementation of digital technologies. There is ongoing discussion about disparities in technology access and regional inequalities, with some regions being more advantaged than others (Zhang et al., 2022). Furthermore, there is an asymmetric impact between developed and developing economies, as developed economies adopt AI and digitalization more rapidly due to their more advanced infrastructures (Oliinyk, 2024).

Various risks are discussed in the literature. AI and digital technologies integration raises concerns about cybersecurity and data privacy (Ahmad et al., 2021; Sjödin et al., 2021). There is a risk that AI may amplify economic uncertainties and lead to social collapse if not properly managed (Goralski & Tan, 2020). Maedche (2019) warns about the potential misuse of AI for fraud and deception. In digital marketing, AI automates tasks but raises ethical concerns and questions about its impact on employment (Van Esch & Black, 2021). In mental health, AI chatbots provide digital solutions, but a responsible approach is necessary to navigate the ethical and legal challenges (D'Alfonso, 2020; Balcombe, 2023). The integration of AI in software development and industrial processes comes with challenges such as high initial investment costs and AI model complexity. A strategic approach is crucial, including AI-specific training and robust data governance, to overcome these barriers (Ajiga et al., 2024). Additionally, ensuring legal compliance and data security in AI applications is essential (Ernst et al., 2022). While AI offers significant opportunities for development and innovation, it requires careful management to maximize benefits and minimize risks. Its integration across various sectors can lead to major improvements in efficiency and sustainability, but it is vital to address the ethical and security challenges associated with AI (Bjola, 2021; Dwivedi et al., 2019). As a strategic challenge, De Fátima Soares Borges (2020) emphasizes that implementing AI in organizational strategy requires a deep understanding of how AI can create value through decision support, engagement, and appropriate automation.

In other news, industrial partnerships and interdisciplinary collaboration are essential to develop an innovation ecosystem based on AI (Aldoseri et al., 2024).

In the empirical section, we propose to test the following research hypothesis:

- Hypothesis of dependence (H1): *Digital transformation and innovation contribute to increasing national competitiveness*
- Null hypothesis (H0): *Digital transformation and innovation do not contribute to increasing national competitiveness*

3. RESEARCH METHODOLOGY

In this study, we employed a combination of research methods, including a comprehensive review of relevant literature, a quantitative approach through the collection and processing of statistical data to test the working hypothesis, and comparative evaluations of the obtained results. Next, we define the variables under investigation to test the hypothesis of dependence:

- Dependent variable (Y): *Competitivity Ranking (Competitiv_Rank)*, overall score: [0;100] (source: IMD World Competitiveness)

The competitiveness of an economy is not limited to GDP and productivity but also includes political, social, and cultural factors. IMD World Competitiveness Online is a comprehensive database on national competitiveness, integrating data from reports such as the IMD World Competitiveness Yearbook, IMD World Talent Ranking, and IMD World Digital Competitiveness Ranking. Its methodology combines statistical data (2/3) with survey results from executive opinion polls (1/3). (IMD, 2024)

The estimated missing values for Malta, Cyprus, and Latvia have been filled in as the averages of their EU neighbors using the alternative World Economic Forum (WEF) ranking for competitiveness. As an exception, for the years 2020-2022 in Malta, we applied a polynomial regression approach that assigned lower weights to crisis years. This method allowed the regression model to estimate the missing values for the competitiveness ranking more accurately. Also, we applied the weighted average formula for the EU values using the total population.

As independent variables (Xi), we propose a set of indicators selected from the World Bank, Eurostat, OECD.ai, and European Commission, which are directly or indirectly linked to the competitivity, as follows:

- (X1): *Digital Economy and Society Index (DESI)*, Aggregate score, weighted score of the DESI dimension [0;100] (source: European Commission, Digital Decade DESI visualisation tool).
- (X2): *Patent applications to the EPO by country of inventors* (*Patents),* Inventor, per million inhabitants (source: Eurostat).
- (X3): *Venture capital investments in AI (VC_Invest_AI), % of GDP* (source: composite indicator calculated by the authors based on OECD.ai data for the indicator *Venture capital investments in AI* expressed in USD millions by country, as well as World Bank statistics for *GDP* values expressed in constant 2015 prices, USD millions).
- (X4): *Exports of goods and services (Exports)*, % of GDP (source: World Bank).

The data corresponding to these variables were collected for the EU27 member states over 6 years (2017–2022).

To handle predictors' missing data, we employed two approaches: calculating the average values (arithmetic mean of neighboring values) and, in certain cases, utilizing Python-based predictive models for data imputation (linear regression technique). EU-level values were calculated as weighted averages based on either population or GDP, depending on the case.

In our case, **the multiple regression equation** can be expressed as:

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon \quad (1)$$

Where: *Y* is the dependent variable (*Competitiv_Rank*), *X1÷X4* are the independent variables (*DESI, Patents, VC_Invest_AI, Exports*), $\beta 1, \beta 2, \beta 3$, and $\beta 4$ are the regression coefficients, $\beta 0$ is the intercept (constant), and ε is the random error.

Below, we will describe the statistical methods and techniques used in our analysis.

About correlation and regression analysis. The *Pearson correlation coefficients* were used to evaluate the strength of relationships between variables (theoretical range: 0 – 1, preferable range: 0.50 – 0.95). The statistical significance (p-value) should ideally be below 0.05, indicating over 95% confidence. In regression analysis, the coefficient of determination (R^2) is crucial as it shows the percentage of variation in the dependent variable

explained by the independent variables. The Analysis of Variance (ANOVA) certifies statistical significance (preferable p-value < 0.05).

A factorial analysis was conducted using the *Kaiser-Meyer-Olkin (KMO) statistical test* to assess the internal consistency of the selected variables. The KMO should range from 0.5 to 1, indicating adequate sampling.

To address the issue of *multicollinearity* and obtain more robust results, we applied the following solutions in our analysis: calculating the *Variance Inflation Factor* (VIF) and, when necessary, implementing *regularization methods*. In general, a VIF below 10 (preferably below 5) does not indicate severe multicollinearity issues.

The *Ridge Regression model* (L2 regularization, which applies the penalty $\alpha\Sigma\beta^2$) modifies the linear regression objective function by adding a penalty term to the sum of the squared model coefficients. This reduces the effects of multicollinearity, as all coefficients shrink but do not become zero, unlike in Lasso regression, where some coefficients can be eliminated.

Here is the minimization formula:

$$\min_{\beta} \sum_{i=1}^{n} \left(y_i - \mathbf{x}_i^T \beta\right)^2 + \alpha \sum_{j=1}^{p} \beta_j^2 \quad (2)$$

Where:

- *yi* (dependent variable) represents the target values,

- *xi* are the features (predictors),

- *β* are the regression coefficients,

- *α* (alpha) is a hyperparameter that controls the penalty.

If *α* (alpha) = 0, the model becomes a standard Ordinary Least Squares (OLS) regression.

As *α* (alpha) increases, the coefficients *βj* are shrunk, reducing model complexity and preventing overfitting.

In comparison, the *Lasso regression model* (L1) applies the penalty term $\alpha\Sigma|\beta|$, which can drive certain coefficients to zero, thereby selecting only the most relevant features. Lasso regression performs feature selection by shrinking the coefficients of less significant predictors to zero, effectively excluding them from the model. This process removes irrelevant features, such as outliers (e.g., Croatia, Ireland, Poland, Slovakia, Czechia, and Hungary, as shown in *Fig. 12*). The **minimization formula** for the **Lasso model** is:

$$\hat{\beta} = \arg\min_{\beta} \left(\sum_{i=1}^{n} (y_i - X_i^T \beta)^2 + \alpha \sum_{j=1}^{p} |\beta_j| \right) \quad (3)$$

If the hyperparameter *α* is large, more coefficients *βj* become zero, performing feature selection and retaining only the most relevant values. For *α* = 0, the model reduces to ordinary linear regression.

For regularization, since we did not want to eliminate any coefficients, we preferred the Ridge regression model in our analysis, as it provides good estimation results in the presence of multicollinearity.

Regarding residual analysis, we applied the following tests:

1. *Shapiro-Wilk test* for residual normality:

The Shapiro-Wilk test is one of the most powerful statistical tests for checking the normality of data. Essentially, it verifies whether a sample comes from a normal distribution.

$$W = \frac{\left(\sum_{i=1}^{n} a_i x_{(i)}\right)^2}{\sum_{i=1}^{n} (x_i - \bar{x})^2} \quad (4)$$

where:

- *x(i)* are the incrementally ordered sample values,

- x^- is the sample average,

- *ai* are coefficients calculated based on the variance of the sample and the normal distribution.

Interpretation of the test result: if p > 0.05 → There is insufficient evidence to refute the normality hypothesis (we say that the data is distributed normally).

2. *Durbin-Watson (DW) Test* for Residual Autocorrelation:

The Durbin-Watson test is a statistical test used to detect the autocorrelation of errors in a linear regression model.

$$DW = \frac{\sum_{t=2}^{n}(e_t - e_{t-1})^2}{\sum_{t=1}^{n} e_t^2} \quad (5)$$

Where:

- *et* represents the residual errors of the model at time t,

- *n* is the number of observations.

Interpretation of the Test Results:

- If 1.5 ≤ DW ≤ 2.5, there is no significant autocorrelation (i.e., autocorrelation is not problematic);

- If DW ≈ 2, it indicates no autocorrelation of errors (the ideal scenario).

3. *Breusch-Pagan Test* for heteroscedasticity/homoscedasticity:

For a regression model to be valid, residuals must show homoscedasticity, meaning their variance should remain constant across fitted values, be randomly scattered when plotted, and have no systematic relationship with fitted values. The Breusch-Pagan test detects heteroscedasticity, which can affect model estimates. If the p-value is above 0.05, heteroscedasticity is absent, confirming the model's validity.

4. RESULTS AND DISCUSSIONS

In Figures 4-29 below, we present the results of the quantitative analysis for the first and last years in the dataset (2017 and 2022), including correlation and regression analyses, analysis of variance (ANOVA), factorial analysis (*KMO*), analysis of multicollinearity and intervention solutions, analysis of residuals, etc.

For correlation analysis, find below the correlation matrix:

Fig. 4. Variable correlation matrix_2017

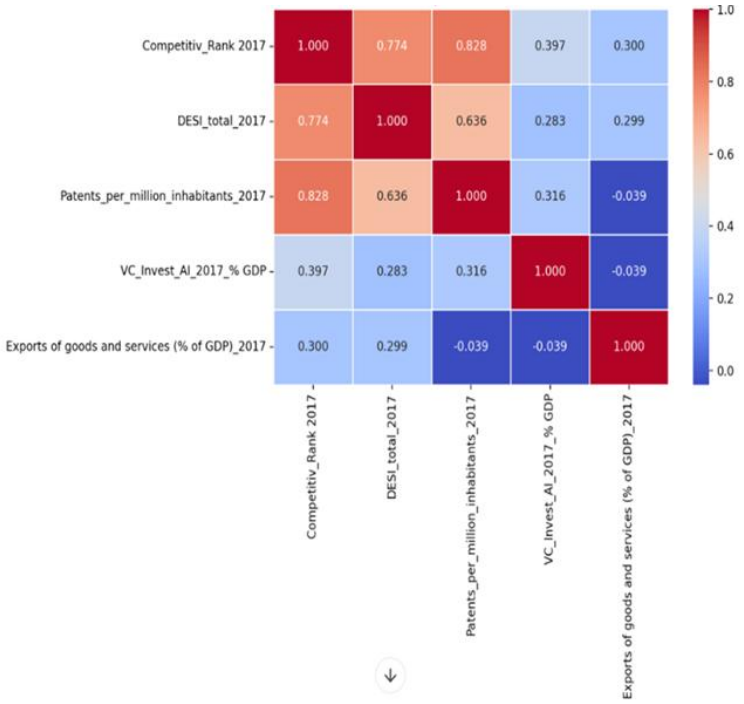


Fig. 5. Factor analysis results (KMO test)_2017

Variabila	KMO
DESI_total_2017	0.482599
Patents_per_million_inhabitants_2017	0.490907
VC_Invest_AI_2017_% GDP	0.790385
Exports of goods and services (% of GDP)_2017	0.251834

The *KMO* value of 0.4826 is slightly below the 0.50 threshold due to the *Exports* variable, which will be retained in the analysis for its recognized role in competitiveness within economic studies.

Fig. 6. OLS regression results_2017

OLS Regression Results

Dep. Variable:	Competitiv_Rank 2017	R-squared:	0.851
Model:	OLS	Adj. R-squared:	0.825
Method:	Least Squares	F-statistic:	32.92
Date:	Fri, 28 Feb 2025	Prob (F-statistic):	3.27e-09
Time:	19:04:21	Log-Likelihood:	-81.468
No. Observations:	28	AIC:	172.9
Df Residuals:	23	BIC:	179.6
Df Model:	4		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	49.6790	5.044	9.848	0.000	39.244	60.114
DESI_total_2017	0.3974	0.177	2.241	0.035	0.031	0.764
Patents_per_million_inhabitants_2017	0.0589	0.010	5.675	0.000	0.037	0.080
VC_Invest_AI_2017_% GDP	62.8055	40.011	1.570	0.130	-19.963	145.574
Exports of goods and services (% of GDP)_2017	0.0847	0.030	2.832	0.009	0.023	0.147

Omnibus:	0.304	Durbin-Watson:	1.920
Prob(Omnibus):	0.859	Jarque-Bera (JB):	0.072
Skew:	0.121	Prob(JB):	0.965
Kurtosis:	2.947	Cond. No.	7.64e+03

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
[2] The condition number is large, 7.64e+03. This might indicate that there are
strong multicollinearity or other numerical problems.

Interpretation of Correlation and Regression Analysis Results for the Year 2017:

a) Correlations_2017:

- There is a strong positive correlation (82.8%) between *Competitivity* and *Patents*.
- A strong positive correlation (77.4%) exists between *Competitivity* and *DESI*.
- A moderate positive correlation (39.7%) between *Competitivity* and *VC Investments in AI.*
- A weak positive correlation (30%) between *Competitivity* and *Exports*.

b) OLS Regression Model_2017:

- R-squared: 0.851 → The model explains 85.1% of the variation in Competitivity.
- The *DESI, Patents*, and *Exports* coefficients are statistically significant ($p < 0.05$).
- *Venture Capital investments in AI* were not statistically significant for 2017 ($p = 0.130 > 0.1$).

Regression Equation (2017):

Competitivity = 49.679+0.397×DESI+0.059×Patents+62.806×VC_Invest_AI+0.085×Exports

⚠ Warning: There is a risk of multicollinearity (extremely high condition number: 7.64e+03 → 7,640 exceeds the acceptable threshold of 30 by more than 250 times), which may affect the accuracy of coefficient estimates. Multicollinearity analysis is necessary.

Multicollinearity Analysis and Possible Solutions:

To address the multicollinearity issue and obtain more reliable results, we applied the following approaches: Calculation Variance Inflation Factor (VIF):

Fig. 7. Variance Inflation Factor_2017

	Variable	VIF
0	const	29.688553164
1	DESI_total_2017	2.078898884
2	Patents_per_million_inhabitants_2017	1.9042466306
3	VC_Invest_AI_2017_% GDP	1.1329561188
4	Exports of goods and services (% of GDP)_2017	1.2244391921

VIF values were calculated for each predictor to assess potential multicollinearity. The results indicate that the predictors (*DESI, Patents, VC_Invest_AI, Exports*) exhibit relatively low VIF values, ranging from 1.13 to 2.08. However, the VIF for the intercept is elevated due to the inclusion of the constant term. Although the obtained VIF values do not suggest a severe multicollinearity issue (< 5), applying regularization techniques can enhance model robustness and mitigate potential adverse effects of strong correlations among predictors. As we will highlight in the following analysis, the Ridge regularization method will facilitate obtaining more reliable estimates in the presence of multicollinearity.

By applying the *Ridge regression model*, we get the following results:

- *Optimal alpha parameter*: 1e-06, which is 1×10^{-6} or 0.000001 (best is the optimum value selected by cross-validation); it indicates the modified coefficients relative to the original model, helping to stabilize estimates.

- *R-squared*: 0.8507.

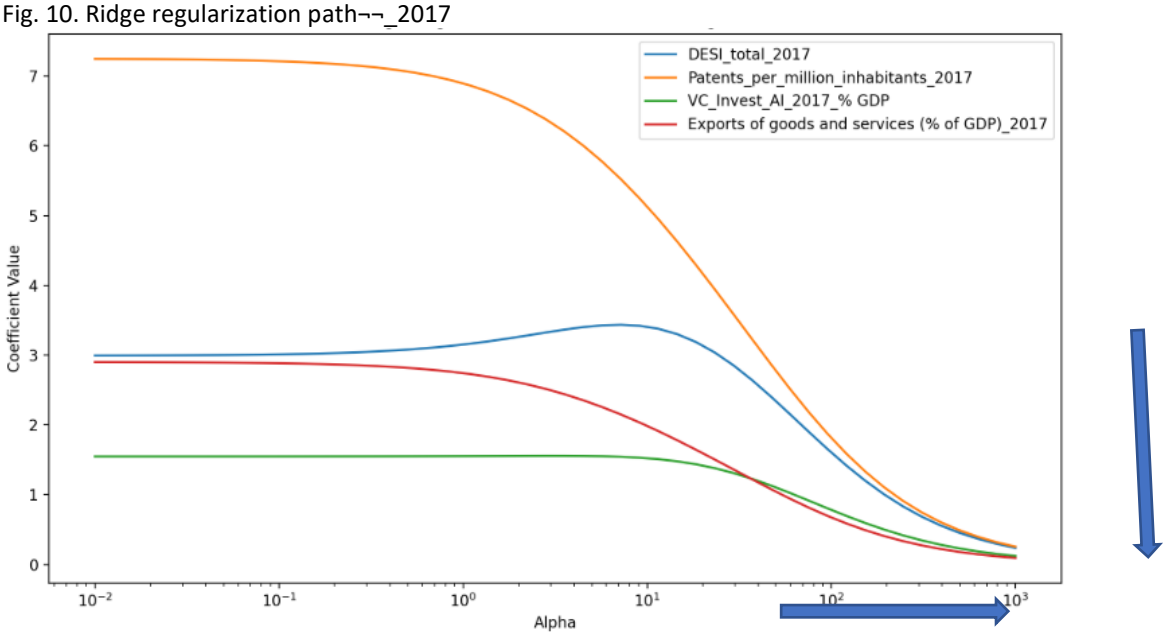
Fig. 8. Comparison of predictors in regression models (ordinary OLS and Ridge linear)_2017

	Variable	OLS Coefficient	Ridge Coefficient
0	Intercept	49.6789603167	50.0752102139
1	DESI_total_2017	0.3973773491	0.4111003054
2	Patents_per_million_inhabitants_2017	0.0588581388	0.0549589912
3	VC_Invest_AI_2017_% GDP	62.805541839	61.9025637699
4	Exports of goods and services (% of GDP)_2017	0.0846655375	0.078572831

Fig. 9. Ridge coefficients after regularization_2017

	Original	Ridge	Lasso
Intercept	77.5005459854	77.5005459854	77.5005459854
DESI_total_2017	2.991427322	2.9914275142	2.9927079007
Patents_per_million_inhabitants_2017	7.2504901365	7.2504897463	7.2421751261
VC_Invest_AI_2017_% GDP	1.5468337656	1.5468337726	1.5391576491
Exports of goods and services (% of GDP)_2017	2.9009066369	2.900906461	2.8903733686

Fig. 10. Ridge regularization path¬¬_2017



We chose the Ridge model because we want to keep all the predictors (with the coefficients reduced accordingly).

Residue analysis:

- *Shapiro-Wilk test* for residue normality (2017): W: 0.9828, and the value p: 0.9118 (if p > 0.05, so the residue follows a normal distribution)
- *Durbin-Watson test (DW)* for residue self-correlation (2017): DW = 1.9197 (≈ 2); there is no autocorrelation of errors.
- *Breusch-Pagan test* for homoscedasticity (2017):

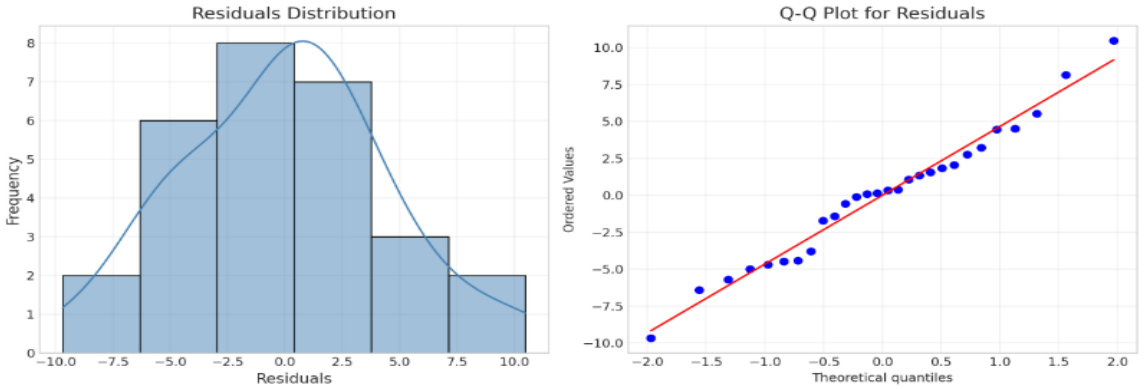
Fig. 11. Breusch-Pagan test_2017

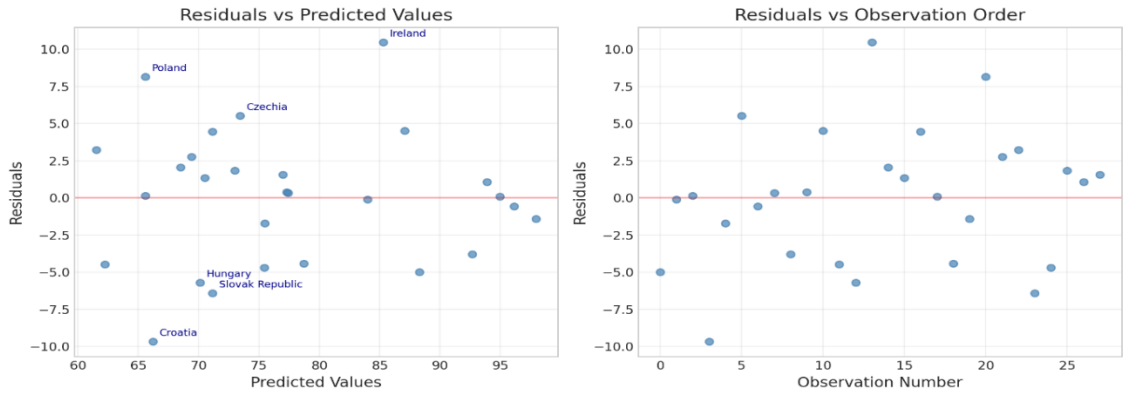
Statistică	Valoare
Lagrange multiplier statistic	2.65917
p-value	0.616379
f-value	0.603382
f p-value	0.664075

In the given case, the residue appears to have a constant variance, and the p-value is 0.6164 (> 0.05), which means that there is no evidence of heteroscedasticity in the Ridge model analyzed.

Here are other relevant views on residue analysis (2017):

Fig. 12. Residue analysis_2017



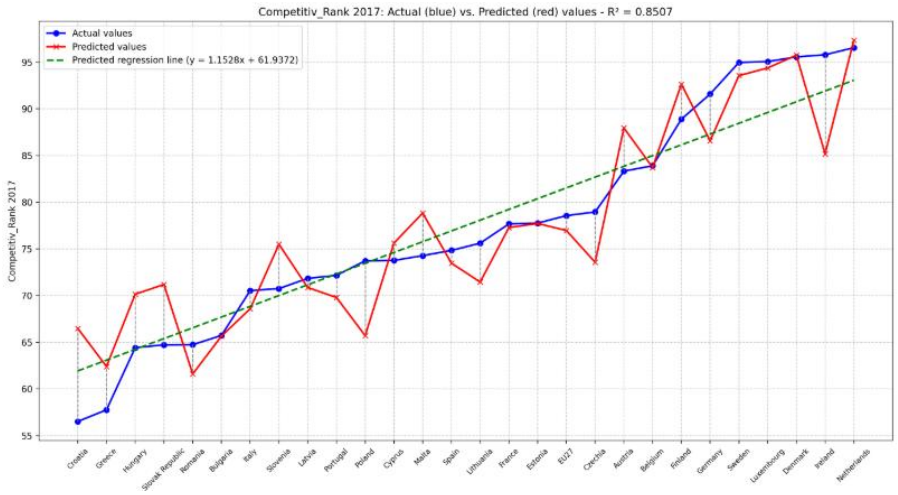


Distribution: The histogram shows a relatively symmetrical distribution of residues

Normality: The Q-Q graph shows that the residue follows a relatively normal distribution.

Homoscedasticity: The Residue graph against adjusted values does not show a clear pattern, suggesting constant variability across the entire predicted range.

Fig. 13. Real values and predicted values (Ridge). For the Competitivity Indicator_2017



The results obtained by the *Ridge regression model* provide more robust estimates, correcting the potential influence of multicollinearity.

Fig. 14. ANOVA test_2017

ANOVA

	Source	Sum of Squares	Degrees of Freedom	Mean Square	F	p-value
0	Regression	3022.9595	4	755.7399	31.3555	0
1	Error	554.3529	23	24.1023	NULL	NULL
2	Total	3712.0954	27	NULL	NULL	NULL

Statistical significance of the model: The Ridge model is statistically significantly strong, with an F value of 31.35 and a p-value = 0 (< 0.001_, indicating that the independent variables, taken together, have a significant relationship with the dependent variable (*Competitiv_Rank* 2017).

Fig. 15. Additional Statistics for Ridge Model_2017

	Statistic	Value
0	R-squared	0.8507
1	Adjusted R-squared	0.8247
2	MSE	19.7983
3	RMSE	4.4495
4	RMSE CV (%)	5.7413

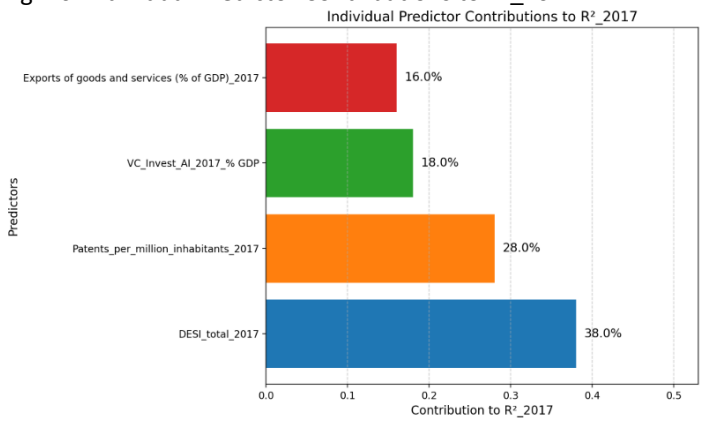
Mean Squared Error (MSE) measures the average squared difference between the actual and predicted values. *Root Mean Squared Error* (RMSE) is the square root of MSE, providing an error measure in the same units as the target variable.

$$RMSE = \sqrt{MSE} = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(x_i - \hat{x}_i)^2}$$

Where: *xi* represents the real values, *xi^* represents the estimated values, and *n* is the total number of observations. (6)

The RMSE ~ 4.45 represents the average deviation of the predicted values from the actual values. The coefficient of Variation of RMSE (RMSE CV%) = 5,7 % expresses RMSE as a percentage of the mean actual value. A lower RMSE CV % suggests better relative model accuracy.

Fig. 16. Individual Predictor Contributions to R²_201



Interpretation of results (2017):

Explanatory power of the Ridge model: The model explains 85% of the variation in *Competitivity_Rank* 2017 (R^2 = 0.8507), and the adjusted R^2 is 82.47%, respectively, which indicates a very good fit of the model.

Ridge regression model validation (2017):

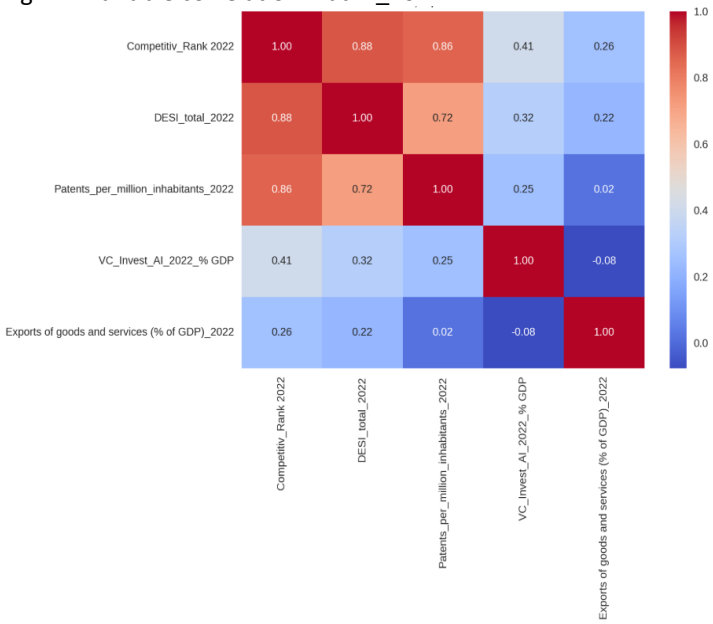
Residues follow a normal distribution (*Shapiro-Wilk* test: p = 0.9118 > 0.05).

There is no significant self-correlation of residues (statistics *Durbin-Watson* = 1.9197).

The standard error of estimate (RMSE) is 4.44, with a coefficient of variation of only 5.73%.

These results confirm the validity of the *Ridge regression model* and indicate that the adjustments made to counter multicollinearity led to a robust and reliable model for explaining the variation in the *Competitivity Rank* 2017.

Fig. 17. Variable correlation matrix_2022



KMO test (2022): 0.5022 > 50%, acceptable value

Fig. 18. Factor analysis results (KMO test)_2022

Variabila	KMO
DESI_total_2022	0.500273
Patents_per_million_inhabitants_2022	0.516023
VC_Invest_AI_2022_% GDP	0.678617
Exports of goods and services (% of GDP)_2022	0.24281

Fig. 19. OLS regression results_2022

OLS Regression Results

Dep. Variable:	Competitiv_Rank 2022	R-squared:	0.926
Model:	OLS	Adj. R-squared:	0.913
Method:	Least Squares	F-statistic:	72.23
Date:	Sat, 01 Mar 2025	Prob (F-statistic):	1.11e-12
Time:	10:55:41	Log-Likelihood:	-77.240
No. Observations:	28	AIC:	164.5
Df Residuals:	23	BIC:	171.1
Df Model:	4		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
const	25.5679	5.665	4.514	0.000	13.850	37.286
DESI_total_2022	0.6513	0.129	5.034	0.000	0.384	0.919
Patents_per_million_inhabitants_2022	0.0538	0.009	6.056	0.000	0.035	0.072
VC_Invest_AI_2022_% GDP	6.6340	2.614	2.538	0.018	1.226	12.042
Exports of goods and services (% of GDP)_2022	0.0634	0.023	2.769	0.011	0.016	0.111

Omnibus:	0.099	Durbin-Watson:	1.568
Prob(Omnibus):	0.952	Jarque-Bera (JB):	0.317
Skew:	0.047	Prob(JB):	0.854
Kurtosis:	2.488	Cond. No.	1.40e+03

Notes:
[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.
[2] The condition number is large, 1.4e+03. This might indicate that there are
strong multicollinearity or other numerical problems.

Interpretation of the results of the correlation and regression analysis for 2022:

a) *Correlations_2022*:

- There is a strong positive correlation of 88% between *Competitivity* and *DESI*.
- Strong positive correlation 86% between *Competitivity* and *Patents*.
- 41% moderate and positive correlation between *Competitivity* and *VC investments in AI*.
- Weak and positive correlation of 26% between *Competitivity* and *Exports*.

b) *Regression model OLS_2022*:

- *R-squared*: 0.926 - the model explains 92.6% of the variation in the dependent variable - Competitivity
- All included predictors have statistically significant coefficients (p values < 0.05).

The regression equation (2022):

Competitivity = 25.568+0.651×*DESI*+0.054×*Patents*+6.634×*VC_Invest_AI*+0.063×*Exports*

Multicollinearity analysis and possible solutions:

We will compute the *Variance Inflation Factor* (VIF) to assess potential multicollinearity concerns, as the condition number is 1.40e+03 (i.e., 1400), which surpasses the acceptable threshold of 30 by a factor of approximately 47.

Fig. 20. Variance Inflation Factor_2022

	Variable	VIF
0	const	50.6378886395
1	DESI_total_2022	2.3863948166
2	Patents_per_million_inhabitants_2022	2.1405823382
3	VC_Invest_AI_2022_% GDP	1.1430182001
4	Exports of goods and services (% of GDP)_2022	1.1240713314

From the VIF values, it is observed that most variables have VIFs below 5, except for the constant, which does not affect the interpretation. This suggests that multicollinearity is acceptable.

In the original *OLS model* (Multiple Linear Regression) 2022:

- *R-squared*: 0.926.

- All predictors are statistically significant ($p < 0.05$).

VIF factors indicate acceptable multicollinearity, except for the constant.

By applying the *Ridge Regression Model* (2022), we get the following results:

- *Optimal alpha parameter*: 1e-03, that is 1×10^{-3} (=0.001).

- *R-squared*: 0.9259.

We apply the Ridge regression to stabilize the coefficients, especially for variables with potential multicollinearity (see below results).

Fig. 21. Comparison of predictors in regression models (OLS and Ridge)_2022

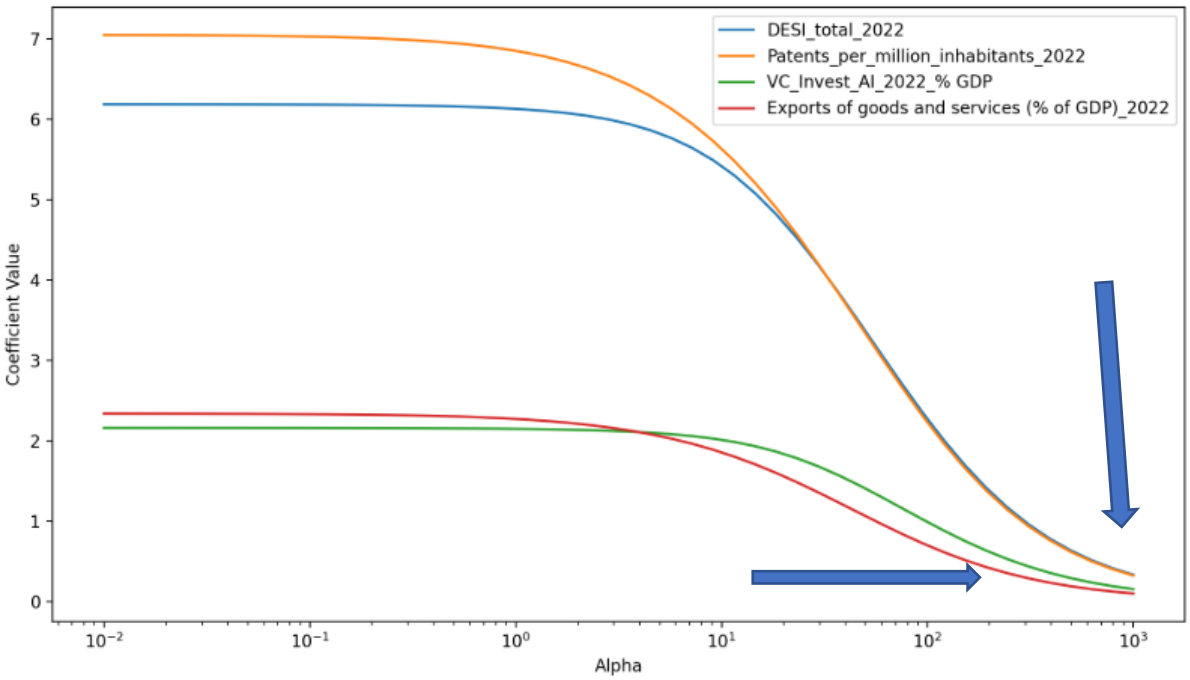
	Variable	OLS Coefficient	Ridge Coefficient
0	Intercept	25.5679088552	27.0741852729
1	DESI_total_2022	0.6512560212	0.6335183142
2	Patents_per_million_inhabitants_2022	0.0538393585	0.0513778069
3	VC_Invest_AI_2022_% GDP	6.6340003991	6.4765497976
4	Exports of goods and services (% of GDP)_2022	0.0634468746	0.0605405267

Regularization serves to reduce the magnitude of the coefficients, particularly for variables exhibiting high multicollinearity. Below are the Ridge coefficients following the application of regularization:

Fig. 22. Ridge coefficients after regularization_2022

Variable	Ridge Coefficient
DESI_total_2022	6.1899
Patents_per_million_inhabitants_2022	7.0536
VC_Invest_AI_2022_% GDP	2.1598
Exports of goods and services (% of GDP)_2022	2.3370

Fig. 23. Ridge regularization path¬¬_2022



Residue analysis:

- *Shapiro-Wilk test* (2022): W = 0.990. As p = 0.993 (p > 0.05), we can state that the residues are distributed normally.
- *Durbin-Watson test* (2022): DW = 1.555 (1.5 <= DW <= 2.5); there is no problematic self-correlation in the residues.
- *Breusch-Pagan (BP) test* (2022):

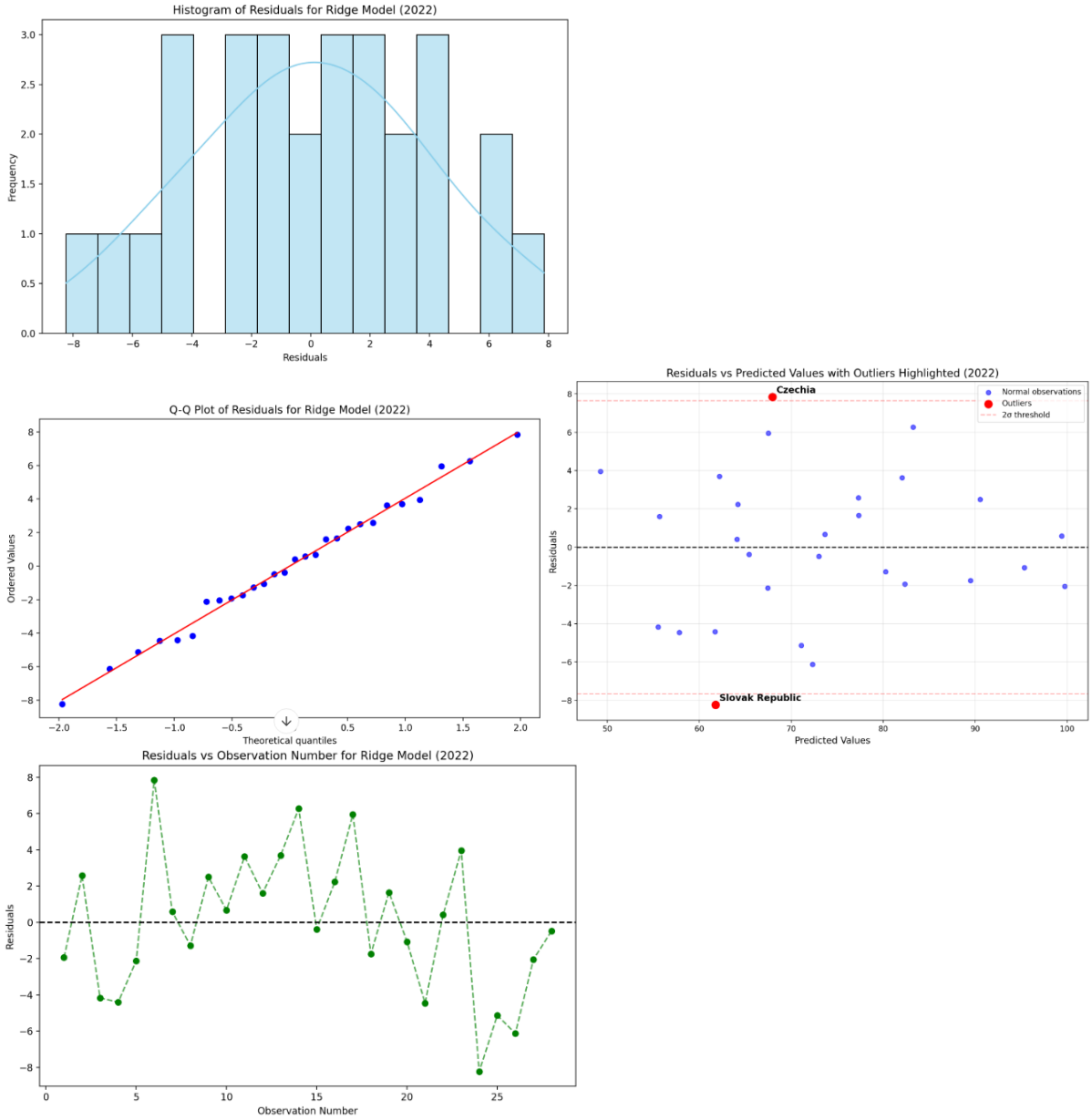
Fig. 24. The Breusch-Pagan test_2022

Statistică	Valoare
Lagrange multiplier statistic	4.41576
p-value	0.352653
f-value	1.07659
f p-value	0.390929

The results of the BP test show that the p-value is 0.3527 > 0.05. Therefore, there is no statistical evidence of heteroscedasticity, and the regression model exhibits a constant variance of residuals, validating the homoscedasticity result.

Other relevant views on residue analysis (2022):

Fig. 25. Residue analysis_2022



Distribution: The histogram shows a symmetrical distribution of residues, which is beneficial to the validity of the model.

Normality: The Q-Q graph shows that the residue follows a normal distribution with a few minor deviations to extremes.

Homoscedasticity: The residue graph against adjusted values does not show a clear pattern, suggesting constant variability across the entire predicted range.

Fig. 26. Actual values and predicted values (Ridge) for Competitivity Rank 2022

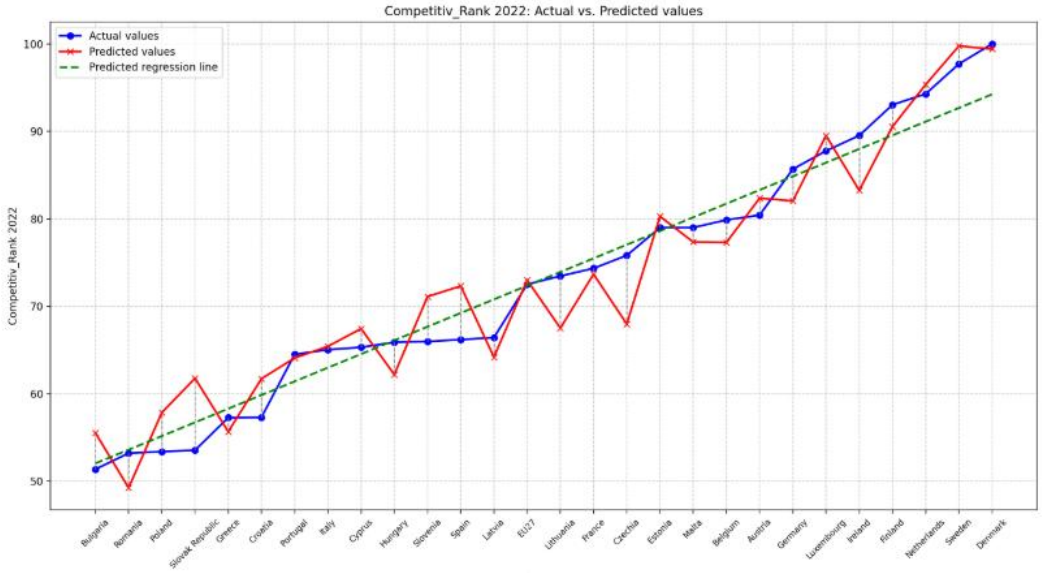


Fig. 27. ANOVA test_2022

ANOVA

	Source	Sum of Squares	Degrees of Freedom	Mean Square	F	p-value
0	Regression	4935.8215	4	1233.9554	69.2236	0
1	Error	409.9901	23	17.8257	NULL	NULL
2	Total	5534.5237	27	NULL	NULL	NULL

The ANOVA test for the Ridge model (with alpha = 1.0) for 2022 shows a highly significant model (p-value = 0.0). The F-statistic of 69.22 indicates that the model is statistically significant.

Fig. 28. Additional Statistics for Ridge Model 2022

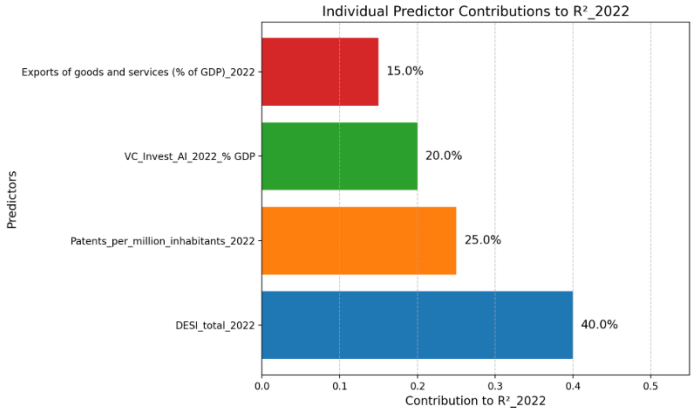
	Statistic	Value
0	R-squared	0.9259
1	Adjusted R-squared	0.913
2	MSE	14.6425
3	RMSE	3.8266
4	RMSE CV (%)	5.2325

R-squared (Ridge) = 0.9259.

The RMSE of ~ 3.83 represents the average deviation of the predicted values from the actual values.

RMSE CV = 5,2 %

Fig. 29. Individual Predictor Contributions to R^2_2022



Interpretation of results (2022):

Explanatory power of the Ridge regression model: The model explains 92.59% of the variation in Competitivity_Rank 2022 (R^2 = 0.9259), and the adjusted R^2 is 91.3%, respectively, which indicates a very good fit of the model.

Model validation:

Residues follow a normal distribution (*Shapiro-Wilk* test: p = 0.993 > 0.05)

There is no significant self-correlation of residues (statistics *Durbin-Watson* = 1.555 > 1.5)

The standard error of estimation (RMSE) is 3.83, with a coefficient of variation of only 5.2325 %

These results confirm the validity of the *Ridge regression model* and indicate that the adjustments made to counter multicollinearity led to a robust and reliable model for explaining the variation in the *Competitivity Rank* 2022.

5. CONCLUSIONS

The literature review emphasizes the positive impact of digitization processes and Artificial Intelligence (AI) on the digital economy, highlighting their contribution to promoting sustainable economic development. At the same time, the literature points out the risks and challenges associated with new technologies, underlining the need for appropriate regulatory frameworks and effective public policies to maximize the benefits offered by digitization and AI. In this context, these technologies are considered essential for stimulating digital innovation, playing a fundamental role in increasing economic competitiveness, and optimizing production and service delivery processes.

The data analysis provided by Eurostat indicates that the adoption of AI among EU member states remains relatively low, highlighting the need for more effective strategies to stimulate digitization. Moreover, there are significant discrepancies regarding AI implementation, both geographically - between different countries and regions - and sectorally, depending on business fields and company size. These disparities may exacerbate economic gaps and limit the European Union's ability to fully harness the potential of new technologies in accelerating digital transformation.

For the European Union to strengthen its position as a global leader in technology and avoid the risk of significant gaps compared to its main international competitors, such as the United States and China, it is imperative to allocate substantial resources to research, development, and innovation. This effort must include strategic investments by the EU in advanced digitalization and artificial intelligence technologies, as well as in developing the digital infrastructure necessary to support a competitive global innovation ecosystem. In this regard, the formulation and implementation of coherent and effective European policies aimed at reducing existing disparities in digitalization, innovation, and AI usage are essential. As a recommendation, adopting concrete measures such as supporting digital entrepreneurship, encouraging partnerships between academia and industry, and facilitating access to funding for SMEs can significantly contribute to creating an environment conducive to innovation and strengthening the economic resilience of the European Union in the digital age. On the other hand, supporting open-source technology initiatives, including through cross-border collaborations, funding, and formal recognition at the EU level, not only fosters innovation but also optimizes resource allocation

by mitigating redundant research efforts. This approach ensures a more accelerated, efficient, and sustainable trajectory for technological advancement.

Lastly, it is essential to highlight several key aspects that undercore the relationship and advantages of incorporating AI into the digitalization process:

• Process automation: AI can automate repetitive tasks and routine operations, reducing human errors and saving time. On the other hand, machine learning algorithms can analyze data, process information, and make real-time decisions.

• Decision optimization: Through big data analysis, AI algorithms can provide relevant insights and support companies' decision-making processes. For example, predictive models can anticipate market behavior or detect anomalies in production processes.

• Improving user experience: With the help of natural language processing (NLP) technologies and image recognition, AI can transform the way we interact with digital systems. Chatbots, virtual assistants, and recommendation systems are just a few examples that make the experience more intuitive and personalized.

• Adaptability and scalability: AI-based digital solutions can be tailored to the specific needs of organizations. Data management systems can evolve and scale, enabling easy integration of new technologies and data sources.

• Exploiting complex data: Transforming data from analog to digital format allows for detailed analysis. AI algorithms, through techniques such as regression, clustering, and classification, can generate valuable business insights and uncover hidden patterns.

In conclusion, the combination of AI and digitalization not only streamlines operations and increases productivity but also opens up new opportunities for innovation and continuous development in the digital environment.

AI and digitalization are interconnected and continue to transform industries and society. While they offer significant opportunities for efficiency and innovation, it is essential to address the ethical and privacy challenges to ensure the responsible and beneficial integration of these technologies into everyday life. Thus, AI must be integrated efficiently and securely into both business models and public services to maximize socio-economic benefits.

The empirical analysis confirmed the validity of the statistical hypothesis (H1): Digital transformation and innovation contribute to increasing national competitiveness. It highlights that the synergy between digitalization, innovation, and AI can serve as a significant driver of sustainable development.

Both the OLS and Ridge regression models accurately explain the variation in competitiveness for the two analyzed periods (2017 and 2022), with insignificant value differences between the models. However, as observed in the empirical analysis, the Ridge regression model provides a more robust solution, enhancing the validation of the stability of the coefficients under examination.

Regarding the study's limitations, future research may consider, but is not limited to, the inclusion of additional indicators and/or countries, the examination of longer periods (depending on data availability), the exploration of risks associated with digitalization and AI, along with strategies for their mitigation or elimination, and the formulation of new hypotheses or research questions related to the topic.

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Sustainable Hotel Operations

Cvetanka Ristova Maglovska[1]

[1] Faculty of Tourism and Business Logistics, Goce Delcev University, Stip, North Macedonia
(cvetanka.ristova@ugd.edu.mk), https://orcid.org/0000-0001-8785-8955

Abstract: It is common knowledge that business owners across all sectors need to be mindful about sustainability, since overall, it considers all aspects of a business that have the potential to influence future generations. To put it simply, sustainable hotel operations take into account and benefit current generations of guests without negatively affecting future generations. This implies that in order to be sustainable, hotels need to think about what eco-friendly hotel practices they might use. This includes areas like water conservation, waste management, recycling programs, energy efficiency, the use of renewable energy sources, and the sustainable purchase of locally produced and environmentally friendly goods. Equally important are social and economic sustainability, which includes fair treatment, diversity, and involvement of the workforce, as well as the hotel's long-term profitability and financial stability. It also means contributing positively to the surrounding community by creating jobs, supporting local businesses, and engaging in socially responsible initiatives, as well as finding innovative ways to reduce costs, increase efficiency, and attract guests who appreciate and support their sustainability efforts. Despite the obvious benefits, challenges including high implementation costs, reluctance to change, and operational limitations prevent broad adoption. Nonetheless, new developments like digital technology, circular economy methods, and sustainability certifications point to a move toward hotel operations that are more robust and resource efficient.

Keywords: guests, hotel, sustainability, operations.

1. INTRODUCTION

In the hotel sector, sustainable hotel operations are methods that combine social responsibility, preservation of the environment, and financial viability in a holistic manner (Muñoz-Torres et al., 2018; Lozano, 2015). This broad approach supports the Sustainable Development Goals (SDGs) of the UN, which state that hotels ought to meet current guest demands without sacrificing the capacity of future generations to do the same (Tarnovskaya, 2023).

Environmentally, energy efficiency, water conservation, waste reduction, and the support of regional economies and cultures are all essential elements of sustainable hotel operations (Dwivedi et al., 2023). Economically, sustainable business practices may increase long-term profitability, encourage eco-friendly tourists, and save operating expenses (Xanthopoulou et al. 2024). Socially, sustainability encourages better guest experiences, equal employment standards, and support for the local community (Yenidogan et al., 2016). These techniques also give hotels a competitive edge by changing the way they normally do business. This is because they often lead to better experiences for guests, repeat business, and lower operational costs (Moreno et al., 2024; Fukey & Issac, 2014). So, hotels can effectively solve major problems and build stronger community ties by making sustainability their top priority.

Nonetheless, it is important to underscore that the hotel sector has already embraced sustainability in many forms (Rodríguez-García et al., 2023). Just by prioritizing sustainability, hotels have already implemented common environmentally friendly practices, such as energy and water conservation (e.g., LED lighting, low-flow fixtures), (Warren & Becken, 2017) lowering waste production (e.g., recycling, composting), alternative energy sources (e.g., solar power) (Buhalis et al., 2019), and green certifications (Martínez et al., 2019). In addition, hotels participate in social community-based projects (Li et al., 2024), support fair labor standards (Ying-Chang & Yu-Ta, 2024), and make investments in economic energy-efficient technologies (Martín Lucas et al., 2024).

This shows that by adopting eco-conscious initiatives, hotels can support the global sustainability goals, ensuring a positive impact across the whole tourism industry. Hence, from this point, this paper will elaborate on the complexity of what the sustainability pillars represent in terms of adopting sustainable practices into hotel operations but also address the sustainability challenges and future trends in the hotel sector.

2. ENVIRONMENTAL SUSTAINABILITY

Current practices in hotel operations reflect a growing commitment to environmental sustainability (also known as the “planet” pillar of sustainability) (Ruíz-Molina et al., 2024), since hotels are among the biggest consumers of resources, including energy, water, raw materials, and significant waste (Xanthopoulou et al. 2024; Skordoulis et al., 2022a).

However, the growing awareness of eco-friendly guests coupled with the demand for sustainable practices to be implemented, has encouraged hotels to adopt various environmental preservation measures to reduce their impact on the environment (Skordoulis et al., 2022b). Water conservation, waste separation and management, energy saving technology and renewable energy use, eco products, and local sourcing are some of the major focus areas (Iddawala et al., 2024).

Water, as a vital resource of hotel operations, is essential for various purposes, including guestroom utilization, laundry services, horticulture, and the maintenance of swimming pools (Marneros et al., 2023). Thus, one of the hotel sector's environmental sustainability factors is effective water maintenance. Hotels have used several water conservation measures to cut down on water waste and operational expenses. Installing low-flow toilets, showerheads, and faucets may reduce water usage in guest rooms without compromising their comfort (Abdou et al., 2020). These practices guarantee that water usage is minimized to regulate flow rates, which frequently total hundreds of liters per room per year. The collection of rainwater is another effective technique. For non-drinkable uses like watering and gardening, hotels can set up systems that collect and hold rainwater. Especially in regions where water shortages occur frequently, this technique reduces the demand for municipal water resources (Gossling & Reinhold, 2024). Even so, to conserve water, guest participation is required. These days, a lot of hotels encourage their guests to reuse bed sheets and towels during their stay to help save water. These reduce the need for regular laundry, which results in greater water and energy savings. Many hotels also encourage guests to engage in ecologically friendly activities while they are there just by notifying them about their water-saving initiatives.

Waste management has become an additional essential aspect of hotel sustainability. Hotels produce a lot of waste, from leftover meals to packing to waste from guest rooms, but effective waste management techniques can decrease the amount of waste that goes up in waste dumps and the negative effects that hotels have on the environment (Makoondlall-Chadee & Bokhoree 2024b). Establishing recycling programs to keep recyclable materials, specifically paper, glass, plastics, and metal, away from waste dumps is an additional option (Gossling & Reinhold, 2024). Nowadays, a lot of hotels feature recycling facilities on-site to encourage guests as well as employees to properly separate waste. Usually placed next to ordinary trash cans in tourist areas, recycling bins include obvious signage telling guests how to dispose of trash. In order to guarantee that the waste products that are being collected are recycled properly, hotels may also be able to collaborate with nearby recycling facilities. In addition to recycling, several hotels have developed the sustainable practice of composting food waste, particularly for those with sizable dining operations (Lee & Huang, 2023). Composting organic waste will help decrease the amount of waste that ends up in waste dumps while also returning nutrient-rich materials for local agriculture or horticulture (Marneros et al., 2023). Even more so, hotels are starting to embrace a zero-waste approach regarding non-recyclable waste (Lee & Huang, 2023). This frequently consists of reducing single packaged products (such as plastic straws, bottles, and toiletries) and choosing alternatives like paper or glass packaging and bulk toiletry dispensers. By minimizing the volume of waste generated at the primary source, hotels could lower their environmental impact and improve their standing within the circular economy (De Martino et al., 2025).

Energy use, which includes heat, cooling, light, and appliance use, is another of the biggest environmental harms to hotel operations (Makoondlall-Chadee & Chandradeo, 2024a). Therefore, carbon emissions are quite high if the energy comes from non-renewable sources. That is why the first item on the list to reduce energy consumption is energy-efficient technology itself (Marneros et al., 2023). For example, hotels typically use smart thermostats, motion sensors, and LED lighting to use energy more efficiently (Ристова Магловска, 2022). For instance, energy-efficient HVAC systems with adjustable-speed motors provide more precise temperature control and reduce energy waste. Another important practice of a hotel with an energy sustainability focus is renewable energy. Solar panels, wind turbines, and geothermal heating and cooling systems are cleaner alternatives to traditional fossil fuels. In order to lower their need for electrical supply, some hotels have even gone as far as to install solar panels on their rooftops (Ангелкова Петкова & Ристова Магловска, 2025). Therefore, in addition to further saving operating costs, using renewable energy improves the hotel's reputation as a sustainable business and attracts more environmentally concerned guests (Manoharan et al., 2024).

For the purpose of encouraging sustainable hotel development, *environmentally friendly products* should also be mentioned. A practical approach for hotels intending to reduce carbon footprints in their operations would be to select any product—from cleaning materials to guest amenities—that have the lowest possible impact on the environment. Many hotels have drastically lowered their impact on the environment and the health of their employees by using green-certified cleaning products that are non-hazardous and ecologically friendly (Marneros et al., 2023). Eco-friendly cleaning solutions are usually non-toxic and biodegradable; they will not damage

ecosystems and additionally reduce chemicals (Witek, 2020). Biodegradable toiletries, bamboo toothbrushes, and refillable amenities are also being more widely used as sustainable substitutes for traditional guest amenities (Lyne et al., 2020). Bulk dispensing approaches are replacing the previous practice of storing shampoo, conditioner, and soap in single-use plastic bottles (Witek, 2020). Also, hotels are starting to adopt sustainable practices by using organic or recycled materials for furniture and table linens. As a result, these materials would reduce the use of raw resources and encourage better indoor air quality for workers as well as guests. Furthermore, some hotels are collaborating with eco-friendly retailers to furnish their properties with furniture, textiles, and art created from sustainable resources like recycled textiles or recovered wood.

Increasing *local sourcing* is another key practice for hotel operations to be more sustainable and boost the local economy. By doing this, hotels help local farmers, craftspeople, and companies while lowering transportation-related carbon emissions (Pas, 2021). In terms of cuisine, a lot of hotels have embraced farm-to-table dining, which offers seasonal menus that highlight sustainably farmed and produced foods. These services lessen hotels' carbon footprints associated with food transportation while improving guest experiences with unique and fresh cuisine. But local sourcing extends beyond food; hotels are increasingly choosing local craftspeople for the décor and services offered to guests. By using this strategy, hotels may save the environmental expenses associated with producing and shipping items over kilometers while also contributing much-needed financial boosts to the community.

3. SOCIAL AND ECONOMIC SUSTAINABILITY

Social as well as economic practices of sustainability are just as significant and essential for the future viability and profitability of hotel businesses (Molina-Azorín et al., 2015; Bos-Brouwers, 2009), even if the environmental practices of sustainability frequently gain the most focus when it comes to adaptations in hotel operations.

The “people” pillar of sustainability, also known as ethical sustainability or social sustainability (Ruíz-Molina et al., 2024), is a term that refers to a mix of official and unofficial practices that use infrastructure to support people's social and cultural lives. It creates a place that is favorable to social interaction and allows for the evolution of both people and places (Shegrani 2019). By providing them with equal possibilities and opportunities for helping their families both socially and economically, it enhances the welfare and health of individuals (Mokadam 2013). In addition, some of the social sustainability practices that hotels can enforce are:

- *Fair labor practices*: Treating hotel employees correctly is one of the most vital elements of social sustainability. Business profits should not take precedence over the rights and benefits of employees in the supply chain. Prioritizing employee welfare, providing secure working conditions, and paying fair pay are all part of practicing fair labor standards (Henson, 2019). The primary objective of any hotel business should be to acknowledge that its employees are significant stakeholders (Kong et al., 2019).

- *Community engagement and cultural preservation*: As a fundamental aspect of sustainable development, community engagement and cultural preservation allow initiatives to address local demands, encourage social inclusion, and advance the protection of the environment (Nocca, 2017). Sustainable development practices may have long-lasting beneficial effects on both communities and the environment by promoting trust, elevating local voices, co-designing solutions, raising awareness, and educating people. But to achieve sustainability goals and create strong, prosperous communities for the generations to come, it will be crucial to give priority to true community engagement further ahead. Additionally, via community engagement initiatives, hotels may enhance guest experiences by embracing local culture and tradition. By collaborating with regional businesses, artists, and cultural institutions, hotels can provide immersive, genuine experiences that highlight the destination's distinct character and uplift the local economy (Schaltegger & Wagner, 2017). Through goods from art exhibits and food trips to volunteer opportunities and philanthropic activities, hotels can provide lasting memories that connect with guests and help them feel a sense of belonging.

- *Guest satisfaction and their well-being*: Hotels can meet the growing need for holistic guest experiences that put well-being and good health first by implementing wellness and mindfulness services (Moreno et al. 2024; Filimonau et al. 2022). Hotels may give guests chances to unwind, revitalize, and preserve their physical and mental health while they are visiting by offering anything from on-site yoga classes and fitness facilities to spa services and meditation lessons. Furthermore, providing organic meals, wellness activities, and nutritious meal alternatives encourages a balanced lifestyle and builds trust

between guests. Hotels can also provide accessible and inclusive services to accommodate all kinds of guests, including those with disabilities.

The “profit” pillar of sustainability, or economic sustainability (Ruíz-Molina et al., 2024), refers to practices that guarantee the hotel's financial viability while reducing negative consequences such as an excessive reliance on limited assets (Dos Santos et al., 2017). Hotels that consider economic sustainability will guide their business to succeed in the long haul. Hotels may also achieve maximum efficiency at lower costs (Hamid et al., 2020) while improving the guest experience by promoting a sense of community between the hotel and its guests. That is why hotels can maintain their economic sustainability by:

- *Long-term cost savings*: Reducing expenses is one of the most common rewards of using sustainable hotel practices (El Ghoul et al. 2018). Examples of ways to reduce utility expenses in hotels include installing low-flow faucets and showerheads (El Ghoul et al. 2018), switching to more energy-efficient heaters, and replacing light bulbs with energy-efficient ones. Installing energy-efficient lighting systems lowers power costs by using less energy to deliver enough light for its intended usage. Similarly, modern HVAC systems used for efficiency save money on heating and cooling. When combined, these techniques lower expenses, increasing the profit-to-expense ratio.

- *Increased revenue from eco-friendly guests*: An increasing number of guests actively look for accommodations that are environmentally friendly. Green-certified or award-winning hotels can bring in these eco-aware guests, often allowing for premium pricing. Offering eco-friendly guest experiences, like farm-to-table meals or eco-tours, may help hotels stand out from the competition, attract additional reservations, and return guests (Giovannoni & Fabietti, 2013). Additionally, a hotel's commitment to sustainability can enhance its brand image in the social media era, leading to positive feedback and word-of-mouth referrals.

4. CHALLENGES AND FUTURE TRENDS

Implementing sustainable practices within hotel operations involves dealing with numerous obstacles that obstruct the successful transition to better sustainability. In addition, several of those challenges imposing obstacles are listed below:

- *Financial constraints and budget limitations*: The economic and financial constraints that sustainable operations must deal with seriously limit the implementation of environmentally conscious practices in hotels (Ruíz-Molina et al., 2024). Numerous external variables, such as changes in guest demand and economic instability, especially in the aftermath of the COVID-19 pandemic, have made the hotel sector's preexisting financial limitations worse (Nedzvedskyi et al., 2024). Such financial constraints frequently restrict innovation and the adoption of sustainable practices by forcing hotels to put short-term operating expenses ahead of long-term sustainability initiatives. Furthermore, a strong approach to resource allocation and strategic planning is required due to the inherent difficulty of financial management in the hotel sector (Nedzvedskyi et al., 2024). Hotels must take advantage of creative financing options and encourage partnerships that improve resource efficiency to successfully manage these limitations. In the end, resolving financial constraints is essential for the sector to adapt its sustainability agenda, assuring long-term sustainability while adapting to changing market conditions.

- *Lack of awareness and training among employees*: A significant obstacle to successful sustainable hotel operations is the general lack of knowledge and training among employees. These shortcomings lead to increasing resource losses and increased environmental consequences in addition to preventing the adoption of environmentally friendly practices. Employees frequently lack proper understanding of sustainable practices, ranging from energy conservation to waste management, which eventually compromises the successful implementation of sustainability programs in hotels. According to research by Ying-Chang & Yu-Ta (2024), comprehensive training programs may significantly improve employees' competencies and match their abilities with the objectives of a hotel's sustainability. Also, people who do not get enough training are less able to recognize operational risks and respond appropriately to them, which makes it harder to make good decisions when things get tough (Aktas et al., 2016). To solve these issues, it is essential to provide specific training courses that include certain sustainable practices and promote awareness. In the end, this paradigm change will result in a more sustainable future by increasing the hotel's dedication to environmental care and operational efficiency.

- *Resistant to change from management and stakeholders*: Management and sector stakeholders' resistance to change presents major challenges to the adoption of sustainable hotel operations. Fear of the unknown, embedded interests, or perceived dangers to profitability and established methods are frequently the causes of this unwillingness to do so. According to Khatter et al. (2021), getting past this kind of opposition needs good cross-functional collaboration, which lets different points of view be heard and helps align business goals with environmentally friendly practices. Furthermore, Anarene et al. (2024) emphasize how important digital transitions are in changing industrial standards, which may surprise people used to more conventional approaches. It takes open communication, strong training initiatives, and the development of an innovative culture to overcome this disapproval. By making stakeholders feel valued and involved in the change process, hotels may reduce disagreement and improve the effectiveness of sustainability efforts (Sarkis et al., 2010). This will lead to better operational performance and stakeholder satisfaction.
- *Regulatory and compliance issues*: Regulatory and compliance concerns pose a complex problem in the field of sustainable hotel operations, having a big impact on operational and environmental practices. Hotels must comply with a complicated network of regional, national, and worldwide laws that control water, electricity, and waste management. As governments place greater emphasis on sustainability, these rules are frequently open to change; therefore, hotels must continue to be flexible in their compliance efforts. Adding innovative technologies like AI or operations in the metaverse (Dwivedi et al., 2023) also comes with extra rules about data protection and how things must work. According to Dwivedi et al. 2023, generative AI talks along with the moral problems with compliance stress the chance of biases and false information, which could make it harder to follow the rules. So, good compliance management not only makes sure that laws are followed, but it also encourages the use of eco-friendly methods that support larger goals. This shows the link between environmentally friendly hotel operations and regulatory frameworks.
- *Balancing guest expectations with sustainability goals*: Another significant obstacle in the drive for environmentally friendly hotel operations is striking a balance between guest expectations and sustainability practices. Hotels must manage the complex relationship between traditional service offerings and innovative sustainability initiatives as eco-friendly practices become increasingly important to guests. To improve operational efficiency and satisfy the changing needs of a conscientious customer base, it is necessary for strategic planning and the use of innovative technology (Bevz, 2024). Using energy-efficient technologies and serving locally produced, sustainable food, for example, might draw in eco-conscious customers and increase their sense of satisfaction and loyalty. The difficulty still lies in managing the various expectations of guests who could place a higher value on convenience and luxury than sustainability. In order to successfully bridge the gap between sustainable practices and the high levels of service required by the sector, hotels must adopt a comprehensive strategy that harmonizes their operational approach with consumer values. By doing this, hotels may support more general environmental objectives while putting themselves in a competitive position (Filimonau et al. 2022).

Furthermore, future developments in sustainable hotel operations have the potential to drastically alter industry paradigms as the hotel sector grows increasingly committed to sustainability. Incorporating artificial intelligence is essential because it optimizes energy management and resource allocation while lowering operational inefficiencies (Khoalenyane and Ajani, 2024). Additionally, through intelligent energy consumption and waste reduction technology, the Internet of Things aims to improve guest experience while also encouraging sustainable habits (Shirvani & Ghasemshirazi, 2024; Poullas and Kakoulli, 2023). These rapidly changing technology developments call for the creation of detailed frameworks to guarantee their moral application, therefore enhancing public confidence and responsibility. Moreover, encouraging guest participation in sustainability projects—through educational efforts and firsthand conservation activities—is going to become a major area of focus. When taken as a whole, these trends aim to build guest awareness and trust while also improving operational efficiency, which will help the hotel sector become more sustainable.

The integration of circular economy principles in sustainable hotel operations represents another pivotal trend from conventional linear models toward more resource-efficient practices (Bux & Amicarelli, 2023). Hotels may significantly reduce waste production and optimize resource use by adopting these regulations, thus creating a more sustainable operational framework. For example, putting waste reduction techniques like recycling non-

biodegradable products and composting organic items into practice not only reduces waste contributions but also lowers total operating expenses (De Martino et al., 2025). Additionally, circular methods place a strong emphasis on product lifecycle management. By using solid and reusable furniture, hotels may reduce their reliance on materials and improve their environmental responsibility. The challenges of putting these principles into action, like the need to train employees and the excessive cost of sustainable technology, might be easier to manage if there is strategic planning and cooperation with groups like regional suppliers and waste management groups. Ultimately, using the concepts of the circular economy not only solves environmental issues but also establishes hotels as pioneers in sustainable tourism, attracting more environmentally aware tourists (Renfors & Wendt, 2024).

Certifications and eco-labels are one more trend who is influencing sector standards and guest behavior in the rapidly evolving field of sustainable hotel operations. They also improve the legitimacy of businesses dedicated to sustainable practices in addition to acting as standards for environmental performance (Martínez et al., 2019; Margaryan & Stensland, 2017). According to research by Bianco et al. (2023) and Wainwright (2020), eco-labels—like the Green Key and LEED certifications—give guests clear information about a hotel's environmental effect, enabling them to make well-informed decisions (Wainwright, 2020). Additionally, obtaining these certifications frequently encourages hotel management to put strict sustainability policies into place, bringing operating procedures into compliance with more general environmental standards (Wainwright, 2020; Battaglia, 2017). The creation of acknowledged eco-labels unquestionably contributes to a paradigm shift toward responsible tourism, where even though obstacles still exist, such as the inconsistent level of certification criteria and the possibility of greenwashing. As a result, these programs put hotels in a position to use sustainability as a differentiator and successfully meet the growing demand from guests for eco-friendly travel choices (Bernard & Nicolau, 2022; Esparon et al., 2014).

5. CONCLUSION

The rise of sustainability in the hotel business is a major shift that is changing the sector, not just a fleeting trend. But while adopting sustainable practices, there are many opportunities and challenges along the way to sustainable hotel operations, which all require careful planning. In today's environmentally concerned hotel sector, environmental sustainability in hotel operations is becoming a need rather than a luxury. Hotels are using a variety of strategies to use eco-friendly goods, manage water resources effectively, cut waste, save energy, and boost local economies. In addition to improving the planet's general health, these sustainable practices provide hotels with substantial financial and social advantages, especially when it comes to creating a balance between environmental care, social responsibility, and long-term economic profitability.

However, the integration of eco-friendly practices, while imperative for mitigating sustainability impact, often encounters obstacles such as financial constraints and the necessity for employee retraining. Consequently, management and stakeholders must embrace a collaborative approach to establish frameworks that promote continuous improvement in sustainable practices while ensuring economic viability. These practices align with growing guest preferences for sustainability, indicating that hotels adopting such measures can gain a competitive edge in the market.

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Designing Package Tours within the Framework of the Experience Economy

Phd student: Denitsa Ganeva[1]

[1]Southwest University "Neofit Rilski", Faculty of Economics, Department of Tourism, Blagoevgrad, Email: d.ganeva@swu.bg

Abstract: This research paper presents the need of modeling the package tours according to the framework of the experience economy thus increasing their value and the opportunities to create consumer loyalty. The aim is to highlight the correlation of package tours and some aspects of the main four economics, which are *circular economy*, *knowledge economy*, *shared economy* and *experience economy*. The final objective is to discuss this context and to link the discussion to the competitiveness of package tours. The impact of the sharing economy on the organization of tourism packages - involving local communities, using shared accommodation and creating authentic social interactions. Some of the challenges facing package tours, and the experience economy in particular, are also going to be outlined. The research is based on research methodologies such as a theoretical review and comparative analysis for evaluating different opportunities of package travel to identify the most effective development strategies in the context of the experience economy. The results of the report show that the future of package tours is closely linked to the integration of innovative technologies and sustainable economic models. The connection between the experience economy and package tours is directed towards to *creating flexible, adaptable and personalized experiences* that do dot only derive from tourist services, but also form long-lasting emotional and social connections. In conclusion, the development of package tours by integrating the experience economy will be a key factor in increasing the competitiveness and sustainability of the tourism sector in the future.

Keywords: experience economy, package tours, competitiveness, uniqueness

1. INTRODUCTION

In today's dynamically developing world, package tours play a key role in shaping the overall experience of tourists. Despite their popularity, package tours often do not fully meet the expectations and desires of tourists who are looking for not just a standard service, but a unique and impactful experience. For this reason, there is a need for innovative approaches in compiling package tours that meet modern economic models and consumer desires. The experience economy has established itself as a key factor in the development of tourism and helping to increase its competitiveness. Focusing on the emotional state and desires of tourists, it creates personalized, unique and memorable experiences for tourists. In order to increase the competitiveness of package tours, the experience economy also interacts with three other economies, which are the sharing, circular and knowledge economies. With technological advances in recent years, the knowledge economy contributes to the modernization of tourist services through the ability to track and analyze large volumes of data. The sharing economy is changing traditional package tours by introducing social interactions and the concept of shared resources. The circular economy focuses on sustainable practices and the conscious use of resources in order to make travel packages more responsible and environmentally friendly. This study examines the integration of these four economies into package travel, analyzing the opportunities for improving their value, competitiveness and sustainability.

2. LITERARTURE REWIE

The *package tour* is a complex tourist service that combines transport, accommodation, meals and other services in one common offer. This type of service provides great convenience for tourists, as they do not have to book and connect the individual elements of the trip, unlike individual trips (Chang, 2018). Package tour saves tourists time, effort and money, and also brings the charm of the social element. Most package travel includes basic components such as: transport, accommodation, guided tours, food and other entertainment activities. Package travel is mainly offered by travel agencies and tour operators (Pham, 2024). Despite the convenience of package tours, tourist desires are changing and are increasingly directed towards the search for unique and memorable experiences (Stasiak, 2014). It is precisely these changing searches and desires of tourists that require the transformation of package tours and the integration of new economic models in the travel industry, including changes in society (Buhalis et al., 2023 Kiryakova-Dineva & Bozhkova, 2021; Yuleva-Chuchulayna et al. 2023) and environment (Zhou et al., 2024; Anad et al., 2023, Ivanova, 2019). The implementation of innovations and sustainable practices attracts more and more diverse tourists. Consumers are increasingly seeking travel packages that reflect their personal interests and preferences. Their desire is not just to visit a given destination, but for this visit to leave them with lasting and emotionally rich memories. This is also the basis of the experience economy, the creation of unique, impactful and emotionally valuable trips(Pine & Gilmore, 2011).

2.1. Experience economy

The *experience economy* focuses on the relationship between a service or product and the emotional and psychological state of the consumer. It draws attention to the importance of memorable moments and the long-term emotional connection that they build between the destination and the tourist. With that being said, traditional package tours that include transportation, food and accommodation do not always satisfy the growing demand for uniqueness, personalization and authenticity from tourists(Loureiro, 2014). Nowadays, services are the most desired and consumed product, due to the fact that the emotions experienced during the trip are unique and unrepeatable. Taking a travel decision is entirely an emotional decision, with the exception of business trips, the amount of money to be spent during the trip is also an emotional decision. Influenced by greater satisfaction and happiness, tourists tend to spend a larger amount, and even to spend it more than once. By reaching positive emotions in tourists, travel agencies also gain customer loyalty, which is important for the development of the industry (Tripathi & Kumar Singh, 2024). The first literary source in which consumption is considered as an experience, and not as a separate event, is the work of Pine and Gilmore, "The Experience Economy", where they define experiences as: "A fourth economic proposition that is as different from services as services are from goods"(Pine & Gilmore, 2011). Package tours can model their elements by applying the experience economy, transforming classic tours into tours that include participation in local festivals, culinary courses with local dishes or adventure activities that make the trip unforgettable and unique. To achieve this, it is necessary to include technologies based on data analysis and artificial intelligence in package tours. This is also a reflection of the strong relationship with the knowledge economy, which offers tools for digitalization, forecasting and analysis of tourist preferences (Jinchao, 2015).

2.2. Knowledge economy

In the modern economy, knowledge is the most valuable resource, contributing to development, sustainability and competitiveness. Tourism organizations are increasingly adopting the generation, management and implementation of new knowledge in their business activities and management (Dalkir, 2005). Knowledge can be refracted through many prisms and be accepted as an object, interpretation, relationship or process. The standard tourist service significantly improves its quality thanks to the growing technological, cultural and scientific knowledge (Jinchao, 2015; Trencheva et al., 2020). The *knowledge economy* is applied in every aspect of tourism, and of course, package tours are no exception. It helps to process and analyze large volumes of data on customer preferences, expectations and feedback. By analyzing reservations, behavior and satisfaction, tourism agencies have the opportunity to offer diverse, personalized and innovative experiences and trips. While experiences create emotional value for tourists, knowledge allows them to be personalized, optimized and accessible through innovative digital technologies (North & Kumta, 2018).

2.3. Sharing economy

One of the most dynamic factors for the transformation of tourism services and package tours is the *sharing economy*. By providing alternative forms of transport, experiences and accommodation, the sharing economy presents tourism not only as more accessible, but also manages to bring tourists closer to the local culture and community (Sigala, 2018). Following the model of this economy, tourists have the opportunity to use platforms for shared accommodation such as Airbnb, transport such as Uber or participate in experiences and holidays organized by locals (Cesarani & Nechita, 2017). The relationship between the experience economy and the sharing economy is expressed in the fact that shared services allow tourists to immerse themselves in local culture, an advantage that standard packages do not offer. This economic model also encourages authenticity and social interactions, which in turn contributes to the sustainability of tourism(Ianeva, 2018).

2.4. Circular economy

The *circular economy* is derived from the environmental economy, as a new economic model aiming to integrate science and sustainable development. This is where the concept of the circular economy was born, which aims to build a sustainable society by breaking the current understanding of the linear economy, namely “take, make and throw away” (Nart & Öztürk, 2021). The circular economy presents to travel agencies and the tourism industry in general, a model in which their efforts can be directed towards the reuse of resources, the reduction of waste and the minimization of the negative footprint on the environment (Bugaian & Diaconu, 2020). In practice, there are already such tourist units as eco-friendly hotels, places for food and accommodation using energy efficiency and, last but not least, sustainable transport solutions. The connection between the experience economy and package tours is also increasingly important and noticeable, as tourists are increasingly looking for sustainable practices in addition to unique and memorable experiences (Manniche et al., 2021). Examples of

travel packages include accommodation in eco-hotels, ecotourism and organic culinary experiences, participation in various sustainable initiatives during the trip, etc. This contributes to long-term emotions and value for tourists, who, in addition to enjoying the experience, are aware of their role in protecting the environment (Naydenov, 2018).

Combining and applying these four economies in package tours leads to the creation of personalized, memorable, more flexible and authentic tourism services. This not only increases tourist satisfaction, but also provides a competitive advantage for package travel organizers (Tripathi & Kumar Singh, 2024). The application of the economy models increases the competitiveness of package tous, covering more and different groups of tourists with diverse beliefs, values and desires, on the other hand it also contributes to the social aspect of tourism as it brings together groups of people with common interests. Tourists looking for unique experiences, sustainability and technological innovations increasingly prefer package travel that integrates these new models. For their future development and success, travel agencies depend on their ability to adapt their products to economic models and trends, while maintaining their high quality and uniqueness.

Table 1: Suggestions for improvements in package tours integrating the four economies.

Economy	Opportunities for improving package tours	Additional suggestions
Experience Economy	-Inclusion of themed interactive experiences (cultural, cultural and historical tours). -Using virtual reality and artificial intelligence to enrich the tourist experience. -Developing personalized and unique itineraries during the trip, based on tourists' interests. (Pine & Gilmore, 2011), (Pham, 2024), (Stasiak, 2014), (Chang, 2018).	-Introducing participation in special events, festivals and local customs (including traditional clothing). -Introducing interactive missions and games that engage tourists in the history of the destination.
Knowledge economy	-Implementation of innovative applications and digital platforms in route and reservation management. -Using artificial intelligence to process feedback from tourists and personalize tourism services. -Inclusion of an educational element in tourist packages (with the aim of getting to know the local culture and community). (North & Kumta, 2018), (Jinchao, 2015), (Anand et al., 2023), (Tribe & Liburd, 2016)	-Inclusion of seminars and talks with local experts (local producers, winemakers,traditional craftsmen).
Sharing economy	-Expanding the use of shared accommodation (guest houses, local households). -Organizing authentic experiences with the local population.	- Including volunteering opportunities during package trips (local social initiatives).

	-Implementation of tours with shared means of transport (bicycle tours with rental bicycles). (Cesarani & Nechita, 2017), (Ianeva, 2018), (Frenken & Schor, 2017), (Gerwe & Silva, 2020).	
Circular economy	-introducing sustainable practices during travel (reducing plastic waste, digitizing advertising materials to reduce paper consumption, using renewable energy sources). -Popularization of ecotourism and participation in green practices (cleaning of natural landmarks and afforestation). -Promoting local production (consumption of organic and handmade products). (Manniche et al., 2021), (Naydenov, 2018), (Bugaian & Diaconu, 2020), (Geissdoerfer et al., 2017)	-Development of "green" routes by using environmentally friendly forms of transport. -Introducing carbon footprint compensation strategies (planting trees for every trip).

Source: Author's concept based on the works of: (Pine & Gilmore, 2011);(Pham, 2024);(Stasiak, 2014);(Chang, 2018);(North & Kumta, 2018);(Jinchao, 2015);(Anand et al., 2023);(Tribe & Liburd, 2016);(Cesarani & Nechita, 2017);(Ianeva, 2018);(Frenken & Schor, 2017);(Gerwe & Silva, 2020);(Manniche et al., 2021);(Naydenov, 2018);(Bugaian & Diaconu, 2020) and (Geissdoerfer et al., 2017).

This table clearly presents the opportunities for improving package tours by implementing the experience economy, knowledge, circular and sharing economy, with slightly more innovative proposals proposed in the second column. The experience economy can expand its scope in package tours by integrating games, interactivity and events that create an even stronger emotional connection between tourists and the destination. The knowledge economy can add value to package tours by conducting various seminars and talks, as well as gamification as a way to add an educational aspect to travel (Yaneva et al., 2021). The sharing economy unfolds social perspectives by offering shared experiences and volunteering to tourists. The circular economy, offers new forms for developing “green routes and trips” by offsetting the carbon footprint and using shared transport means. The integration of all the listed innovations will contribute to greater value and competitiveness of package tours, making them more adaptable to the demands of tourists and global trends.

3. CONCLUSION

In the conditions of the modern market, where the desires and expectations of tourists are constantly changing, traditional tour packages need transformation and improvement. This report examines the integration of the four economies - experience, knowledge, sharing and circular - in package tours in order to increase their competitiveness, market value and sustainability. In conclusion, the future of package tours largely depends on the successful integration of these four economies. By incorporating new technologies, personalization and sustainable practices, travel agencies can create more competitive and diverse services. The implementation of the experience economy in package tours is a key factor for the future development of the tourism sector, providing not only quality services, but also those that affect on a deep emotional level, creating emotional attachment and social value for tourists.

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Dijital Okuryazarlık ve Etik: Kavramsal Bir İnceleme

Derya Dinçer Gültekin[1]

[1]Öğr.Gör.Dr., Trakya Üniversitesi/Uzunköprü Meslek Yüksekokulu, Yönetim ve Organizasyon Bölümü, deryadincer@trakya.edu.tr, ORCID: 0000-0001-9648-7244

Özet: Dijital okuryazarlık, kişilerin dijital teknolojileri etkin ve güvenli bir şekilde kullanabilme becerisidir. Dijital okuryazarlık yalnızca bilgisayar ve interneti kullanabilmekle sınırlı değildir; aynı zamanda çevrimiçi güvenlik, dijital araçlarla bilgi oluşturma, paylaşma ve değerlendirme yeteneğini de içermektedir. Dijital okuryazarlık, günümüzde eğitim, iş ve sosyal hayat açısından oldukça önemli bir beceri haline gelmiştir. Teknolojiye erişim, iletişim, etkileşim ve etik bileşenlerinden oluşan dijital okuryazarlık, kişilerin dijital dünyada bilinçli ve sorumlu bir şekilde hareket etmelerini sağlamaktadır. Günümüzde bilgiye hızlı erişim, dijital iletişim araçlarının yaygınlaşması ve dijital güvenlik tehditlerinin artması, dijital okuryazarlığın önemini daha da artırmaktadır. Bu nedenle, dijital okuryazarlık eğitimi, kişilerin çağın gereksinimlerine uygun şekilde gelişmeleri için temel bir beceri olarak kabul edilmektedir. Dijital okuryazarlık ve etik, dijital dünyada sağlıklı bir çevre oluşturmak için kritik bir rol oynar. Etik değerlere sahip dijital okuryazar kişiler, sadece kendilerini değil, çevrelerini de güvenli ve saygılı bir dijital alanla desteklemektedir. Dijital okuryazarlık ve etik, günümüzde bilgi toplumunun temel yapı taşlarını oluşturur. Bu çalışma, dijital okuryazarlık ve etik konularındaki temel kavramları, teorileri ve uygulamaları incelemeyi amaçlamaktadır. Çalışma literatür taraması ve doküman incelemesi yöntemleriyle yapılmıştır. Çalışma neticesinde dijital okuryazarlık ve etik kavramlarının toplum üzerindeki etkilerini ve sonuçlarını değerlendirmek tam olarak mümkün olmamıştır.

Anahtar Kelimeler: Dijitalleşme, Etik, Dijital Okuryazarlık.

Digital Literacy and Ethics: A Conceptual Review

Abstract: Digital literacy is the ability to use digital technologies effectively and safely. Digital literacy is not limited to being able to use computers and the internet; it also includes the ability to create, share, and evaluate information using digital tools, as well as online security. Digital literacy has become an essential skill in today's education, work, and social life. Consisting of components like access to technology, communication, interaction, and ethics, digital literacy ensures that individuals act consciously and responsibly in the digital world. In today's world, quick access to information, the widespread use of digital communication tools, and the increasing threats to digital security make the importance of digital literacy even more significant. Therefore, digital literacy education is considered a fundamental skill for individuals to develop according to the demands of the age. Digital literacy and ethics play a critical role in creating a healthy environment in the digital world. Digitally literate individuals with ethical values not only support themselves but also contribute to a safe and respectful digital space for those around them. Digital literacy and ethics form the foundational elements of the information society today. This study aims to examine the basic concepts, theories, and applications of digital literacy and ethics. The study was conducted using literature review and document analysis methods. As a result of the study, it has not been entirely possible to assess the impacts and outcomes of the concepts of digital literacy and ethics on society.

Abstract: Keywords: Digitalization, Ethics, Digital Literacy.

1. GİRİŞ

Bilgi teriminin güncel kullanımı değerlendirildiğinde, çok fazla anlam taşıdığı görülmektedir. "Bilgi" kelimesi, veriyi tarif ederken, bilgiyi ifade ederken ve bilgi veya bilimi açıklarken bir kısayol olarak kullanılmaktadır. Bu nedenle, "bilgi" kelimesiyle neyin kastedildiğini tanımlamak oldukça zordur (Akkuş, 2022). Yirminci yüzyılın sonlarına doğru, bilgi teknolojilerinin hızla gelişmesi ve yayılması büyük bilgi devrimine yol açmıştır. Bu gelişmeler 21. yüzyılda da devam etmiş ve ilk bilgisayarlara kıyasla daha karmaşık bilgisayarlar, taşınabilir cihazlar ve interneti insan hayatının önemli bir parçası haline getirmiştir (Kuh ve Erdem, 2021). Bu gelişmeler ve sosyal medyanın da gelişmesiyle birlikte iletişimin yönleri de giderek çeşitlenmiştir. Bu çeşitlilik, toplumsal iletişim örüntülerindeki genel fikir birliğiyle uyumlu bir şekilde ortaya çıkmış ve toplulukların, eğitim, ekonomi, aile ve yeni diller üreten benzeri faktörler gibi çeşitli geçmişlere sahip oldukları yerlerde yeni terimler üretme eğiliminde olduğu görülmüştür. Okuryazarlık ve yeni medyaya ilişkin etik konular da gençlerin kimliklerini zenginleştirmeleri ve mahremiyetlerini korumaları için temel kavramlar olarak öne çıkmaktadır.

Bilgi ve iletişim teknolojilerinin tanımlanma biçimini değiştiren önemli bir dönüşüm yaşanmıştır. Günümüzde bilgi ve iletişim teknolojisi kavramı bu bağlamda dijital teknolojilerin gerçek zamanlı olarak üretmek, dağıtmak, toplamak, yönetmek ve iletişim kurmak için kullanılması olarak tanımlanabilir. Ayrıca, modern teknolojinin yaşam kalitesini iyileştirmede oynadığı önemli rol nedeniyle, bir uygulama alanı olarak bilgi ve iletişim teknolojisinin yaşamın ayrılmaz bir parçası haline geldiği de söylenebilir. Dijital alanda keşfedici, eleştirel ve düşünceli aramalar

yapmak, sorunların karmaşık resimlerini elde etmek ve bunlara çözümler bulmak çok önemlidir. Bu aramalar, arama terimlerinin işlenme biçiminin anlaşılmasını gerektirir. Bu karmaşık resimleri yaratmak ve önyargının kapsayıcı aramalarına nasıl karşı koyabileceklerini fark etmek, önyargılı bakış açısına bağlantılar bulma ve bunları takip etme isteğini gerektirir.

Dijital okuryazarlığa ve etiğe kavramsal bir bakış açısıyla yaklaşmanın temel nedeni, dijital söylemin insanların karşılaştıkları zorluklara ilişkin bakış açılarını şekillendirmesidir. Çünkü insanların bugün karşı karşıya olduğu küresel zorluklar hakkındaki anlayışları şekillendirmede oynayacakları bir rol vardır. Bu rolü etik kavramıyla anlamak ve dijital okuryazarlık alanıyla kavramsallaştırmak gerekir. Ayrıca dijital alanda çeşitli söylemler geliştirmek ve bu söylemlerin altında yatan farkındalık ve beceriler için yaratılan fırsatları değerlendirmek de beklenmektedir.

Dijital okuryazarlık ve etik, günümüz dijital dünyasında önemli bir yer tutmaktadır. Bu iki kavram arasındaki ilişkiyi anlamak, teknolojiyi doğru ve etik bir şekilde kullanabilmek için oldukça önemlidir. Bu çalışmanın amacı, dijital alanda yer alan temel etik sorunlara genel bir bakış sağlamak, dijital etiğin pratikte nasıl ele alındığını ortaya koymak ve ve dijital okuryazarlığı kavramsal açıdan değerlendirmektir.

2. DİJİTALLEŞME KAVRAMI

Dijitalleşme kavramıyla ilgili olarak yabancı dilde “digitization” ve “digitalization” şeklinde iki kullanım öne çıkmaktadır. Bunlardan “digitization”, analog veriyi, değişik yol ve yöntemler ile dijite etme yani sayıya çevirme olarak ifade edilmektedir. Türkçe’de “digitization” anlamında “sayılaştırma” veya “kodlama” kavramları kullanılmaktadır. Yine “digitalization” kavramı, işletmedeki işleri, iş modellerini, faaliyetleri, iletişimi, paylaşımı, süreçler arasındaki ilişkileri digital hale getirmeyi ifade etmektedir. Kavramın kökü “digit” olup Türkçe’de “sayı” anlamını taşımaktadır. Dijitalleşme ile kastedilen, işletmelerde “analog” nitelikteki fiziki bilgi ve verilerin, bilgisayar tarafından okunabilir hale getirmek için elektronik ortama aktarılması ve bunların “dijit”lere çevrilmesidir (Koçel, 2020).

Dijital dönüşüm, dijitalleştirme kavramından daha geniş bir kavramdır ve dijitali iş dünyasına taşınmanın bir yolu olarak görülmektedir (Yankın, 2019). Dijital dönüşüm, dijitalleştirmenin ve sayısallaştırmanın toplumsal ve ekonomik etkilerini ortaya koymaktadır (OECD, 2019). Bu açıdan toplumda yer alan bütün faaliyetleri birbirine bağlayan tek bir iletişim altyapısının olması dijitalleşme ile sağlanabileceği ve dijitalleşme ile çağdaş dünyanın küreselleşmenin de etkisiyle ulusal sınırların dışına yayılacağı düşünülmektedir (Brennen and Kreiss, 2014).

Dijitalleşme, teknolojiyi ve iş ortamını değiştirmekte ve işletmeleri değişiklik yapmaya motive etme veya baskı altına alma açısından fırsatlar ve zorluklar yaratmaktadır. Çünkü teknoloji ve iş ortamı değiştiğinde, işletmelerin değer yaratmak ve yakalamak için güvendiği koşullar da değişmektedir (Skog, 2019).

Genel olarak internetin, özellikle etkileşimli Web'in, kullanıcılar ile kullandıkları teknolojiler arasındaki iç içe geçmeyi artırdığı görülmektedir. İnsanların kimlikleri, Web 2.0 uygulamaları onları doğal olarak çevrimiçi aktivitelerinden kaynaklanan dijital materyalle iç içe geçirdikçe, “fiziksel ve dijital alanlarda eş zamanlı olarak gerçekleştirilen” hibrit aktiviteler ortaya çıkmaktadır. Bu açıdan ikisinin ayrılmaz bir şekilde iç içe geçtiği ve çevrimiçi sanal varlıklarının “her kullanıcının kimliğinin psikolojik uzantıları ve projeksiyonları” olduğu da ileri sürülmektedir (Schultze ve Mason, 2012).

3. DİJİTAL OKURYAZARLIK KAVRAMI

Okuryazarlık, okuma ve yazmadan farklı bir anlam taşımaktadır. Okuma ve yazma; alfabetik sistemle bir yere yazılmış harf gruplarının oluşturduğu kodları çözme ve o alfabetik sistem için bir kod oluşturma becerisinden oluşmaktadır. Okuryazarlık ise, kişinin yere yazılmış harfleri okuması, algılaması ve anlamlandırmasıyla başlayan bir süreci ifade etmektedir. Başka bir deyişle, okuryazarlık, toplumsal olarak yaratılmış iletişim ve temsil biçimlerini etkili bir şekilde kullanma ile ilgili yeterlilikleri kazanmayı içermektedir (Çatlı ve Keskin, 2021). Okuryazarlık, yazılı sembollerle yapılan bir eylem olmanın çok ötesinde, pek çok zihinsel beceriyi ve dil kullanımını kapsayan, iletişim becerileri ve tutumları ifade eden bir terimdir (Aşıcı, 2009).

Dijital teknolojilerin kullanılmaya başlamasıyla 1990’lı yılların sonlarına doğru ortaya çıkan dijital okuryazarlık kavramını ortaya atan kişi olarak Amerikalı yazar Paul Gilster kabul edilmektedir. Paul Gilster, dijital okuryazarlık kavramını, bilgi kaynakları aracılığıyla sağlanan bilgileri farklı biçimlerde anlayıp kullanabilme yeteneği olarak tanımlamıştır (Gilster, 1997). Paul Gilster'a (1997) göre dijital okuryazarlık, bilgisayarlar ve özellikle internet aracılığıyla sunulduğunda farklı kaynaklardan gelen çoklu formatlardaki bilgileri anlama ve kullanma yeteneğidir. Tanımlar, dijital metinlerin ortaya çıkan okuryazarlıkta oynadığı role dayanarak yapılır. Geleneksel okuryazarlığın dar tanımıyla başlayan ve dijital okuryazarlık becerilerini de kapsayacak şekilde genişletilmesi gerektiği tartışması

başlangıç noktasıdır. Sayısal ve sözel becerileri de içeren geleneksel okuryazarlık kavramı, dijitalleşmeyle birlikte dijital bilgilere etkili, verimli ve etik bir şekilde erişmek için gereken beceri, bilgi ve tutum kümesini ifade edecek şekilde genişlemiştir (Özkaya ve Erat, 2022).

Dijital okuryazarlık, teknolojiyle eleştirel bir şekilde etkileşim kurmayı ve ticari gündemler ve kültürel anlayışlar da dahil olmak üzere bir dizi faktörün teknolojinin bilgi ve anlamı iletmek için kullanılma biçimlerini nasıl şekillendirebileceğine dair toplumsal bir farkındalık geliştirmeyi içerir (Hague ve Payton, 2010). Spires ve Bartlett (2012), dijital okuryazarlıkla ilişkili süreçleri üç kategoride açıklamıştır: dijital içerik bulma ve tüketme, dijital içerik oluşturma ve dijital içeriği iletme. Bu konudaki bilgiler Şekil 1'de sunulmaktadır. Dijital okuryazarlıkla ilgili uygulamalar eleştirel bir değerlendirme sürecini kullanır ve dijital içerik bulma, tüketme, oluşturma ve iletme becerilerini içerir (Yazıcı, 2023).

Şekil 1. Dijital Okuryazarlık Uygulamaları



Kaynak: Spires ve Bartlett, 2012; Yazıcı, 2023.

Dijital okuryazarlığı tanımlayan Eshet-Alkalai (2004), hızla gelişen teknolojiler karşısında kullanıcıların dijital ortamlarda ortaya çıkan her türlü soruna çözüm üretebildiğini ve sosyolojik, bilişsel-teknik gibi farklı konularda beceri gerektiren ihtiyaçlar doğrultusunda ortaya çıktığını belirtmiştir. Başka bir tanıma göre dijital okuryazarlık (Alfia vd., 2020),

- Görsel ve grafiksel araçlarla görsel olarak sunulan bilgilere ulaşma yeteneği,
- Mevcut dijital kaynaklardan alınan bilgileri yorumlama ve yaratıcı anlamlar çıkarma yeteneği,
- Dijital cihazlar aracılığıyla bilgileri eleştirel bir şekilde analiz etme yeteneği,
- Çevrimiçi medyadan kaynaklanabilecek olumsuz durumlara karşı yararlı bilgilere ulaşma yeteneği,
- Dijital ortamlarda hızla gelişen eş zamanlı bilgi ve süreçleri etkili bir şekilde kullanma yeteneğidir.

Bazı yazarlar dijital okuryazarlığı *"yaygın olarak kullanılan yazılım paketlerini etkili bir şekilde çalıştırabilmek"* ile eş tutmaktadır (Bawden, 2008). Ancak, günümüzde bazı yazarlar dijital okuryazarlığı bir anlayış ve beceri olarak görmeye başlamışlardır. Aviram ve Eshet-Alkalai (2006) dijital okuryazarlıktaki gelişmeleri beş alana ayırmaktadır:

1. *"Foto-görsel okuryazarlık", görsellerden okuma yeteneği;*
2. *"Üretim okuryazarlığı", yeni anlamlar/anlayışlar oluşturmak için dijital içeriği yeniden düzenleme/birleştirme yeteneği;*
3. *"Hipermedya okuryazarlığı", "doğrusal olmayan bilgi aram stratejilerini kullanma ve düzenli ve doğrusal olmayan bir şekilde erişilen bağımsız bilgi parçalarından bilgi oluşturma yeteneği";*
4. *"bilgi okuryazarlığı", her zaman bilgiyi sorgulama sanatı; ve*
5. *"Sosyo-duygusal okuryazarlık", dijital alandaki kuralları/geleneksel kuralları anlama ve dijital alandaki etkileşimlerde ortaya çıkan değişiklikleri anlama yeteneğidir.*

Dijital okuryazarlık, hayatın her alanında dijital teknolojilerle etkileşim kurarken bilgi ve anlayışınızda eleştirel, üretken, seçici ve doğru olma yeteneğinden oluşur. Bazı insanlar dijital okuryazarlığı bir bilgisayarı veya belirli bir programı etkili bir şekilde kullanabilmekle ilişkilendirir. Ancak dijital okuryazarlık, internete erişmekten veya bir bilgisayarı kullanabilmekten çok daha fazlasıdır. Bu, ekip çalışması, güvenli olma ve etkili bir şekilde iletişim kurma ve kültürel ve sosyal farkındalıkla ilgilidir. Dijital okuryazar olmak, dijital araçları ne zaman ve nasıl kullanacağınızı bilmeyi gerektirir. Bunlardan bazıları sosyal ağ siteleri ve Vikiler gibi Web 2.0 araçları, animasyon oluşturma, bilgi işleme yazılımı ve dijital kameraları kullanma yeteneğidir (Hague ve Payton, 2010).

4. ETİK KAVRAMI

Türk Dil Kurumu'nun Güncel Türkçe Sözlüğünde etik; *"ahlak bilimi ve çeşitli meslek kolları arasında tarafların uyması veya kaçınması gereken davranışlar bütünü"* şeklinde tanımlanmıştır (Türk Dil Kurumu Güncel Türkçe Sözlüğü, 2024).

Etik, "*bütün etkinlik ve amaçların yerli yerine konulması; neyin yapılacağı ya da yapılamayacağının; neyin isteneceğinin ya da istenemeyeceğinin; neye sahip olunacağı ya da olunamayacağının bilinmesidir"* şeklinde tanımlanmaktadır (Aydın, 2016; Karatay, 2022).

Etik, temel kişisel ve sosyal taahhütlerimizin, önde gelen ideallerimizin ve değerlerimizin alanıdır. Ahlak ise, temel kişisel ve sosyal taahhütlerimizi ve önde gelen ideallerimizi ve değerlerimizi yansıtan prensipleri veya kuralları rasyonel bir şekilde formüle edip izleyerek insan davranışını yönlendirme girişimidir ve ahlak etiğin özüdür. Bu nedenle, dijital etik, genel olarak dijital teknolojinin tasarımı ve kullanımında insan davranışını yönlendirme girişimidir (Hanna ve Kazim, 2021). Bir topluluk içinde yaşamanın sonucu olarak gelişen manevi bir yapıdır. Her insanın iyi veya kötü bir ahlak biçimi ve ahlak anlayışı vardır. Ahlak, topluma ve zamana göre uyulması gereken davranış kuralları açısından farklılık gösterebilirken, etik; genel kabul görmüş evrensel kuralları içerir. Etik, coğrafi sınırlara ve topluluklara göre şekillenemez. Etik, insanlar arasındaki iletişimin temelini oluşturan değerlerin bütünüdür. Ahlak, belirli bir zamanda benimsenen davranış kurallarının bütünüdür (Erden, 2014). Değer denildiğinde ise ilk akla gelen özellik, kişileri ve toplumu yönlendiren, davranışlarını belirleyen ilkeler ve tercihlerdir. Bu ilkeler, geniş anlamda tarihsel, kültürel, toplumsal ve ekonomik etkenler başta olmak üzere çeşitli etkenlere bağlı olarak oluşur. Her toplum ve kişi, sahip olduğu değerler çerçevesinde davranışlarını yönlendirir ve tercihlerini buna göre belirler (Ural: 2000; Karatay, 2022).

Etik, haber üretimi ve yayımında şeffaflık, doğruluk, tarafsızlık, gizlilik ve kaynakların doğrulanması gibi temel ilkelerin korunmasını hedeflemektedir. Ayrıca, çevrimiçi etkileşimde bulunurken ve dijital ortamlarda iletişim kurarken uyulması gereken davranış kurallarını ve standartlarını da kapsamaktadır. Bu bakış açısıyla dijital etik, medya profesyonellerinin, gazetecilerin, yayıncıların ve internet kullanıcılarının dijital platformlarda haber ve bilgi paylaşırken dikkat etmeleri gereken standartları ve sorumlulukları belirlemektedir. Bu ilkelere uyulması, güvenilir ve kaliteli bir dijital haber ortamının yaratılmasına katkıda bulunur. Dijital teknoloji ile insan değerlerinin birlikte değerlendirildiği bir yapıda, dijital etik, dijital teknolojinin insan değerlerini geliştireceği ve ilerleteceği bir sistem olarak tasarlanmalıdır (Özcan, 2021).

Dijital ortamlarda etik kavramının kullanımı, bilgisayarın günlük hayata girmesiyle birlikte tartışılmaya başlanmıştır. Bu açıdan bilgisayar etiği kavramı üzerinde de durulması yerinde olacaktır. Bilgisayar etiği, bilgisayar teknolojisinin doğasının ve sosyal etkisinin analizi ve bu tür teknolojilerin etik kullanımına yönelik politikalar üretme çabası ve arayışıdır. Bilgisayar etiğine ek olarak, web ve e-posta etiği gibi dijital etikten de bahsedilebilir (Çatlı ve Keskin, 2021). Ribble (2011) dijital etiği her türlü teknolojinin çevrim içi ve çevrim dışı etik kullanımı çerçevesinde "*bilgisayar, internet, sosyal medya etiği, bilişim etiği*" gibi konuları da içeren daha geniş bir kavram olarak ele alınmıştır. Floridi (2001) ise dijital etiği dijital içeriğin korunması ve değerlendirilmesi açısından ele almıştır (Brown, 2014).

Dijital teknoloji, bir yandan toplumsal olaylarda çıkar sağlamak için kullanılabilirken; diğer yandan kişilerin teknolojik bir kitle iletişim aracı olarak kullanmaktadır. Kişiler hissettikleri sonsuz özgürlük ile birlikte dijital teknoloji ahlaki kayıtsızlığa da yol açabilmektedir. Kişiler sanal dünyada sahip oldukları ana hesaplarının yanı sıra sahte hesaplarla da var olabilirler. Bunun için sanal dünyada "dijital etiğin" sınırlarının belirlenmesi gerekmektedir. Günümüzde kullanılan yeni teknoloji, yapısı gereği etik ihlallerinin kolayca işlenebileceği kanallar sunmaktadır. Bilişim teknolojileri alanındaki etik sorunlar, özellikle küreselleşme bağlamında çokça tartışılmıştır. Gerçek yüzlerle veya gerçek eylemlerle karşılaşmanın zorluğu, sanal gerçekliğin üretim hızının artması ve gizlilik ihlalleri en temel sorunlar olarak görünmektedir. Dijital etik, teknolojinin geliştirdiği medyada başkalarına zarar vermemek ve bu platformlarda gerçekleştirilen her türlü insan eylemi sırasında sistemin iyi niyetle devamını sağlamak için doğru davranışı teşvik eden kurallar olarak tanımlanabilir. Dijital etik, insanın günlük yaşamının bir

parçası haline gelen dijital yaşamda kişinin davranış ve yaşam biçimine ahlaki bir çerçeve getirmeyi amaçlamaktadır (Özcan, 2021).

5. DİJİTAL OKURYAZARLIK VE ETİK İLE İLGİLİ YAPILAN ÇALIŞMALAR

Ng (2012), dijital okuryazarlık becerisine sahip kişileri, insanlarla yüz yüze iletişim kuruyormuş gibi yanlış anlaşılmalardan kaçınan, insanlara karşı saygılı bir dil kullanan, kendi bilgilerinin gizliliğini koruyan ve tanımadıkları veya güvenmedikleri kişilerle paylaşmayan, tehdit zamanlarında kendilerini tehditlere karşı koruyabilen ve tehdit eden grupları nereye şikayet edeceğini bilen kişiler olarak tanımlamaktadır (Korkmaz, 2020'den aktarıldığı üzere).

Schultze ve Mason (2012), internet gizliliğine ilişkin beklentileri değerlendirmede kullanılabilecek özellikleri faydalı bir şekilde sıralamıştır: Bu özellikler; grup büyüklüğü, iletişim amacı, topluluğun sosyal statüsü, katkı için hedeflenen kitle, topluluk üyelik politikası, normlar ve beklentiler, içerik depolama ve erişilebilirliğidir. İnternet gizliliği ile ilgili tartışılan birçok konuyu bir araya getiren çalışmada bu alanda çalışan araştırmacılara rehberlik edecek uygulanabilir bir çerçeve sağlayabilir.

Çubukçu ve Bayzan (2013) araştırmasında güvenli, bilinçli ve etkili internet kullanımıyla elde edilebilecek dijital vatandaşlık algısı ve dijital vatandaşlığın dokuz boyutunu (dijital erişim, dijital iletişim, dijital okuryazarlık, dijital ticaret, dijital etik, dijital hukuk, dijital haklar/sorumluluklar, dijital sağlık ve dijital güvenlik) ortaya koymuşturlar.

Kernaghan (2014) *"Digital dilemmas: values, ethics and information technology"* adlı çalışmasında kamu yönetimi bağlamında etik ve bilgi teknolojisinin önemini ortaya koymuştur. İlgili çalışmada kamu sektöründe bilgi teknolojilerini etkin kullanılırken etik kavramına ne ölçüde duyarlılık gösterildiği, bu alanda yaşanan etik ihlaller ve kamu çalışanlarının etik ilkelere uygun davranması için yapılabilecek çalışmalara değinilmiştir.

Hull'un (2015) çevrimiçi gizlilik özyönetimi incelemesi, gizliliği, internet kullanıcılarının diğer piyasa malları için takas etmeye istekli olduğu kişisel bir meta olarak konumlandırmaktadır. Bu, çevrimiçi ortamlarda gizliliğin, aile ve arkadaşlarla bilgi paylaşımına izin veren bir web sitesine erişim kolaylığı için vazgeçilebilen (takas edilebilen) ancak çevrimiçi veri arayan araştırmacıların kolaylığı için mutlaka vazgeçilemeyen niteliğini açıklamaktadır.

Odacı ve Berber-Çelik (2017) tarafından yapılan çalışmanın sonuçlarına göre, öğretmen adaylarının siber zorbalığa ilişkin duyarlılık düzeylerinin yüksektir. Ayrıca, öğretmen adaylarının siber zorbalığa ilişkin duyarlılıklarında öğrenim görülen bölüm, cinsiyet, ve internet kullanım amacı değişkenlerine göre farklılık göstermektedir.

Kurt ve Teker (2017) yaptıkları çalışmada öğretmen adaylarının internet ve sosyal ağları kullanırken net-etik davranışlara uyma durumlarını belirlemeye çalışmışlardır. Ankara Üniversitesi Eğitim Bilimleri Fakültesinde öğrenim gören toplam 315 öğretmen adayı ile yapılan çalışmanın bulguları, erkek öğretmen adaylarının kadın öğretmen adaylarına göre internette daha fazla zaman geçirdiklerini ve erkeklerin internet kullanım becerilerine ilişkin öz yeterliliklerinin kadınlardan daha yüksek olduğunu göstermektedir.

Özerbaş ve Kuralbayeva (2018)'nın çalışmasına göre Kazakistan ve Türkiye'de öğrenim gören öğretmen adaylarının dijital okuryazarlık düzeyleri karşılaştırılmıştır. Toplam 601 öğretmen adayını kapsayan çalışma sonucunda Türkiye'de öğrenim gören öğretmen adaylarının Kazakistan'da öğrenim gören öğretmen adaylarına göre ölçeğin tüm alt boyutlarında daha fazla dijital okuryazarlık becerisine sahip olduğu sonucuna varılmıştır. Bu nedenle farklılığı azaltmak için Kazakistan'ın dijital okuryazarlık alanında yapılacak çalışmalara daha fazla önem vermesi gerektiği vurgulanmıştır.

Tanoğlu'nun (2019) çalışması sanat eğitimi öğretmen adayları ile yürütülmüştür. Çalışmanın sonuçlarına göre sanat eğitimi öğretmen adaylarının dijital vatandaşlık düzeyleri ile dijital teknolojiye yönelik tutumları arasında orta düzeyde ilişki olduğu belirlenmiştir. Ayrıca dijital vatandaşlık boyutlarından biri olan öğretmen adaylarının dijital etik düzeylerinin cinsiyet ve aylık gelir değişkenlerine göre farklılaştığı görülmüştür.

Mısırlı ve Kuzu (2019) tarafından yapılan çalışmada sosyal medya etiği "gizlilik, doğruluk, fikri mülkiyet ve erişim" boyutları açısından incelenmiştir. Çalışmanın sonuçlarına göre kadın öğretmen adaylarının "fikri mülkiyet ve erişim" boyutlarında erkek öğretmen adaylarına göre daha hassas oldukları; internette geçirilen zaman arttıkça öğretmen adaylarının sosyal medyada etik olmayan davranışlar sergileme eğiliminde oldukları görülmüştür. Öğretmen adaylarıyla yapılan odak görüşmelerinin sonuçlarına göre öğretmen adaylarının kişisel fayda söz konusu olduğunda sosyal medyada etik olmayan davranışlar sergileyebileceklerini belirttikleri görülmüştür.

Reema ve diğerleri (2021), kadın girişimciler tarafından benimsenen dijital pazarlama stratejileri ve bunların iş performansı üzerindeki etkileri üzerine bir çalışma yürütmüş, mikro ve küçük işletmelerdeki kadın girişimcilerin

iş performansı için dijital teknolojileri nasıl kullandıklarını ve dijitalleşme ve dijital pazarlama benimsemesi hakkında ne algıladıklarını araştırmıştır. Bulgular, kadın girişimciler arasında birkaç dijital medya kanalı ve platformunun popüler olduğunu ortaya koymuştur. Bu, mikro ve küçük işletmelerdeki kadın girişimciler arasında dijital pazarlama benimsemesinin hala erken aşamalarda olduğunu ve dijital pazarlama benimseme düzeyi ile satışlar arasında olumlu bir ilişki olduğunu ve dolayısıyla iş performansını etkilediğini göstermiştir.

Öteleş ve Merey (2022), yaptıkları çalışmalarında sosyal bilgiler öğretmenlerinin dijital etiğe yönelik görüşlerini araştırmışlardır. Muş ili merkez ortaokullarında görev yapan sosyal bilgiler öğretmenleri ile nitel yöntemle yapılmış olan araştırma sonucunda öğretmenlerin dijital etiği doğru olarak algılayıp yorumladığı tespit edilmiştir. Ayrıca öğretmenlerin önemli bir kısmının dijital araç ve gereçleri amacı dışında kullandığı, dijital etik ihlallerinin önlenmesi için farklı önlemler alınması gerektiği ve okullarda dijital etik konusunda ders verilmesi gerektiği sonucuna varılmıştır.

6. SONUÇ

Kullanıcılarının eylemlerine göre gelişen, bütünsel ve uyarlanabilir anlayışlar oluşturmak için kullanılabilen, sosyal olarak oluşturulmuş olan dijital alan, anlayışlara ve yanıtlara yardımcı olmak için çok şey yapabilen bir araç rolü görmektedir. Dolayısıyla insanlar, çeşitli söylemler oluşturmak ve kendilerinden söz ettirebilmek için dijital alanla etkileşime girme yollarını aramaktadır.

Etik; kurumlar, toplumlar ve kültürlerde günlük yaşamı ve etkileşimi, medeniyeti ve değişimi yöneten kodlara, normlara ve prosedürlere atıfta bulunmaktadır. Eğitimin her seviyesinde temel etik eğitiminin uygulanması gerekmektedir. Dijital ve dijital okuryazarlıkta okuma eğitiminin yanı sıra, bilginin de geliştirilmesi gerekmektedir. Topluma temel etik ve dijital okuryazarlık eğitimleri sağlamak ise hem kişilerin hem de yöneticilerin sorumluluğundadır. Dijital dünyada davranışların doğru ve yanlışını belirleyen bir anlayışa dayanır. Dijital etik, kişilerin çevrimiçi ortamda başkalarının haklarına saygı göstermelerini, dijital kaynakları etik bir şekilde kullanmalarını ve toplumu olumsuz etkileyebilecek davranışlardan kaçınmalarını sağlar. Ayrıca, dijital dünyada mahremiyet, güvenlik, telif hakları, dijital manipülasyon ve çevrimiçi zorbalık gibi konularda etik sorumlulukları da içerir.

Dijital okuryazarlık ve etik, birbirini tamamlayan ve güçlendiren iki önemli kavramdır. Dijital okuryazarlık, kişilerin dijital dünyada daha bilinçli ve güvenli bir şekilde var olmalarını sağlarken, dijital etik bu ortamda doğru ve sorumlu bir şekilde hareket etmeleri için rehberlik eder. Bu iki kavramın birleşimi, daha güvenli, adil ve sürdürülebilir bir dijital toplum oluşturulmasına katkı sağlar. Dijital okuryazarlık eğitiminin ve etik anlayışının güçlendirilmesi, gelecekte dijital dünyadaki olumsuz etkilerin azaltılmasında ve kişilerin dijital ortamda daha güvenli bir şekilde var olmalarında önemli rol oynayacaktır. Kişilerin sadece teknolojiyi kullanmayı öğrenmeleri değil, aynı zamanda bu araçları kullanırken toplum ve başkaları üzerindeki etkilerini de düşünmeleri gerektiğini vurgular. Etik değerler, dijital medya platformlarında doğru bilgi paylaşımını, güvenliği, mahremiyeti ve adaleti sağlamayı içerir. Bu bağlamda, dijital okuryazarlık, sadece kişisel bir beceri değil, aynı zamanda toplumsal sorumluluk anlamına gelir.

Bu çalışmada dijital okuryazarlık ve etiğin kavramsallaştırılması ve geliştirilmesi anlayışının var olması gerektiğini vurgulamaktadır. Dijital okuryazarlık ve etik bir arada düşünüldüğünde, dijital dünyada sorumlu bir şekilde hareket etmek, hem kişisel hem de toplumsal düzeyde daha güvenli, adil ve saygılı bir dijital ortam yaratmayı hedefler. Kişiler, dijital araçları kullanırken etik ilkeleri göz önünde bulundurmalı ve bu sayede teknolojinin sunduğu fırsatları, olumsuz etkilerinden kaçınarak daha verimli bir şekilde kullanabilirler. Dijital etik ve dijital okuryazarlığın kavramsallaştırılması ile birlikte çeşitli alanlarda daha iyi kullanılmasının sağlanacağı ve değerlendirileceği söylenebilir.

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Küçük ve Orta Boy İşletmelerde (KOBİ) Blokzincir Tabanlı Lojistik ve Tedarik Zinciri Finansmanı: Sistematik Literatür Taraması

Dr. Dilber Doğan [1]

[1] Bağımsız Araştırmacı, dilberburucuoglu@gmail.com, ORCID: 0000-0002-7829-848X

Özet: Küçük ve Orta Büyüklükteki işletmeler (KOBİ'ler) finansmana erişimde çeşitli zorluklarla karşılaşmaktadırlar. KOBİ'lerde blokzinciri tabanlı lojistik ve tedarik zinciri finansmanı konusundaki literatür son yıllarda hızla yaygınlaşmasına rağmen ampirik ve teorik çalışmalar halen sınırlıdır. Bu çalışmanın amacı KOBİ'ler için yenilikçi bir finansman çözümü sunan blokzincir tabanlı lojistik ve tedarik zinciri finansmanı konusundaki çalışmaların eğilimleri belirlemek için sistematik literatür taraması yapmaktır. Bu çalışmaların sistematik bir biçimde değerlendirilmesinin, konunun bütüncül bir yaklaşımla ele alınmasını sağlayarak gelecekteki araştırmalar için temel oluşturulmasına katkı sağlayacağı düşünülmektedir. Bu amaçla Scopus ve Web of Science (WoS) veri tabanlarında seçilen anahtar kelimeler ve dahil etme hariç tutma kriterleri ile arama yapılmıştır. İncelemeye alınan makalelerden elde edilen bulgulara göre "Journal of Theoretical and Applied Electronic Commerce Research" en fazla makale yayınlanan dergi olarak öne çıkmaktadır. En sık kullanılan anahtar kelimenin "Supply Chain Finance" olduğu tespit edilmiştir. Konuda en çok yayın yapılan ülkenin Çin olduğu tespit edilmiştir. En çok yayın yapan yazarın ise Li Y. olduğu belirlenmiştir. Yapılan yayın sayısında 2020 yılı itibariyle yayın sayısında belirgin bir artış gözlemlenmiş ve en fazla yayının 2024 yılında yayınlandığı tespit edilmiştir. İncelenen dönemde yıllar itibariyle konuya ilişkin yapılan yayın sayısında belirgin artış gözlemlenmiştir. Bu bulgu konuya olan ilginin arttığını ve giderek büyüyen bir araştırma alanı haline geldiğini göstermektedir.

Anahtar Kelimeler: Blokzincir, Lojistik ve Tedarik Zinciri Finansmanı, Sistematik Literatür Taraması

Abstract: Small and medium-sized enterprises (SMEs) face various difficulties in accessing finance. Although the literature on blockchain-based logistics and supply chain financing in SMEs has expanded rapidly in recent years, empirical and theoretical studies are still limited. The aim of this study is to conduct a systematic literature review to determine the trends of studies on blockchain-based logistics and supply chain financing, which offers an innovative financing solution for SMEs. It is thought that the systematic evaluation of these studies will contribute to the creation of a basis for future research by providing a holistic approach to the subject. For this purpose, Scopus and Web of Science (WoS) databases were searched with selected keywords and inclusion and exclusion criteria. According to the findings obtained from the articles analysed. "Journal of Theoretical and Applied Electronic Commerce Research" stands out as the journal with the highest number of articles published. It was determined that the most frequently used keyword was "Supply Chain Finance". It has been determined that the country with the most publications on the subject is China. It was determined that the author who published the most publications was Li Y. A significant increase in the number of publications was observed in the number of publications as of 2020, and it was determined that the most publications were published in 2024. In the period examined, a significant increase was observed in the number of publications on the subject over the years. This finding shows that the interest in the subject has increased and has become a growing research area.

Key Words: Blockchain, Logistics and Supply Chain Finance, Systematic Literature Review

1. GİRİŞ

Günümüzde Küçük ve Orta Büyüklükteki işletmeler (KOBİ'ler) ülke ekonomisinin büyümesine katkı sağlayan önemli yapı taşlarıdır, ancak KOBİ'ler finansmana erişimde çeşitli zorluklarla karşılaşmaktadırlar. Özellikle 2008 küresel finansal krizinden sonra KOBİ'ler likidite kısıtlamaları ve finansal piyasalardaki artan risk nedeniyle ihtiyaç duydukları kredilere erişmekte çeşitli zorluklarla karşılaşmış ve tedarik zinciri finansmanı (ters faktoring) kavramı, KOBİ'ler için yenilikçi bir finansman çözümü sunmuştur (Lekkakos ve Serrano, 2016: 1). Tedarik zinciri finansmanı giderek finans ve lojistik/tedarik zinciri yönetiminin kesiştiği bir alan haline gelmiş ve bu durum, bankaların yanı sıra finans ve lojistik hizmet sağlayıcıları için de yeni iş alanlarının açıldığı bir alan haline gelmiştir (Hofmann, 2005: 149).

KOBİ'ler için alternatif bir finansman aracı sunan tedarik zinciri finansmanı düzenlemeleri finansal açıdan ele alındığında, tedarik zinciri finansmanı düzenlemeleri, KOBİ ve banka arasındaki enformasyonel sorunları azaltmak ve finansal kısıtlamaları kolaylaştırmak amacıyla KOBİ'lerin finansman maliyetini azaltmaktadır. Bu şekilde, daha etkili sermaye yatırımı ve işletme kararlarının yolunu açılmakta ve doğrudan finansal tasarruf sağlanmaktadır (Tanrısever, 2017: 10). Tedarik zinciri finansmanı işletme sermayesinin optimize edilmesine, tedarik zinciri riskinin en aza indirilmesine ve KOBİ'lerin performansının artırılmasına da yardımcı olmaktadır (Ali vd., 2020: 132). Lojistik finansmanı, ise karşılıklı fayda sağlamak ve kazan-kazan sonuçları elde etmek için lojistik işletmelerini, finans şirketlerini ve finansman kurumlarını etkin bir şekilde entegre edebilen yeni bir finansman modelidir (Wang, 2022: 1). Lojistik finansmanı, ticari bankaların tedarik zincirinin lojistik sisteminin önemli bir halkası haline

gelmesini, sistemin sermaye akışları, lojistik, bilgi akışları ve iş akışlarının operasyonlara entegre edilmesini ve tedarik zincirinin değer yönetiminin genel entegrasyonunu sağlamasına olanak tanımaktadır (Wang vd., 2008: 2). Lojistik ve finansal hizmetin birleşimi olan lojistik finansmanı ile tedarik zinciri finansmanı arasındaki en büyük fark, hedef müşteride yatmaktadır. Tedarik zinciri finansmanı genellikle tedarik zincirindeki ana işletmelerin yardımıyla KOBİ'leri destekleyen bir finansal araç olarak kabul edilmektedir. Lojistik finansmanı ise genellikle lojistik şirketlerinin lojistik, sermaye ve bilgi akışlarını etkin bir şekilde organize etmelerinde yardımcı olmaktadır (Li vd., 2020: 2).

Blokzinciri teknolojisi, merkeziyetsizlik, şeffaflık ve değiştirilemezlik gibi özellikleri nedeniyle iş ortakları için güvenlik avantajları sağlamaktadır; bu unsurlar tedarik zinciri platformlarının şeffaflığı ve güveni artırmasına ve katılımcılar arasında işlem manipülasyonu olasılığını azaltmasına olanak sağlamaktadır (Tsai, 2023: 441). Tedarik zinciri yönetimi, lojistik ve finansın kesişme noktası olan tedarik zinciri finansmanı, şüphesiz blokzinciri ile güçlendirilebilir (Ning ve Yuan, 2023: 1084). Son yıllarda geleneksel tedarik zinciri finansmanı birçok sorunla karşılaşmış ve geleneksel tedarik zinciri finansmanını blokzinciri teknolojisi ile güçlendirmek giderek bir trend haline gelmiştir (Rao ve Li, 2022: 1). Blokzinciri odaklı tedarik zinciri finansmanının geliştirilmesi, KOBİ'lerin finansman sorunlarını çözmeyi amaçlamakta ve finansman sorunlarını için etkili bir çözüm yolu sunmaktadır (Yu vd., 2021; Xiao vd., 2022; Su vd., 2022).

Bu çalışmanın amacı küçük ve orta boy işletmelerde (KOBİ) blokzincir tabanlı lojistik ve tedarik zinciri finansmanı konusundaki çalışmaların sistematik literatür taramasını yapmak ve bu çalışmaların eğilimleri belirlemektir. Finansmana erişimde alternatif bir çözüm olan blokzincir tabanlı lojistik ve tedarik zinciri finansmanı ile ilgili literatür son yıllarda hızla gelişmesine rağmen bu konudaki ampirik ve teorik çalışmalar halen sınırlıdır. Konunun sistematik literatür taramasını gerçekleştirmek konunun bütüncül bir yaklaşımla değerlendirilmesine ve gelecekteki çalışmalar için temel oluşturulmasına katkı sağlayacaktır. Bu kapsamda çalışmada öncelikle blokzincir tabanlı lojistik ve tedarik zinciri finansmanı kavramları açıklanmış, çalışmanın sonraki bölümlerinde metodoloji ortaya konulmuş ve Seçilen anahtar kelimeler ve dahil etme hariç tutma kriterleri uygulanarak Scopus ve Web of Science (WoS) veri tabanlarında yapılan aramalar sonucunda elde edilen veriler "EndNote 20" ve "R Biblioshiny" paket programları yardımıyla incelenerek mevcut literatürün kapsamlı bir analizi sunulmuştur. Son olarak tartışma ve sonuç bölümünde, genel değerlendirme ve gelecekte yapılacak araştırmalar için önerilerle çalışma sonlandırılmıştır.

2. ARAŞTIRMA YÖNTEMİ

Sistematik literatür taraması "belli bir konuda hazırlanmış araştırma sorusuna yanıt bulmak için, belirlenmiş ölçütlere uygun olarak aynı konuda yapılmış çalışmaların sistemli ve yan tutmadan taranması, bulunan çalışmaların geçerliğinin değerlendirilmesi ve sentezlenerek birleştirilmesidir" (Çınar, 2021: 310). Çalışmanın bu bölümünde çalışmaları tüm yönleri ile ele almak ve daha objektif bir literatür taraması yapmak amacıyla PRISMA (Sistematik Analiz ve Meta Analizler için Tercih Edilen Raporlama Protokolü) protokolü çerçevesinde yapılan sistematik literatür taramasına yer verilmektedir. PRISMA Beyanı, sistematik incelemelerin ve meta-analizlerin şeffaflığını artırmak için tasarlanmış bir raporlama kılavuzudur (Page ve Moher, 2017: 1).

Tablo 1: Anahtar Kelimeler ve Arama Parametreleri

• Small and Medium-Sized Enterprises	• Credit
• SMEs	• Invesment
• Blockchain, Block-Chain	• Payment
• Supply Chain	• Finance, Financing
• Logistic	• Supplier Finance

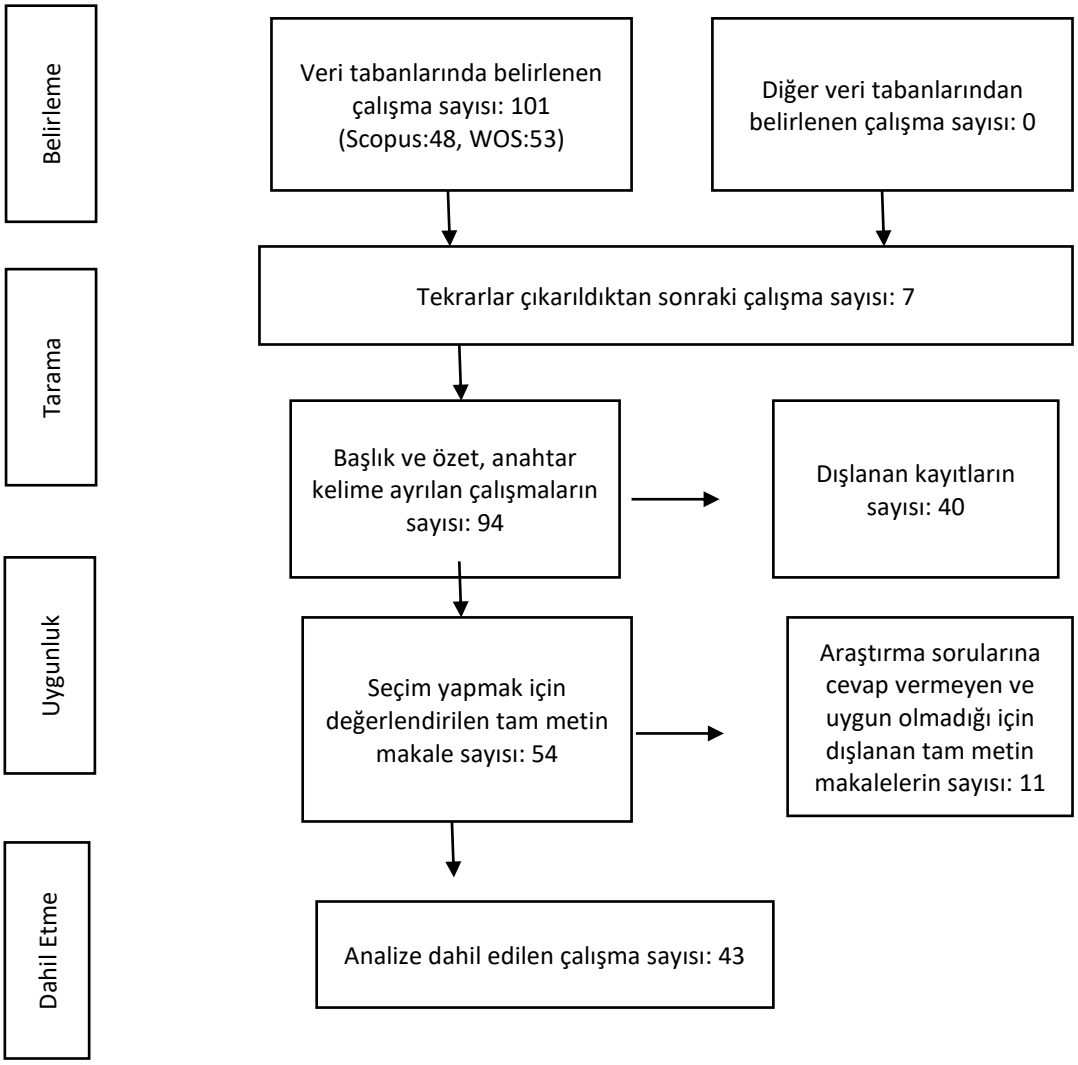
("Small and Medium-Sized Enterprises" OR "SMSs") AND ("Blockchain" OR "Block-Chain") AND ("Supply Chain" OR "Logistic") AND ("Credit" OR "Invesment" OR "Payment" OR "Finance" OR "Financing")

Çalışmanın verileri en kapsamlı bilimsel veri tabanları arasında yer alan Scopus ve Web of Science (WoS) veri tabanlarından elde edilmiştir. Scopus'ta arama yapmak için seçilen alan "makale başlığı, özet, anahtar kelimeler", WoS Core Collection'da ise "Konu" (Başlık, özet, yazar anahtar kelimeleri ve Keywords Plus®'ı kapsayan) alandır.

Veri tabanlarında arama yaparken çeşitli dahil etme ve hariç tutma kriterleri uygulanmıştır. Araştırmaya sadece İngilizce yayınlar araştırmaya dahil edilmiştir. Ayrıca veri tabanlarında 20.02.2025 tarihine kadar yayınlanmış tüm makaleler dahil edilerek kitap bölümleri, bildiriler ve literatür taraması makaleleri hariç tutulmuştur.

Veri tabanlarında yapılan aramalar sonucunda Scopus (92) ve Web of Science (WoS) (56) toplam 148 kaynağa ulaşılmıştır. Ardından dahil etme hariç tutma kriterleri uygulanarak Scopus (48) ve Web of Science (WoS) (53) toplam 101 kaynağa ulaşılmış ve veriler EndNote20 programına yüklenmiştir. Sonraki aşamada tekrar eden 7 makale elenerek 94 makale bir sonraki aşamaya geçirilmiştir. 94 makalenin başlık, özet ve anahtar kelimeleri taranarak tam metin incelemesine alınacak 54 makale elde edilmiştir. 54 makale arasından tam metinlerine ulaşılamayan ve araştırma sorularına cevap vermediği düşünülen 11 makale analizden çıkarılmış ve 43 makale değerlendirmeye alınmıştır. PRISMA protokolü ile yapılan taramanın akışı Şekil 1'de detaylı gösterilmektedir.

Şekil 1: Sistematik Literatür Taraması Süresi



Kaynak: Moher vd., 2009: 877

3. BULGULAR

Veri çekme sürecinde araştırmaya dahil edilen 43 makale yazar, yıl, dergi, anahtar kelime ve konularına göre sınıflandırılmıştır. Bu bölümde yapılan incelemeler sonucunda elde edilen bulgular sunulmuştur.

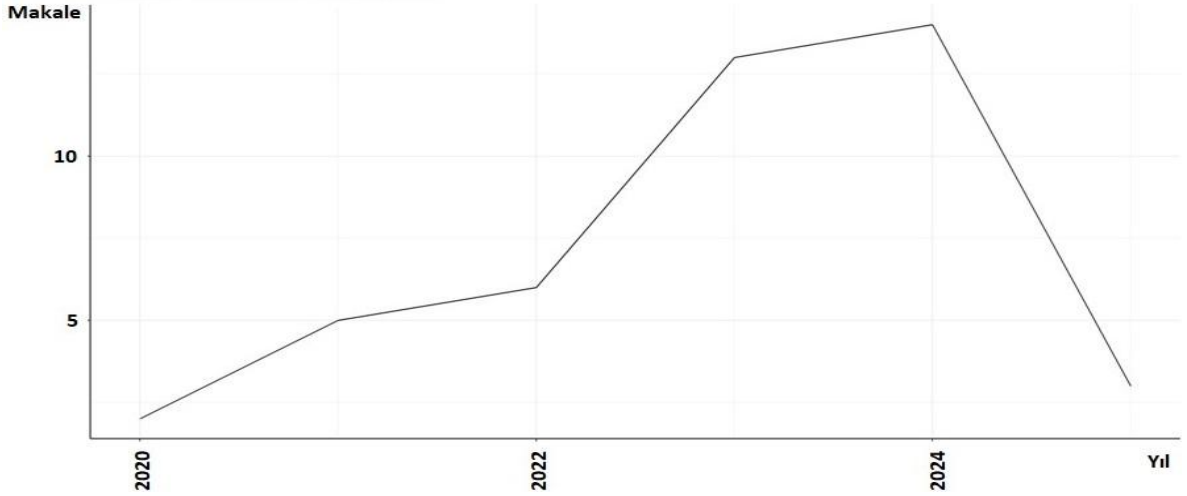
Tablo 2'de Scopus ve Web of Science (WoS) veri tabanlarında Seçilen anahtar kelimeler ve dahil etme hariç tutma kriterleri uygulanarak yapılan aramalar sonucunda elde edilen veri seti hakkında genel bilgiler yer almaktadır.

Tablo 2: Veri Seti Hakkında Ana Bilgiler

Zaman aralığı	2020: 2025	**Yazarlar**	121
Kaynaklar (Dergi vb.)	35	**Tek Yazarlı Makalelerin Yazarları**	4
Makale Sayısı	43	**Tek Yazarlı Makaleler**	4
Yıllık Büyüme Oranı %	8,45	**Makale Başına Ortak Yazar Sayısı**	3,4
Makale Başına Ortalama Atıf	14,44	**Uluslararası Ortak Yazarlık %**	25,58
Referanslar	1436		

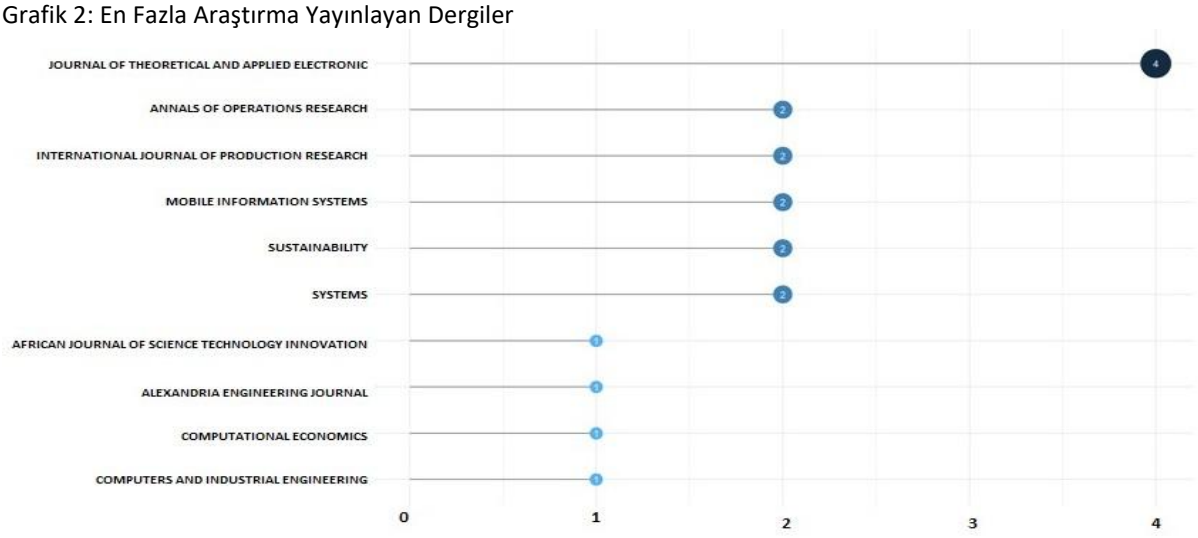
Tablo 2'ye göre 2020'den 2025'e kadar 35 kaynakta (dergi vb.) 43 farklı makalenin yer aldığı görülmektedir. Bu makalelerin yıllık büyüme oranının %8,45 olarak belirlenmiştir. Çalışmalara katkıda bulunan 121 yazar bulunmaktadır. Bunlardan 6'sı tek yazarlı makalelerde farklı yazarlar olarak yer almaktadır.

Grafik 1: Yıllar İtibariyle Bilimsel Üretim



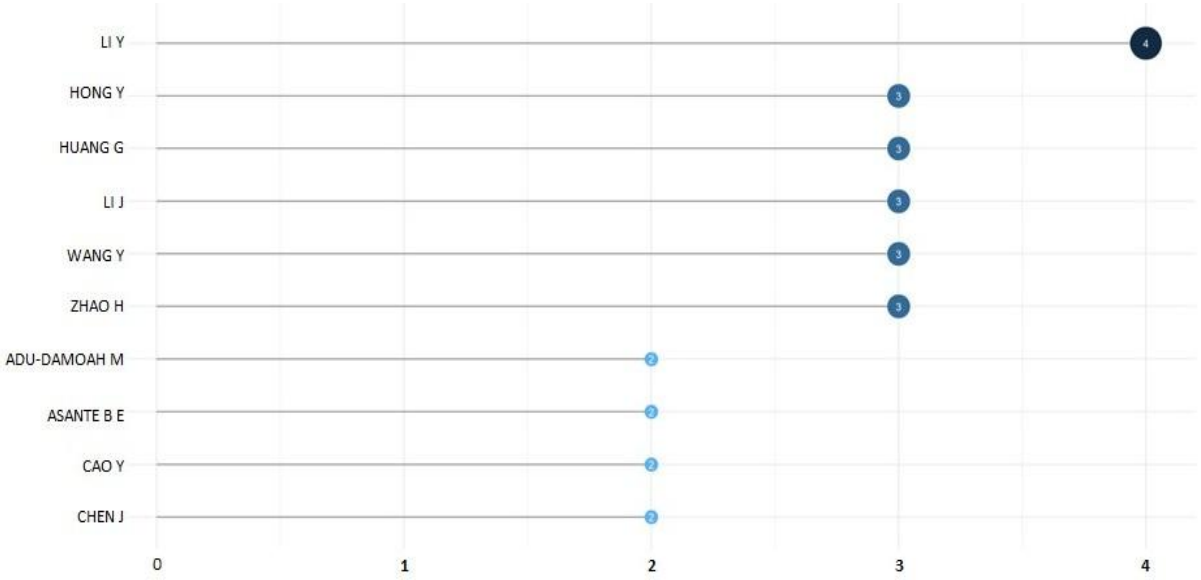
Grafik 1 yıllar itibariyle yayımlanan makale sayısını ve konuya dair zaman içindeki değişimleri ortaya koymaktadır. Grafik 1'e göre en fazla yayın 2024 yılında yapılmıştır. 2020 yılı itibariyle yayın sayısında belirgin bir artış gözlemlenmiştir. Araştırma 20.02.2025 tarihine kadar olan makaleleri kapsadığı için 2025 yılı, bu tarihe kadar yayınlanan makaleler çerçevesinde değerlendirilmiştir.

Grafik 2: En Fazla Araştırma Yayınlayan Dergiler



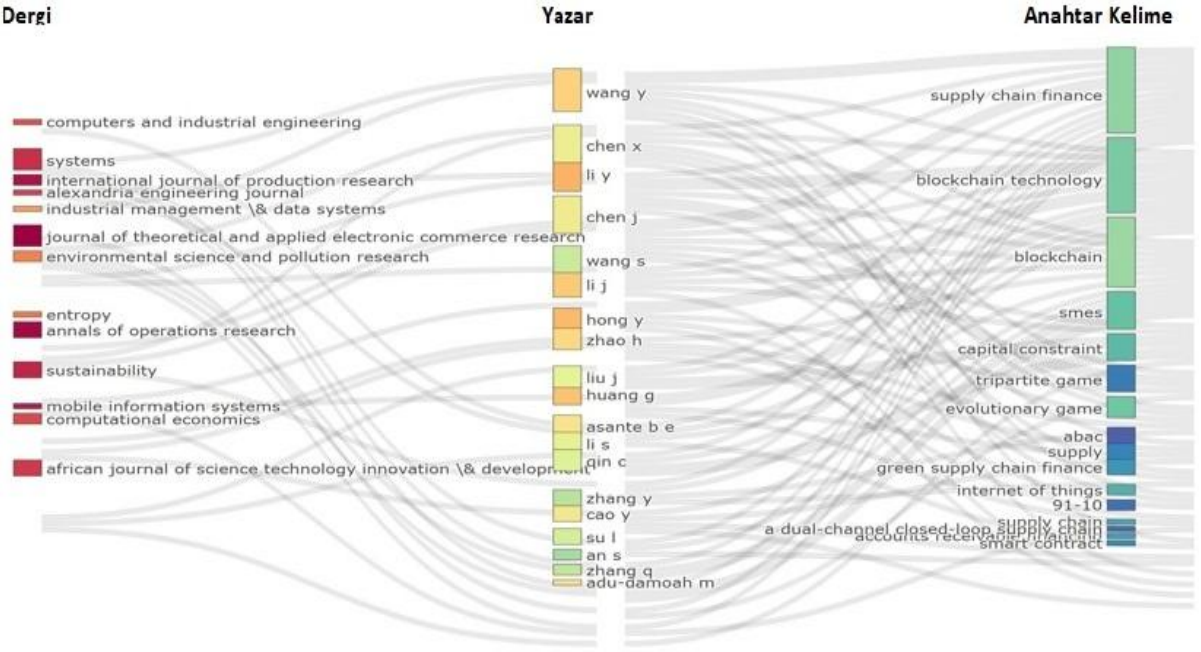
Grafik 2'de Veri setinde yer alan makalelerin yayınlandığı ilk on sıradaki dergilere yer verilmektedir. Grafik 2'ye göre en fazla makalenin yayınlandığı derginin "Journal of Theoretical and Applied Electronic Commerce Research" olarak öne çıktığı tespit edilmiştir.

Grafik 3: En Etkili Yazarlar



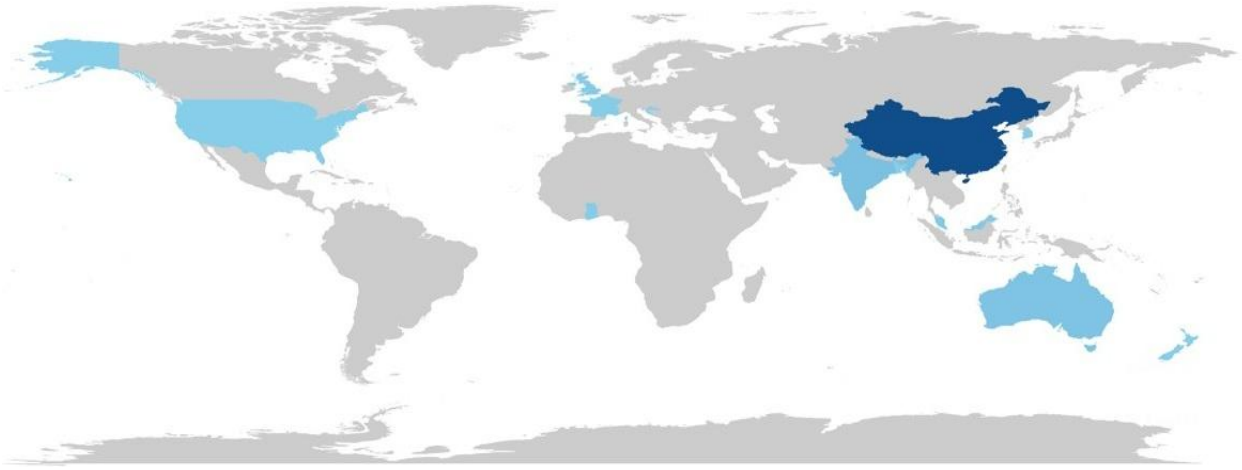
Grafik 3'te bu konuda en çok yayın yapan yazarlara yer verilmiştir. Grafiğe göre en çok yayın yapan yazarlar Li Y, 4 yayın yapmış ve katkısı 1,03 olarak belirlenmiştir.

Grafik 4: Üç Alan Grafiği



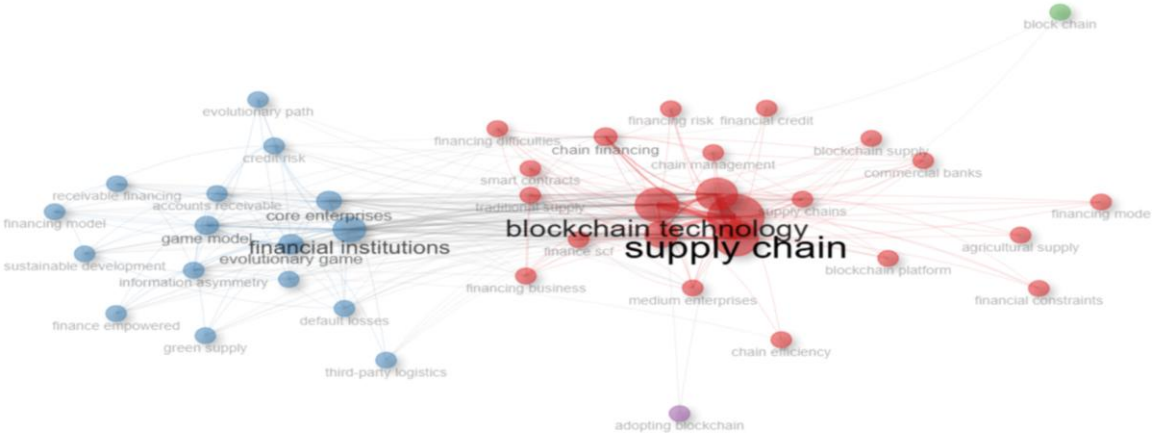
Grafik 4'te 3 tane alan (solda kaynaklar, ortada yazarlar, sağda ise anahtar kelimeler yer almaktadır) ve bu alanların birbiri ile olan ilişkisi yer almaktadır. Şekildeki kutular ne kadar büyük ve bağlantılar ne kadar kalın ise ilişkisel büyüklükte o kadar fazladır. Dolayısıyla en etkin yazar Wang Y., "Systems" dergisinde yayın yapmış ve çalışmalarında en fazla "Supply Chain Finance" kullanılan anahtar kelimesini kullanmıştır.

Şekil 2: Ülkelerin Bilimsel Üretimi



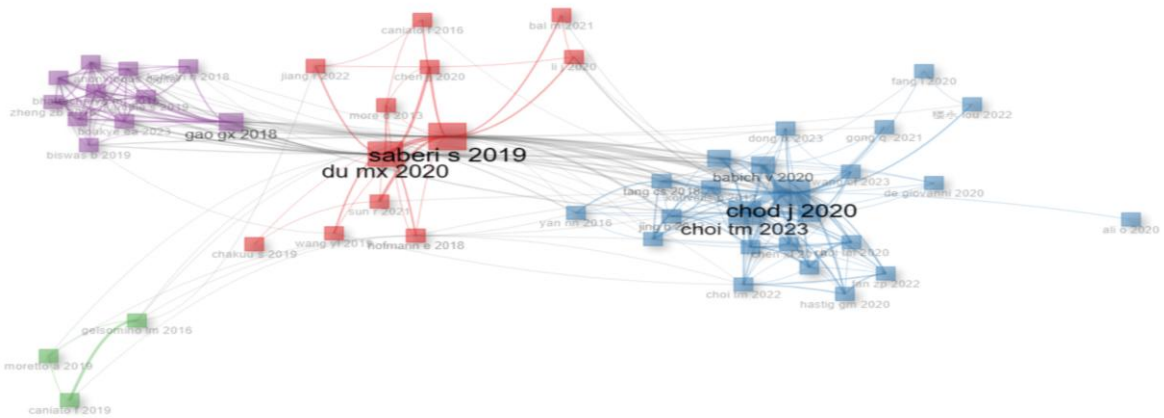
Şekil 2'de bu konuda en fazla çalışma yapılan ülkeler yer almaktadır. Yazarların ülkeleri göz önünde bulundurulduğunda en çok yayın yapılan ülkenin Çin olduğu görülmektedir. Çin'in ardından sırasıyla Hindistan, Avustralya, Malezya en fazla yayın yapılan ülkelerdir.

Şekil 3: Eş Kelime Analizi



Eş kelime analizi, veri setinde yer alan makalelerde kullanılan anahtar kelimelerin birlikte kullanılması ile oluşturulan yapıyı göstermektedir. Şekilde yer alan düğümlerin büyümesi ve aynı renkte olması anahtar kelimelerin birlikte daha çok kullanıldığı ve bir küme oluşturduğu anlamına gelmektedir. Bu bağlamda her renk bir kümeyi temsil etmektedir. Şekil 3'te anahtar kelimelerin 4 küme oluşturduğunu görülmektedir. Kümelerin yapıları incelendiğinde en büyük düğümde "blockchain technology" ve "supply chain" en fazla tekrar eden ve ilişki gücü en yüksek olan anahtar kelimelerdir.

Şekil 4: Eş Atıf Analizi



Şekil 4'te eş atıf analizine yer verilmiştir. Şekil 4 veri setini oluşturan makalelerin kaynakçalarında yer alan çeşitli referans listelerindeki çalışmaların diğer makalelerin kaynakçalarında birlikte bulunma durumlarını göstermektedir. Düğümler birlikte atıf alma sayısına göre daha çok büyümekte ve aralarındaki ilişkiye göre bağlantılar kalınlaşmaktadır. Burada farklı renkler farklı kümeleri temsil etmekte olup, aynı renkteki kümede yer alan yazarların diğer makalelerin kaynakçalarında sıklıkla birlikte yer aldıklarını göstermektedir.

Sistematik literatür taraması sonucunda araştırmaya dâhil edilen çalışmaların tarama sonuçları Tablo 3'te sunulmaktadır

Tablo 3: Sistematik Literatür Taramasına Dahil Edilen Makalelere İlişkin Bilgiler

Yazar	Yıl	Dergi	Araştırma Konusu
Chen vd.,	2020	Entropy	Çin'deki KOBİ'lerin tedarik zinciri finansmanı için blokzinciri odaklı bir platformu tanıtılmaktadır.
Li vd.,	2020	Robotics and Computer-Integrated Manufacturing	Lojistik finansmanını kolaylaştırmak amacıyla blokzinciri destekli bir lojistik finansman yürütme platformu önerilmektedir.
Hong	2021	Mobile Information Systems	Nesnelerin interneti ve blokzincirine dayalı yeni gıda tedarik zinciri finans modellerinin ayrıntılı bir özeti sunulmaktadır.
Harish vd.,	2021	Computers & Industrial Engineering	Lojistik finansmanı için IoT, CPS ve blokzinciri teknolojisinden yararlanan bir lojistik finansman platformu tanıtılmaktadır.
Sun vd.,	2021	Journal of Theoretical and Applied Electronic Commerce Research	Tedarik zinciri finansmanında blokzincir teknolojisinin mekanizmasını analiz edilerek finansman risklerinin azaltılması hedeflenmektedir.
Xu vd.,	2021	Mathematical Problems in Engineering	Tedarik zincirini blokzinciri teknolojisiyle birleştirerek blokzincirinin taşıma kapasitesi tedarik zinciri finansmanı üzerindeki etkisini araştırmaktadır.
Yu vd.,	2021	International journal of production research	Blokzincir teknolojisine sahip çok taraflı bir platform için finansman stratejisi analizi yapılmaktadır.
Liu vd.,	2022	Sustainability	Tedarik zinciri finansmanında blokzinciri teknolojisinin uygulanması ve tedarik zincirinin işleyişinde KOBİ'lerin karşılaştığı finansman sorunlarına odaklanılmaktadır
Rao ve Li,	2022	Wireless Communications and Mobile Computing	Blokzinciri tedarik zinciri finansmanı risk değerlendirme ve davranış tahmin algoritması önerilmektedir.
Su vd.,	2022	Journal of Theoretical and Applied Electronic Commerce Research	Evrimsel oyun teorisini kullanarak blokzinciri teknolojisinin finansal kuruluşlar ve Küçük işletmeler ve KOBİ'ler üzerindeki etkisini analiz edilmektedir.
Wang ve Wang,	2022	Alexandria engineering journal	Tedarik zinciri finansmanında blokzincirinin durumu ile yönetim sistemi, tedarik zincirinin nakit akışı ve risk kontrol sistemi incelenmektedir.
Xiao vd.,	2022	Information	Blokzinciri odaklı tedarik zinciri finansmanında KOBİ'lerin kredi riskini etkileyen faktörler incelenmektedir.
Xie	2022	Mobile Information Systems	Tedarik zinciri finansmanı, tedarik zinciri finansal kredi riski kontrolü ve blokzinciri teorisi arasındaki ilişkileri incelenmekte ve bu bağlamda KOBİ'lerin rolünü açıklanmaktadır.
An vd.,	2023	Industrial Management & Data Systems	Tedarik zincirinde küçük ve orta ölçekli tedarikçilerin karşılaştığı finansal kısıtlamaları çözmek için blokzinciri teknolojisini kullanmanın etkinliği araştırılmaktadır.
Deng vd.,	2023	Environmental Science and Pollution Research	Çevrimiçi tedarik zinciri finansmanında blokzincirinin teşvik sözleşmeleri üzerindeki etkisi incelemektedir.

Gao	2023	IETE Journal of Research	Tedarik zinciri finansmanı kavramı, işlevi ve riskleri incelenmektedir. Ayrıca kredi ve piyasa riskini azaltmak için yeni bir model tasarlamak üzere nesnelerin interneti teknolojisi ile entegre lojistik modeli önerilmektedir.
Huang vd.,	2023	Frontiers in Energy Research	Düşük kredi notu nedeniyle finansman zorluğu çeken, KOBİ'ler için üretici, e-ticaret platformu, lojistik şirketi ve tüketicilerden oluşan çift kanallı bir tedarik zinciri modeli incelenmektedir.
Huo ve Xue,	2023	Discrete Dynamics in Nature and Society	İmalat sanayinde kullanılan blokzinciri destekli finansman modeli tanıtılarak, çiftçinin finansal kısıtlarını dikkate alan üç aşamalı bir tarımsal tedarik zinciri oluşturulmaktadır.
Li vd.,	2023	The Journal of Supercomputing	Tedarik zinciri finansmanı için blokzinciri tabanlı bir güvenli depolama ve erişim kontrol şeması önerilmektedir.
Li vd.,	2023	Managerial and Decision Economics	Tedarik zinciri finansmanındaki kredi riski sorununu ele almak amacıyla, blokzinciri tabanlı envanter finansmanının üç taraflı dinamik evrimsel oyun modeli incelenmektedir.
Liu vd.,	2023	International journal of production research	Üç seviyeli bir tedarik zincirini ele almakta ve blokzinciri teknolojisiyle desteklenen bir finansman modeli olan blokzinciri platform finansmanının işleyişini ve stratejilerini araştırılmaktadır.
Miller vd.,	2023	Computers in Industry	Blokzinciri tabanlı merkeziyetsiz finans (DeFi) teknolojisinin kullanımından yararlanmaya yönelik bir üniversite-sanayi iş birliği çalışması raporlanmaktadır
Qin ve Hong,	2023	Symmetry	Blokzinciri tabanlı bir modelle finans kurumları, KOBİ'ler ve lojistik işletmelerini içeren evrimsel bir oyun modeli oluşturularak ve finansman taahhütleri blokzinciri perspektifinden incelenmiştir.
Su ve Cao,	2023	Systems	Evrimsel bir oyun modeli ile KOBİ finansmanında için blokzincir tabanlı teşvik ve kısıtlama mekanizmaları geliştirmek amaçlanmaktadır.
Tsai	2023	Annals of Operations Research	Tedarik zinciri finansman süreçlerindeki zorlukları ele almak için blokzinciri destekli alternatif bir tedarik zinciri finansman modeli önerilmektedir.
Zhang vd.,	2023	Journal of Theoretical and Applied Electronic Commerce Research	Merkez bankası parasını tedarik zinciri finansmanına entegre eden bir çerçeve sunularak blokzinciri kullanımına katkı sağlanmaktadır.
Asante Boakye vd.,	2024	African Journal of Science, Technology, Innovation and Development	Gana'daki KOBİ'ler için blokzinciri tabanlı tedarik zinciri finansmanın benimsenmesini etkileyen faktörleri önceliklendirmek amacıyla bir resimli bulanık tercih seçim endeksi yöntemi geliştirilmektedir.
Asante Boakye vd.,	2024	Technology analysis & strategic management	Ganalı KOBİ'lerde blokzinciri tabanlı tedarik zinciri finansmanının benimsenmesini etkileyen teknolojik, örgütsel ve çevresel faktörler incelenmektedir.
Chen vd.,	2024	Annals of Operations Research	Çift kanallı kapalı döngü tedarik zinciri çerçevesinde geleneksel tedarik zinciri finansmanı ile blokzinciri destekli tedarik zinciri finansmanı karşılaştırarak blokzinciri teknolojisinin benimsenmesinin operasyonel ve ekonomik etkileri incelenmektedir.
Hong ve Qin,	2024	Computational Economics	Dijital teknoloji platformlarına dayalı yeşil tedarik zinciri finansmanında katılımcıların davranışlarının oyun analizini gerçekleştirmektedir.

Jiang vd.,	2024	Plos one	Blokzinciri teknolojisi endüstriyel internet platformuna entegre edilmekte ve her ikisinin de tedarik zincirinin finansal güvenini güçlendirmede uygulanabilirliği analiz edilmektedir.
Kaur vd.,	2024	Electronic Commerce Research	KOBİ'lerin tedarik zinciri finansmanı uygulamalarında blokzincirinin benimsenmesinin önündeki engeller araştırılmaktadır.
Kumar vd.,	2024	Entrepreneurial Business and Economics Review	KOBİ'lerde blokzinciri teknolojisinin uygulanması ve benimsenmesi kapsamlı bir şekilde incelenmektir.
Shu vd.,	2024	Journal of Cloud Computing	Tedarik zinciri finansmanı için blokzinciri tabanlı güven modeli önerilmektedir.
Sun vd.,	2024	Systems	Çin'deki dijital tedarik zinciri finansmanı uygulamasının arkasındaki teorik mekanizma sistematik olarak incelenmektedir.
Wang vd.,	2024	Mathematics	Tedarik zincirlerindeki finansal risklerin azaltılmasında blokzinciri uygulamasını araştırmak için evrimsel oyun teorisi kullanılmaktadır.
Wu vd.,	2024	Sustainability	İki katmanlı bir tedarik zincirinde finansal uygulanabilirliği artırarak verimlilik ve karlılığı iyileştirecek stratejileri araştırılmaktadır
Zhan vd.,	2024	Journal of Theoretical and Applied Electronic Commerce Research	Tedarik zinciri finansmanında blokzinciri teknolojisinin etkisini incelemek amacıyla üçlü bir evrimsel oyun modeli oluşturulmakta ve tedarik zinciri finansmanındaki stratejik kararları ve sistemin evrimsel sürece etkisi analiz edilmektedir.
Zhang vd.,	2024	RAIRO-Operations Research	Blokzinciri destekli stok rehin finansmanının taraflar üzerindeki etkisi ve teorik uygulama koşulları incelenmektedir.
Zhu vd.,	2024	International Transactions in Operational Research	Tedarik zinciri finansmanında blokzinciri teknolojisi uygulamasının etkileri talep oynaklığı perspektifinden incelenmektedir.
Asante Boakye vd.,	2025	Journal of the International Council for Small Business	Blokzinciri teknolojisi destekli tedarik zinciri finansmanının benimsenmesini sağlayan unsurlara odaklanılmaktadır.
Hu vd.,	2025	Polish Journal of Environmental Studies	Maliyet perspektifinden blokzincir destekli yeşil tedarik zinciri finansmanının işleyişi ve paydaşların stratejik davranışları incelenmektedir.
Huang vd.,	2025	Kybernetes	Blokzinciri uygulamasından önce ve sonra stok rehin finansmanında stratejik etkileşimleri inceleyerek banka, KOBİ'ler ve lojistik sağlayıcı içeren bir model geliştirilmektedir.

SONUÇ

Günümüzde dijital dönüşüm sürecinin ivme kazanmasıyla birlikte blokzincir teknolojisi, işletmelerin tüm faaliyet alanlarında kendine yer bulmaya başlamıştır. Özellikle küresel ticaretin getirdiği belirsizlikler, lojistik ve tedarik zinciri süreçlerinin karmaşıklığı ve bu süreçlerde karşılaşılan finansal zorluklar nedeniyle blokzinciri destekli lojistik ve tedarik zinciri finansmanı konusuna olan ilgi artmıştır. Bu çalışmada KOBİ'lerde blokzincir tabanlı lojistik ve tedarik zinciri finansmanı ile ilgili makalelerin eğilimleri belirlemek için sistematik literatür taraması yapılmıştır.

Yapılan sistematik literatür taraması sonucunda analize dahil edilen çalışmaların yıllık büyüme oranının %8,45 olarak belirlenmiştir. Çalışmalara katkıda bulunan 121 yazar olduğu tespit edilmiştir. Yapılan yayın sayısında 2020 yılı itibariyle belirgin bir artış gözlemlenmiş ve en fazla yayının 2024 yılında yayınlandığı tespit edilmiştir. En çok yayın yapan yazar Li Y. 4 yayın yapmış ve katkısı 1,03 olarak belirlenmiştir. Konuya ilişkin çalışmaların son yıllarda

artma eğilimi göstermesi konuya verilen önemin arttığını göstermektedir. En fazla makalenin yayınlandığı derginin "Journal of Theoretical and Applied Electronic Commerce Research" olduğu belirlenmiştir. Konuda en çok yayın yapılan ülkenin ise Çin olduğu tespit edilmiştir. Çin'in ardından sırasıyla Hindistan, Avustralya, Malezya gelmektedir. İncelenen makalelerde genellikle blokzinciri odaklı bir platformun sunulması, tedarik zinciri finansmanında blokzinciri teknolojisinin uygulanabilirliği, blokzinciri teknolojisi destekli tedarik zinciri finansmanının benimsenmesini sağlayan unsurlar ve tedarik zincirlerindeki finansal risklerin azaltılmasında blokzinciri uygulamasının araştırılması gibi konular üzerine odaklanıldığı görülmektedir. Bu çalışmadan elde edilen bulguların konunun bütüncül bir yaklaşımla değerlendirilmesine ve gelecekteki çalışmalar için temel oluşturulmasına katkı sağlayacağı düşünülmektedir.

Bu çalışma sadece Scopus ve Web of Science (WoS) veri tabanlarında taranan küçük ve orta boy işletmelerde blokzincir tabanlı lojistik ve tedarik zinciri finansmanı konusundaki makalelere odaklanmıştır. Bu nedenle gelecekteki çalışmalarda, konu farklı veri tabanları (Google akademik, ScienceDirect vb.) kullanarak ve Türkçe literatür incelenerek daha geniş perspektiflerden ele alınabilir.

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Assessing Consumer Behavior on Food Waste in Developing Countries

Eda Luga[1] **Gentjan Mehmeti**[2]

[1] Agricultural University of Tirana, eluga@ubt.edu.al, ORCID: 0009-0009-7152-8316

[2] Agricultural University of Tirana, gmehmeti@ubt.edu.al, ORCID: 0000-0001-7884-9563

Abstract: Sustainable food production and distribution systems aim to provide food security and nutrition for all people. This leads to better production decisions, higher quality food, and improved well-being. On the other hand, the failure of modern food systems is the cause of several sensitive issues such as: food insecurity and malnutrition, rural poverty and livelihood vulnerability, as well as social inequality. Some strategic initiatives have focused on specific stages of the food chain, others are more comprehensive such as: short food supply chains, alternative food networks, reduction of food losses and waste, etc. Reducing food losses and waste is widely seen as a way to reduce negative impacts on production and increase the effectiveness of the food system. The purpose of this paper is to assess consumer awareness toward food waste, to identify the various sources and causes of food waste creation and to highlight the actions taken by consumers to avoid it. Consumers have different food waste behaviors for different food product categories. For this reason, it is important to identify the food categories where food waste behavior is most prevalent. Data collection will be carried out face-to-face with Albanian consumers with a semi-structured questionnaire. The results of this paper will further contribute to the knowledge of food waste behavior in developing countries to better address interventions to reduce them.

Keywords: food waste, consumer behavior, developing countries

1. INTRODUCTION

Food behavior is part of the consumer's daily routine and an important part of consumer spending. This represents a share of 14.3% of total household expenditure and 39% of total household in Albania (Eurostat, 2024). Food consumption and its reduction are an integral part of consumer behavior. Consumers apparently do not want to waste food, but at the same time they waste food.

The high amounts of food waste (FW) occurring at the household level drive interest in finding ways to prevent their effects on the environment (Parfitt et al., 2010). Consumer behavior in relation to food consumption is related to food shopping and preparation. Consumers, on the other hand, claim that their shopping routine drive them to buy controlled amounts of food (Parizeau et al., 2015). In contrast, according to Evans (2011), people buy more food than they need. Some of the reasons that are related to excessive consumer purchases are: changes in consumer tastes and preferences, consumer identity, marketing interventions, time, bulk purchases, sales in large quantities (Evans, 2011; Rowe et al., 2014; Porpino et al., 2016).

Another phase where FW can occur is the storage and cooking of products. This phase is considered responsible for a good part of FW (Aschemann-Witzel et al., 2015). The lack of consumer knowledge in this phase leads to a considerable volume of FW (Waitt & Philips, 2016). Also, various authors emphasize that FW occurs during food consumption by not finishing the plate (Porpino et al., 2016). For this, suggestions have been given regarding the storage of food for another meal (Stancu et al., 2016).

Because FW comes from different sources, some authors have classified the forms of its reduction in a hierarchy (Wichaiutcha et al, 2019). According to this hierarchy, FW reduction begins with prevention, reuse, recycling, recovery and disposal (Papargyropoulou, 2014). Leftover food such as peels were more frequently wasted by consumers and, more likely, food is discarded after preparation, for example, food left on plates or the like (Cox & Downing, 2007). Thus, food is lost to waste due to unusual household processes associated with everyday events (Evans, 2012)

Detailed and valid estimation of FW is not simple and involves a very high cost process (Parizeau et al., 2015). This estimation involves collecting all waste that is disposed of by a household (WRAP, 2013). This estimation includes the method of collecting FW in special containers or entering data in a diary. (Wenlocket et al., 1980, Koivupuro et al., 2012). These methods have been complemented over time by the estimation of FW in a conclusive way. This method compares the food purchased with that consumed. The difference represents FW (Gallo, 1980).

A number of factors have been identified that influence the amount of household FW, such as: culture, norms, economic factors, consumer attitudes, etc., (Hebrok & Boks, 2017; Ponis et al., 2017). As for developing countries, there have rarely been any studies reported on FW.

This study, which aims to identify consumer perceptions and causes of household FW, was conducted in Albania. It was conducted with people who claimed to be actively involved in shopping and cooking at home.

2. CONSUMER PERCEPTION ABOUT FOOD WASTE AT HOUSEHOLD LEVEL

The year 1970 marks the beginning of the definition of the problem related to waste generation (Reynolds, 2023). Today we can say that the treatment of this topic has increased significantly and even the first estimates of FW have been made (Gustavsson et al., 2011).

It is acknowledged that data on interventions at the final consumer level in developing countries is lacking as more attention has been paid to the pre-food processing stages (FAO, 2019). As acknowledged by (Aschemann-Witzel et al., 2021), FW is a phenomenon closely linked to lifestyle and for developing countries, conclusions drawn for other countries need to be compared and tested.

Consumers, although they waste food, often believe that their FW is inevitable (WRAP, 2020). According to Quested et al., (2011), consumers have low awareness of the amount of food they waste and the environmental damage they cause. Consumers' perceptions of the amount of products they buy affect their perception of FW (Chandon and Wansink, 2006). The most commonly discarded food categories appear to be meat, fish, vegetables and dairy (Buzby and Hyman, 2012).

Consumers perceive a series of factors when it comes to FW. At the household level, the perception of FW is influenced by social, cultural, economic and institutional factors, which have different impacts on each household (Pariseau et al., 2015).

Several reasons cause FW in the household level as special offers from marketing stimulus, lack of food-related knowledge, lack or poor cooking skills, perceived social norms, personal values, and financial resources and cultural factors and elements related to different geographical and cultural contexts (Abeliotis et al., 2014; Canali et al., 2017; Quested et al., 2013; Stancu et al., 2016).

The demand for individual items to avoid losses (Bolton & Alba, 2012) is another factor that influences the perception of reducing FW (Baker et al., 2009; Graham-Rowe et al., 2014). It is also noted that FW makes the consumer experience emotions such as guilt (Graham-Rowe et al., 2014). Regarding environmental aspects, this factor seems to have less influence on consumer perception (Graham-Rowe et al., 2014).

Regarding FW prevention, consumers have positive attitudes and are recommended by experts, many consumers show optimal behavior such as using shopping lists and meal planning, in storing, purchasing, preparing and consuming food (Abeliotis et al., 2014). A large number of consumers know how they can reduce their FW at home, but do not act in accordance with their recommendations (Baker et al., 2009). The willingness to change behavior regarding FW is not the same for all consumers. Moreover, it is difficult to convince all family members to change their behavior and reduce FW.

According to WRI (2013), in assessing the causes that lead to avoidable FW by avoiding food parts such as bones or tea bags, the following were listed: 1. Home-cooked food that is stored but not consumed, 2. Fresh/unprocessed foods, for example a fruit or vegetable, that is left to spoil or mold, 3. Foods that may be edible but are not consumed due to consumer demands for freshness and taste (Gustavsson, 2011), 4. Packaged/canned food that has not been prepared or consumed, but has passed its expiration date (Papargyropoulou et al., 2014), 5. Food left over from cooking because it has not been cooked properly, 6. Food left over from not eating it on the plate due to large quantities served, 7. Food cooked in large quantities that remains unserved and unconsumed.

The study of factors that generate food losses as well as their evaluation has taken up the majority of the literature. Regarding the evaluation of interventions to promote the reduction of FW, several practices have been undertaken (WRAP, 2020). Such interventions include awareness campaigns, fairs (Ioannou et al., 2022), the use of bags that dedicate food to pets (Giaccherini et al., 2021). Another approach undertaken has been that of raising awareness about the environmental impact, although consumers are less informed about this factor. To promote consumer awareness and action, platforms have also been established that ensure the distribution of food from consumers who have excess to those in need (Makov et al., 2020; Lehn et al., 2023).

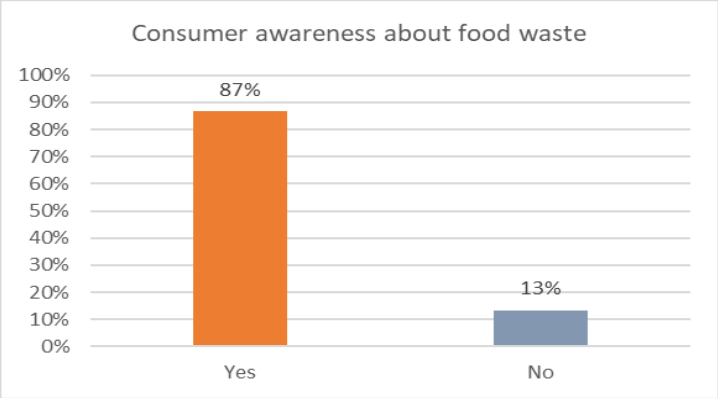
3. MEASURING AND DISCUSSING CONSUMER PERCEPTION OF FOOD WASTE

As mentioned above, the main purpose of this paper is to assess consumer awareness of FW. Data collection was done face-to-face with Albanian consumers using a semi-structured questionnaire. It should be noted that in the questionnaire, the consumer himself stated his perception of the amount of FW for different categories of food products. A total of 454 questionnaires were completed. After collecting information on the socio-demographic elements, in the second part of the questionnaire aimed to identify the various sources and causes of FW creation and to highlight the actions taken by consumers to avoid it. Consumers have different behaviors toward FW for different food product categories. For this reason, it is important to identify the food categories where FW behavior is most prevalent.

Consumers were asked several blocks of questions regarding their awareness of the concept of FW. Given the fact that consumers do not perceive that they produce waste or consider that the waste they realize is inevitable.

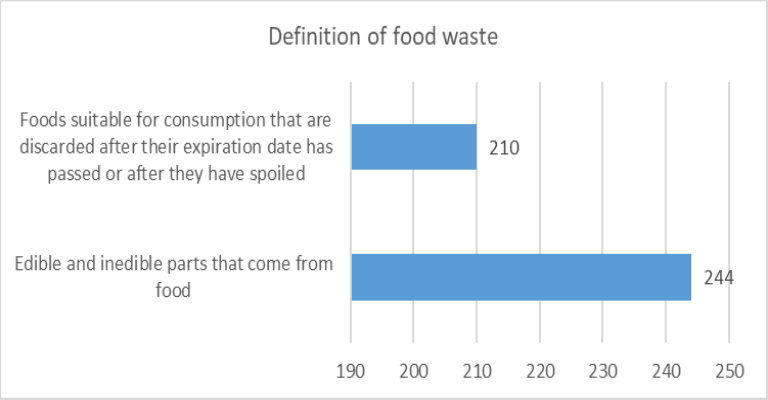
The first question was if they have heard of the concept of FW. From the sample taken in the analysis, it is noted that 393 or 87% of the respondents answered that they have knowledge about the concept of FW. Only 13% had no knowledge about it. This knowledge creates premises to consider the construction of an awareness raising communication.

Fig. 1: Consumer awareness about FW



The second question asked was how they would define FW. Two types of definitions have been proposed to the consumer. The definition defines FW as "*Foods suitable for consumption that are discarded after their expiration date has passed or after they have spoiled*" or "*Edible and inedible parts that come from food*". As Figure 2 shows, the definition that is closest to consumer perception of FW is the second one. 244 respondent define food waste as "edible and inedible parts that come from food".

Fig. 2: Definition of food waste according to the consumer



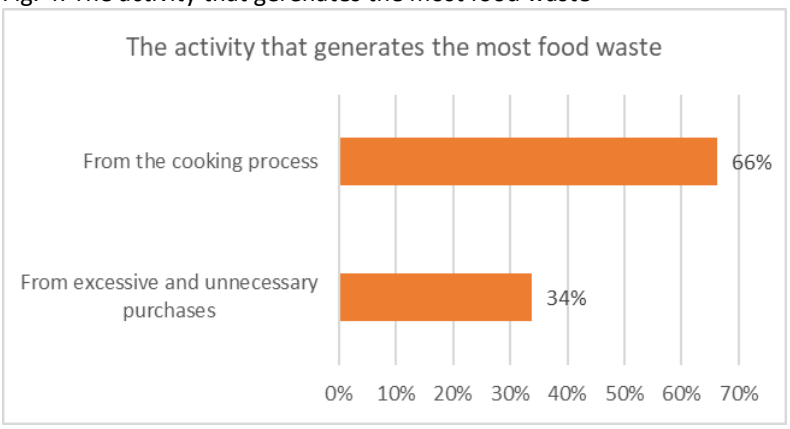
Although consumers may be knowledgeable about FW, it is no guarantee that they will engage in behaviors that reduce it. The third question addressed to consumers is related to how important or not they consider waste reduction. From Figure 3 it is noted that 88% of respondents consider avoiding FW important and very important, respectively (45% say it is very important and 43% say it is important).

Fig. 3: Avoiding food waste



As presented in the literature, consumers can produce FW at different stages of their food behavior. In this questionnaire, the stages are grouped into moments. Waste generated from shopping and waste generated from the cooking process. When asked where they create the most FW, 66% of respondents answered that they generate the most FW from the cooking process, compared to 34% of respondents who think that they generate FW from excessive and unnecessary purchases.

Fig. 4: The activity that gerenates the most food waste



The next section of questions asked consumers to rate from a list of alternatives the actions taken by them to reduce FW from the purchasing process and the cooking process, respectively. In the first case, it is noted that the consumer routine that dominates their actions is that of preparing a list before shopping. Thus, 263 consumers have selected this alternative as their most common choice to avoid excessive purchases and consequently losses from purchases, 244 respondents have stated that they buy after checking what is missing at home, 122 respondents shop only when they need the products. From the Figure 5, it is noted that deliberate or planned behavior dominates consumer actions to avoid losses from FW.

Fig. 5: Actions to eliminate waste from the purchasing process



In the second case, which is that of the creation of waste from the cooking process, which is the most important contributor to the production of FW in the family, it is noted that 258 of the respondents emphasize that their

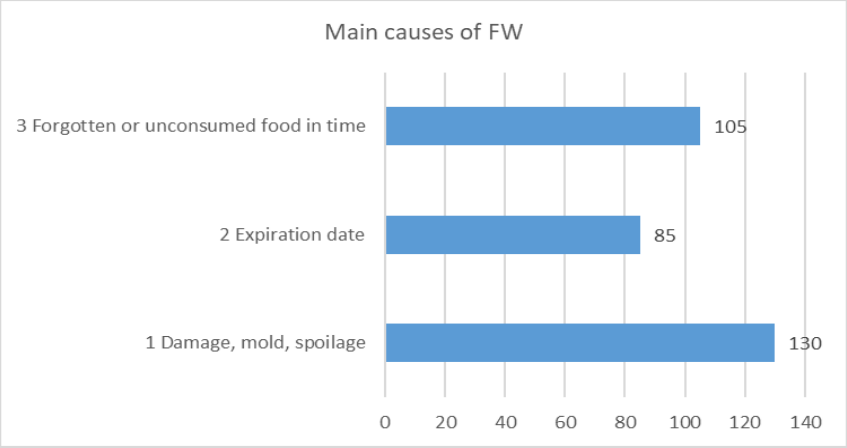
first action to avoid waste is saving food for another meal, the second rational choice seems to be the use of leftovers for another dish and the third action is cooking in small amounts of food.

Fig. 6: Actions to eliminate waste from the cooking process



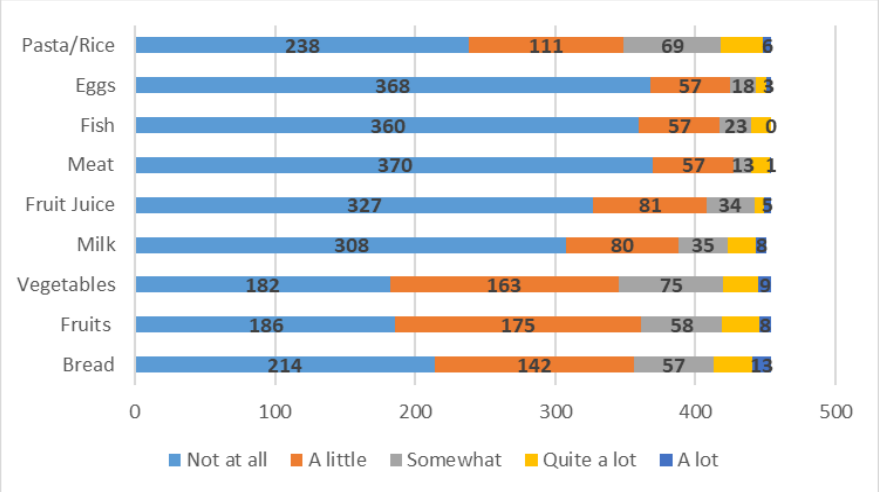
To measure consumers' overall perception of FW, they were asked about their perception of the main source of FW. It turns out that "damage, mold, spoilage" is the first reason followed by "expiry date" and "forgotten/unconsumed food in time".

Fig. 7: Causes of Food waste



One of the biggest difficulties in assessing FW is determining the amount discarded by the consumer. In this paper, the assessment of FW according to the proposed categories ranks different product categories. Regarding the determination of the amount, the respondents have given a self-declaration regarding the amount discarded expressed qualitatively from the categories not at all, a little, somewhat, sufficiently, a lot.

Fig. 8: Product category and quantity wasted



As can be seen from Figure 8 regarding product categories, it is noted that fruits, vegetables and bread are the products that are thrown away the most by the surveyed consumers.

4. CONCLUSION

FW issues are issues that involve many dimensions of consumer behavior. They can be treated as part of lifestyle, consumer attitudes, norms and culture as well as economic or environmental factors. According to this paper, consumer perception regarding FW is high and consumers claim to be concerned about such an issue. Consumers emphasize that the majority of the waste they generate come from cooking activities at household level. The most common actions that make up consumer routines regarding the reduction FW are related to: avoiding waste by saving food for another meal, the second rational choice seems to be the use of leftovers for another dish and the third action is cooking in small amounts of food. As has been proven by previous studies, in the category of products that contribute to the generation of more waste at the final consumer level, fruits and vegetables are related to the delicate nature of their storage and consumption conditions. Despite the above conclusions, there is still a need for further studies regarding household FW in developing countries.

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AI-Based Environmental Monitoring: A New Milestone for the Oil and Gas

Eldar Mardanov[1] **Inese Mavlutova**[2] **Biruta Sloka** [3]

[1] BA School of Busine and Finance, K. Valdemara street 161, Riga, LV-1013, Latvia, eldar.mardanov@ba.lv, ORCID: 0009-0009-0404-3677

[2] BA School of Busine and Finance, K. Valdemara street 161, Riga, LV-1013, Latvia, Inese.Mavlutova@ba.lv, ORCID: 0000-0002-3245-9540

[3] University of Latvia, Raiņa bulvāris 19, Riga, LV-1586, Latvia, biruta.sloka@lu.lv,

ORCID: 0000-0003-2129-053X

Abstract: Environmental monitoring in the oil and gas sector is crucial for ensuring the sustainability and safety of operations, particularly given growing concerns regarding climate change and environmental degradation. Recent advancements in Artificial Intelligence (AI) and the Internet of Things (IoT) have enabled more robust, real-time monitoring of air, soil, and water quality, thereby helping to reduce environmental risks and improve compliance. The aim of the article is to review the latest trends in AI-powered environmental monitoring systems, highlighting end-to-end solutions that integrate drones, edge analytics, and cloud-based platforms. Research methods applied: scientific publications analysis, discussion of case studies and current challenges—such as data governance, sensor reliability, and operational costs. The article demonstrates how AI-driven monitoring solutions could be a game changer for the oil and gas sector, boosting efficiency, reducing environmental impacts, and ensuring regulatory compliance.

Keywords: Artificial Intelligence (AI), Internet of Things (IoT), Environmental Monitoring, Oil and Gas, Soil Quality.

1. INTRODUCTION

Over the past few decades, the environmental impacts of the oil and gas industry have been the focus of numerous studies. Emissions from hydrocarbon extraction and processing, accidental spills, and waste disposal pose serious risks to air, soil, and water resources (Rahman, Smith, & Khan, 2022). Many researchers world-wide are analyzing many aspects of AI applications (Yaseen, et al, 2024; Alzoubi & Mishra, 2024). These issues are particularly relevant to oilfield regions in Azerbaijan, especially Absheron, which has a long history of oil production. In previous years, environmental monitoring in oil production regions was predominantly carried out using conventional methods, which required substantial labor for sampling and subsequent laboratory analysis. While this approach ensures precision, it often leads to significant delays between sampling, analysis, and the implementation of remedial measures, potentially causing irreversible harm to ecosystems (Chakraborty & Karmakar, 2021). It is worth noting, however, that significant progress has been made in environmental monitoring methods in earlier years, enabling the identification of highly contaminated areas and priority sites for remediation work. These sites are most found around the Absheron settlements of Binagadi, Surakhany, and Balakhany, where oil extraction was carried out since the late 19th and early 20th centuries using methods that are considered primitive by modern standards.

Artificial Intelligence (AI) is increasingly being integrated into environmental monitoring within the oil and gas industry, offering numerous benefits and addressing several challenges.

Recent breakthroughs in AI and IoT have revolutionized the field of environmental monitoring, making it more responsive and effective (Farooq & Tuck, 2023). Due to the availability of low-cost sensors, wireless technologies, and advanced data analytics methods, continuous, real-time monitoring of critical indicators—such as volatile organic compounds (VOCs), pH, dissolved oxygen, and heavy metals—has become a reality (Gopalan et al., 2022). At the same time, drones equipped with AI-based computer vision algorithms enable rapid, remote inspections of large oilfields and pipelines (Teixeira et al., 2021). Leveraging these capabilities can substantially simplify compliance with environmental regulations, streamline production processes, and manage environmental risks more efficiently.

This paper examines the integration of AI and IoT in environmental monitoring for the oil and gas sector. The main objectives of the study are to:

- Identify and discuss the latest developments in AI-based drones, IoT sensor networks, and real-time data analytics for environmental monitoring.

- Investigate technological, operational, and regulatory challenges that may impede widespread adoption of these innovative solutions.
- Propose a general conceptual framework for implementing AI-based integrated monitoring systems, with an emphasis on air, soil, and water quality.

The purpose of this review is to illustrate how AI-based environmental monitoring systems can open new horizons for the oil and gas industry.

2. MATERIALS AND METHODS

2.1. The Need for Comprehensive Environmental Monitoring

The necessity for comprehensive environmental monitoring arises from the industry's environmental footprint, including air pollution (e.g., CO_2, methane), water contamination, and soil degradation. Research by (Mahmood et al. 2023) highlights these challenges, emphasizing the need for sustainable practices. Traditional methods, as noted in the National Academy of Sciences (2014) report, are inadequate due to delays, with real-time monitoring critical for detecting anomalies like leaks or spills promptly. The Colorado Department of Public Health and Environment (n.d.) underscores this need, using mobile sensors for near-real-time air pollution monitoring, aligning with regulatory demands for timely data.

TABLE 1 Aspect Summary.

Aspect	Details
Environmental Impacts	Air, water, soil degradation from operations
Traditional Limitations	Delayed sampling, lab analysis, no real-time data
Need for Real-Time	Detect leaks, spills, ensure compliance, swift response

Source: (Mahmood et al. 2023)

Due to the inherent risks of leaks, spills, and unplanned flaring, severe environmental damage can occur, adversely affecting soil-vegetation cover and air quality, especially in densely populated urban areas. Comprehensive monitoring strategies capable of detecting anomalies in real-time and enabling immediate responses are crucial to mitigating these risks, ensuring environmental compliance, and protecting human health and ecological integrity.

2.2. Advances in AI and IoT for Environmental Monitoring

AI and IoT have revolutionized monitoring by enabling continuous, real-time data collection. (Chakraborty and Karmakar 2021) review AI's role in sustainability, noting its ability to process large datasets for insights. (Farooq and Tuck, 2023) discuss IoT's role in deploying affordable sensors, facilitating data transmission from remote oilfields, monitoring parameters like air quality (CO_2, methane) and soil health (pH, heavy metals). Gopalan et al. (2022) provides a case study on edge computing, enhancing real-time analysis, crucial for compliance and risk reduction in the sector.

TABLE 3 Technology Summary.

Technology	Application	Benefit
AI	Data processing, pattern recognition	Actionable insights, accuracy
IoT	Sensor deployment, data transmission	Real-time monitoring, remote coverage

Source: (Chakraborty and Karmakar 2021), (Farooq and Tuck, 2023)

AI applications are particularly important in Azerbaijan, a region with a long history of oil production and extensive industrial pollution, including oil industry waste. This issue is pressing, given that oil production facilities are situated on the densely populated Absheron Peninsula, which includes the nation’s capital multifunctional metropolis.

Beyond industrial development, the Absheron Peninsula traditionally supports both livestock and crop farming. Under these conditions, AI-based monitoring becomes even more valuable for a region already impacted by multiple natural degrading processes—soil erosion, salinization, biodiversity loss—that may ultimately lead to

desertification, exacerbating the consequences of anthropogenic influence (Guliyev & Mardanov, 2024; Mammadov, 2020).

Moreover, for Absheron (including the city of Baku), recognized both as the center of the oil industry and the country's primary tourist destination, ensuring technological safety is a key factor in expanding tourism and recreation. Environmental remediation of previously polluted areas offers the potential to repurpose them for tourism (Levine et al., 1998; Mammadov, 2020).

In the oil and gas sector, AI and IoT can measure a wide array of parameters, including:

Air quality: carbon dioxide (CO_2), methane (CH_4), particulate matter (PM), nitrogen oxides (NO_x), sulfur oxides (SO_x).

Soil quality: pH, heavy metals (e.g., lead, arsenic), hydrocarbons (total petroleum hydrocarbons), microbiological activity.

Water quality: pH, turbidity, dissolved oxygen, salinity, and various organic and inorganic pollutants.

2.3. Emerging Trends: Drones, Edge Analytics, and Cloud Platforms

Emerging trends include Drones: Unmanned aerial vehicles (UAVs) equipped with high-sensitivity cameras, multispectral or thermal sensors can monitor large oilfields and pipelines, detecting gas leaks, oil spills, and equipment malfunctions in a timely manner (Teixeira et al., 2021).

Edge Analytics: Microcontrollers or single-board computers (e.g., NVIDIA Jetson, Raspberry Pi) enabled with AI algorithms facilitate on-site data processing, reducing latency and overhead communication (Gopalan et al., 2022).

Cloud Platforms: Microsoft Azure, Amazon Web Services (AWS), Google Cloud, and similar services provide scalable infrastructure for storing large volumes of data and performing real-time analyses, including machine learning (Chen et al., 2023).

TABLE 3 Trend Summary.

Trend	Function	Example
Drones	Area monitoring, leak detection	AI-driven cameras for spills
Edge Analytics	On-site processing	Reduce latency, bandwidth use
Cloud Platforms	Data storage, analysis	AWS, Azure for machine learning

Source: (Teixeira et al., 2021), (Chen et al., 2023).

The integration of these technologies lays the foundation for fully functional environmental monitoring systems in the oil and gas domain.

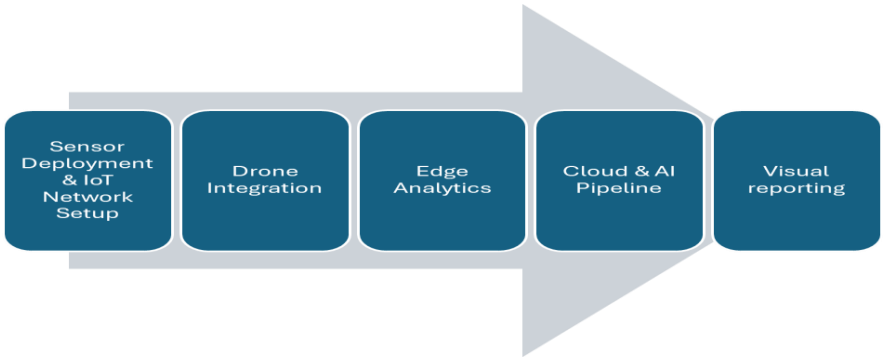
3. DISCUSSION

This study contributes to an evolving research area focusing on the integration of Artificial Intelligence (AI) and Internet of Things (IoT) technologies within environmental monitoring systems, particularly in the oil and gas sector. The approach adopted aligns closely with prior research emphasizing the critical role of AI-driven drones, sensor networks, and real-time analytics for enhancing monitoring capabilities and operational responsiveness (Farooq & Tuck, 2023; Teixeira et al., 2021; Gopalan et al., 2022). Like earlier studies, our research underscores the advantages of real-time data processing, reduced latency through edge computing, and comprehensive data management using cloud-based platforms (Chen et al., 2023). However, our research extends previous work by proposing a structured, comprehensive five-stage framework tailored explicitly for the oil and gas industry's environmental monitoring requirements. Unlike previous studies, which have predominantly focused either on technological components in isolation or general applications (Rahman et al., 2022; Chakraborty & Karmakar, 2021), this paper presents an integrated approach encompassing sensor deployment, drone technology, edge analytics, cloud computing, and visualization. Additionally, our specific emphasis on addressing environmental challenges unique to the Absheron Peninsula, such as historical pollution and urban proximity to oil fields, sets this study apart.

3.1. Methodology for Developing an AI-Based Integrated Monitoring System

To illustrate how these elements can be practically implemented, we propose a five-stage framework for building an AI-based environmental monitoring system in the oil and gas sector (Figure 1).Each stage of the proposed framework—sensor deployment, drone integration, edge analytics, cloud and AI pipeline, and visualization—addresses specific challenges inherent in environmental monitoring, such as real-time data collection, rapid anomaly detection, and efficient data management. The structured methodology ensures comprehensive coverage of operational requirements, from initial data acquisition to actionable insights, thus facilitating practical and efficient implementation in real-world scenarios.

Figure 1: Five-stage framework



Source: Eldar Mardaonov construction

The visual framework specifically supports a comprehensive, integrated approach to enhancing environmental monitoring practices in challenging oil and gas operations by clearly illustrating the connections and interactions between different technological components. It enables stakeholders to visualize the process, thus promoting effective coordination, faster adoption, and better understanding of system capabilities and limitations.

3.2. Sensor Deployment and IoT Network Setup

Sensor Selection: Identify suitable sensors for monitoring air, soil, and water quality (e.g., VOC sensors, pH sensors, turbidity sensors) (Farooq & Tuck, 2023).

Network Infrastructure: Configure wireless networks (LoRaWAN, NB-IoT, or 5G) to enable reliable data transmission from remote locations. Combining AI with the Internet of Things (IoT) and cloud computing allows for extensive real-time data acquisition and analysis from remote oilfields. This integration supports predictive maintenance, operational efficiency, and safety measures, addressing geographical and logistical constraints (Paroha, 2024). AI systems integrate data from satellites, airborne sensors, and ground sensors to monitor methane emissions. These systems provide real-time, continuous monitoring, addressing challenges such as data alignment and fusion, and ensuring accurate detection and mitigation of emissions (Khiabani, et al, 2024). AI-driven approaches are revolutionizing corrosion monitoring by developing predictive models that identify and mitigate corrosion-related issues proactively. These models enhance real-time data analysis and prediction, improving maintenance and operational efficiency (Hussein Khalaf, et al, 2024).

Data Collection: Implement logging mechanisms at each sensor node, recording metadata (geolocation, timestamps, sensor status).

3.3. Drone Integration

Route Planning: Develop flight plans for drones to cover critical areas such as wellheads, pipelines, and storage tanks.

Payload Configuration: Equip drones with optical, infrared, or hyperspectral cameras depending on specific monitoring tasks.

Data Acquisition: Real-time data collected by drones can be processed on-board using AI algorithms to detect leaks, spills, or other signs of contamination (Teixeira et al., 2021).

3.4. Edge Analytics

On-Device Processing: Employ edge computing modules at sensor nodes or on drones to perform preliminary data analysis, including anomaly detection (Gopalan et al., 2022).

Data Filtering: Transmit only the most critical information (e.g., abnormal readings, aggregated values) to the cloud to minimize bandwidth usage.

Event Triggers: Generate immediate alerts for potential environmental threats and initiate quick-response measures to prevent or mitigate damage.

3.5. Cloud and AI Pipeline

Data Lake: Store raw and processed data in a centralized repository for future analysis and machine learning (Chen et al., 2023).

Machine Learning Models: Develop and deploy models for event prediction (e.g., spill risk), pattern recognition (e.g., gas leaks), and fault diagnostics.

API Integration: Provide access to data via APIs for stakeholders—facility operators, regulatory agencies, and external analytical services.

3.6. Visualization and Reporting

Real-Time Dashboard: Offer an intuitive interface for displaying sensor metrics, drone images, and AI-generated alerts.

Automated Reporting: Produce regular reports on regulatory compliance and monitoring effectiveness for both internal and external audiences.

Feedback Loop: Continually improve AI models and sensor deployment strategies based on new data and user feedback.

Regulatory ambiguities pose another significant challenge, as existing frameworks do not fully address the implementation of advanced AI-driven environmental monitoring technologies. The lack of clear regulatory guidelines can delay or even hinder broader adoption within the industry.

4. RESULT

4.1. Enhanced Detection Capabilities

By integrating drones with ground-based sensors, companies can monitor all key areas of oil and gas infrastructure. AI-driven algorithms detect leaks or pollution at an early stage, when traditional methods may fail. Early detection reduces remediation costs and minimizes environmental harm (Rahman et al., 2022). This is particularly crucial for the Absheron Peninsula, which has a semi-arid climate with various subtypes of sierozem (gray-brown), solonchak, and solonetz soils, as well as steppe and semi-desert vegetation. Moreover, high summer temperatures (averaging +25°C to +27°C) somewhat contribute to the breakdown of oil residues, but this alone is insufficient to improve the eco-geographical situation.

4.2. Real-Time Decision-Making

Conventional environmental monitoring often entails delays between sampling and laboratory analysis. By contrast, real-time AI-based monitoring systems allow operators to respond instantly to critical situations—stopping pipeline flow or dispatching teams to contain a spill. This rapid response helps mitigate risks and minimizes potential lawsuits that could significantly impact the financial standing of companies operating in oil- and gas-rich regions (Farooq & Tuck, 2023).

4.3. Improved Operational Efficiency

Edge analytics reduces the amount of data transmitted to the cloud, thereby optimizing network bandwidth and lowering operating costs. Cloud-based analytics pipelines further expedite the detection of operational anomalies, allowing oil and gas companies to swiftly adjust their business processes for higher efficiency (Gopalan et al., 2022).

4.4. Challenges and Limitations

Despite evident progress in AI and IoT, several issues remain unresolved:

Sensor Reliability: Operating in harsh conditions requires sensors with self-calibration capabilities and minimal maintenance needs.

Data Management: Ensuring data integrity and security in distributed networks is complex, especially when multiple parties are involved.

Algorithmic Bias: AI models trained on limited or unbalanced datasets may yield inaccurate results. Regular calibration and validation are essential (Chakraborty & Karmakar, 2021).

Regulatory Framework: Government agencies are only beginning to formulate rules for AI-based monitoring systems. Inconsistent or unclear regulations can hinder adoption (United Nations Environment Programme, 2021). For this reason, there is a pressing need to develop regulatory guidelines and bring them to parliamentary review.

Despite these advancements, several limitations must be acknowledged. Firstly, sensor reliability remains a significant concern, especially in harsh environmental conditions prevalent in oil production areas. The requirement for continuous maintenance and calibration might limit the widespread applicability and scalability of AI-based monitoring systems. Additionally, managing vast datasets generated by IoT devices and drones presents challenges related to data integrity, security, and the potential for algorithmic biases arising from limited or skewed training data.

5. CONCLUSION

AI-driven environmental monitoring systems represent a transformative milestone in the oil and gas industry by integrating IoT sensors, AI analytics, and drones to enable real-time data collection, significantly reducing environmental risks and enhancing data-driven decision-making (Farooq & Tuck, 2023; Teixeira et al., 2021). These systems offer high detection accuracy, rapid intervention capabilities, and improved operational efficiency, particularly benefiting densely populated regions like the Absheron Peninsula (Gopalan et al., 2022; Mammadov, 2020a). However, challenges such as hardware reliability in harsh conditions, data security in distributed networks, and evolving legal constraints in urban-industrial settings remain, necessitating further innovation and regulatory development to fully realize their potential (Chakraborty & Karmakar, 2021).Future research directions include developing specialized AI models for predicting spills and leaks, evaluating emissions, and automating sensor calibration. Equally important is creating multi-stakeholder platforms that simplify data exchange and help companies more readily meet evolving environmental standards. The oil and gas sector stands to gain significantly from these innovations, particularly under growing global demands for environmental sustainability. By widely adopting AI-based solutions, the industry can more effectively safeguard ecosystems, such as the semi-desert and steppe biomes of Absheron, comply with stringent regulations, and align with sustainable development goals. Thus, AI technologies can serve as a genuine breakthrough, reshaping the oil and gas sector toward greater ecological stewardship and responsibility—an imperative for Azerbaijan, which has experienced decades of environmental impact from the mismanagement of hydrocarbon resources.

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Drivers of Emigration in the Western Balkans: A Gravity Model Perspective (2014-2023)

Emi Malaj[1] **Elma Çali**[2]

[1] Department of Economics, University of Vlora, emi.malaj@univlora.edu.al, ORCID: 0009-0007-6425-4180

[2] PhD candidate, Department of Economics, University of Tirana, and INSTAT Albania, ecali@instat.gov.al

Abstract: This study examines the determinants of emigration from the Western Balkans to major European destinations using a gravity model framework for the period 2014–2023. The analysis identifies key economic, demographic, and institutional factors influencing migration flows, including GDP per capita, population size, and labor market conditions. The empirical estimation, conducted through pooled ordinary least squares, confirms that economic opportunities in destination countries act as strong pull factors, while adverse conditions in origin countries drive emigration. The results align with theoretical expectations and prior research, demonstrating the model's robustness and predictive capacity.

Keywords: Western Balkan countries, migration, poverty, gravity theory.

1. INTRODUCTION

International migration has long been a key aspect of demographic, economic, and social transformations, influencing both origin and destination countries. In recent years, emigration from the Western Balkans has emerged as a significant phenomenon, driven by a combination of economic disparities, labor market conditions, political instability, and social factors. The region, which includes Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Serbia, has experienced sustained emigration flows, primarily toward Western European countries. These migration patterns are shaped by historical ties, EU integration processes, and economic opportunities abroad. Understanding the drivers of emigration from the Western Balkans is crucial for designing policies that address both the challenges and opportunities associated with migration. To analyze these migration flows, this study employs the gravity model, a widely used framework in migration economics. Originally developed to explain international trade patterns, the gravity model has been successfully adapted to migration studies, demonstrating its robustness in explaining bilateral migration flows. The study proceeds as follows: Section 2 provides a detailed discussion of the gravity theory, outlining its relevance to migration analysis and reviewing key theoretical advancements. Section 3 presents the empirical analysis, describing the dataset, variables, and estimation techniques used in the study. Section 4 concludes by summarizing key findings and discussing policy implications.

2. THE GRAVITY THEORY

The gravity model, initially defined to explain international trade flows, has become a pivotal tool in understanding migration flows between regions, countries, and territories. Rooted in Newtonian physics, the model states that the interaction between two entities is directly proportional to their economic sizes and inversely proportional to the (bilateral) distance separating them. This framework has been extensively adapted to identify, analyze and forecast migration patterns, offering insights into the factors influencing human mobility. The gravity model's conceptual foundation lies in Newton's law of universal gravitation, which states that the force between two specific objects is proportional to the product of their masses and inversely proportional to the square of the distance between them. In the context of trade or international trade, this translates to the idea that larger economies have a greater pull on trade flows, while greater distances diminish these interactions. Jan Tinbergen (1962) was among the first to formalize this analogy in economics, proposing that bilateral trade flows could be predicted based on the economic sizes of two countries and the respective bilateral distance. Tinbergen's formulation suggested that the volume of trade between two countries is directly proportional to their gross domestic products (GDPs) and inversely proportional to the distance separating them.

Recognizing the model's very high explanatory power in trade, researchers began applying the gravity framework to migration studies. The underlying premise is analogous: larger populations generate more migrants, and the propensity to migrate decreases with increasing distance. Early applications of the gravity model of migration examined internal movements within countries, but the framework subsequently expanded to encompass international migration flows. The model states that migration between two countries or regions is positively associated with the population sizes of both the origin and destination and negatively associated with the

distance between them. This approach has been instrumental in identifying and quantifying the determinants of migration, including economic opportunities, cultural ties, and different policy factors. The gravity model's empirical success prompted efforts to establish robust theoretical foundations. Anderson (1979) derived the gravity equation under the assumption that goods are differentiated by country of origin, known as the Armington assumption. This provided a microeconomic basis for the model, linking trade flows to consumer preferences and product differentiation. Further advancements by Eaton and Kortum (2002) introduced a Ricardian framework, incorporating technological differences across countries to explain trade patterns. In migration studies, the gravity equations have been employed to analyze various factors influencing migration decisions (Beine et al., 2016; Ramos & Suriñach, 2017). Recent research has expanded the model to include innovative independent variables such as cultural similarities, policy environments, and historical ties (Ortega & Peri, 2013). Grogger and Hanson (2011) analyze how income differences influence international migration patterns, focusing on the role of income maximization in migrants' decision-making. Using a gravity model framework, they find that higher earnings potential in destination countries is a primary driver of migration, particularly for skilled workers. Their study also highlights that migration costs and policy restrictions shape the selection and sorting of migrants. Overall, their findings suggest that economic incentives play a crucial role in determining global migration flows. The gravity model continues to evolve, with recent years studies analyzing its limitations and enhancing its forecasting capabilities. One critique is that traditional gravity models often fail to capture temporal dynamics in migration patterns (de Haas et al., 2019). To address this, researchers have incorporated time-varying explanators and used advanced econometric techniques (Belot & Ederveen, 2012). For example, the use of long short-term memory (LSTM) approaches combined with real-time data sources, such as Google Trends, has improved the model's ability to forecast migration flows (Böhme et al., 2020). These innovations allow for more responsive and accurate modeling, accounting for sudden changes in migration drivers, such as economic crises or policy shifts (Dao et al., 2018). However, some scholars argue that while gravity models effectively describe spatial patterns of migration, they may not fully capture the underlying temporal dynamics (Clemens, 2021).

3. EMPIRICAL ANALYSIS

The gravity model has become a widely used empirical tool for studying and forecasting migration flows, allowing scholars to quantify the effects of various economic, demographic, and institutional factors on migration patterns. Recent empirical applications have incorporated advancements in econometric techniques, including panel data methods, instrumental variable approaches, and machine learning models, to improve estimation accuracy and address endogeneity concerns. These refinements allow for a more precise measurement of how push and pull factors interact, capturing not only static determinants but also dynamic migration responses to policy changes, economic shocks, and geopolitical events. Ramos (2016) explores the use of gravity models in migration analysis, emphasizing their effectiveness in explaining migration flows based on economic size and distance between regions. The study highlights how these models integrate additional determinants, such as labor market conditions, historical ties, and migration policies, to enhance predictive accuracy. Despite their usefulness, Ramos notes that gravity models have limitations, particularly in capturing the dynamic and policy-driven nature of migration. Poot, Alimi, Cameron, and Maré (2016) discuss the resurgence of the gravity model in migration studies, emphasizing its adaptability and continued relevance in regional science. The paper reviews the model’s theoretical foundations, empirical applications, and advancements, highlighting its ability to capture key migration determinants such as economic opportunities and distance. The authors also address critiques related to omitted variables and propose improvements through enhanced econometric techniques and richer datasets. Poprawe (2015) explores the relationship between corruption and international migration by applying a gravity model. The study finds that higher levels of corruption in the origin country are positively correlated with increased migration flows, particularly to countries with lower corruption levels. It emphasizes the role of institutional quality in shaping migration patterns and highlights how corruption acts as a push factor. The research provides empirical evidence supporting the notion that migrants often seek countries with more stable and transparent governance. Botezat and Ramos (2020) apply a gravity model to explore the factors influencing physicians' migration flows, focusing on how economic, social, and institutional determinants shape migration patterns in the healthcare sector. Their study demonstrates that higher wages, better working conditions, and political stability in destination countries are key drivers of physicians’ mobility. Backhaus, Martínez-Zarzoso, & Muris (2015) examine the relationship between climate variations and migration flows using a gravity model. The authors explore how temperature and rainfall patterns influence migration patterns across countries. The results suggest that climate factors significantly affect bilateral migration, particularly in low-income countries,

where climate change may amplify existing migration pressures. Khan, Fatima, and Fatima (2023) revisit the gravity model of migration to address its evolution and modern-day applications. The paper critiques traditional versions of the model while offering new insights into how factors like technology, education, and social networks affect migration flows. The authors emphasize the importance of revising the model to incorporate non-economic variables and consider the global context of migration. Their study presents an updated version of the gravity model, incorporating the nuances of contemporary migration patterns. Malaj and de Rubertis (2017) apply the gravity model to analyze migration patterns from the Western Balkans, focusing on factors that drive emigration. Their study identifies key determinants such as economic conditions, unemployment rates, and political stability, showing how these elements shape migration flows from the region. The research contributes to understanding the complex migration dynamics of the Western Balkans and highlights how the gravity model can be tailored to regional specificities. Prieto Curiel et al. (2018) explore the application of gravity and scaling laws to migration patterns between cities. The study examines migration flows across cities of varying sizes and distances, identifying patterns that conform to both gravity and scaling laws. Their findings suggest that the size and economic power of cities play a crucial role in migration, alongside the distance factor, providing a better understanding of urban migration dynamics. Xu (2023) uses a multilevel gravity model to investigate migration patterns within California, focusing on inter-county migration. The study considers both macroeconomic and microeconomic factors, such as income levels, employment opportunities, and educational attainment, to explain migration trends. The results show that while economic factors play a dominant role, social networks and environmental variables also significantly influence migration flows.

Table 1 below provides a detailed overview of the variables utilized in our formulated and estimated model. The variables used in this study capture key determinants of migration flows and are sourced from official and reputable international databases. Migrat, representing migration stock, is obtained from OECD and Eurostat, reflecting the number of migrants from the origin country residing in the specific destination. Economic factors are measured through GDP per capita in origin (GDPcap_o) and destination (GDPcap_d), both sourced from the World Bank, where a higher GDP in the destination country attracts migrants, while a higher GDP in the origin may reduce emigration. Population in origin (pop_o) and destination (pop_d), also from the World Bank, account for migration supply and demand effects. The bilateral distance (dist) between countries, sourced from the CEPII GeoDist database (Mayer & Zignago, 2011), acts as a deterrent due to associated costs. Unemployment rate difference (unemp_diff), derived from Eurostat and the World Bank, reflects labor market imbalances, with higher unemployment in origin and lower in destination increasing migration. Economic incentives are further examined through wage differences (wage_diff), sourced from the statistical databases of UNECE, ILO and Eurostat, as income disparities strongly influence migration decisions. Education level difference (edu_diff), derived from Eurostat and the World Bank, reflects the difference in education levels between destination and origin countries. Political stability also plays a role, with political stability in the origin country (PolStab_o) sourced from the World Bank (Political Stability and Absence of Violence/Terrorism), as individuals and families tend to leave less safe environments. A considerable number of unavailable observations were sourced from the different national statistical offices as well as from the OECD statistical database.

Table 1: Definitions of considered variables.

Variable	Definition
Migrat	*Migration stock in destination d from origin o at year t*
GDPcap_o	*GDP per capita in origin o at year t*
GDPcap_d	*GDP per capita in destination d at year t*
pop_o	*Population in origin o at year t*
pop_d	*Population in destination d at year t*
dist	*Bilateral distance between origin o and destination d*
unemp_diff	*Difference between unemployment rates in origin o and destination d*
wage_diff	*Difference in average wages between destination d and origin o*
edu_diff	*Difference in education levels (percentage of tertiary education graduates) between destination d and origin o.*

PolStab_o	*Political stability index in destination d*

Source: Authors' calculations.

The equations have been estimated using a specific sample comprising Western Balkan migration stocks in 20 European destinations over the period 2014–2023. The pooled ordinary least squares (OLS) method was identified as the most appropriate estimation technique. Pooled OLS is a cross-sectional time-series estimation method that assumes homogeneity across observational units, treating all data points as part of a single regression model without accounting for individual-specific effects. This approach relies on the assumption that unobserved heterogeneity across units does not correlate with explanatory variables, ensuring that the estimates remain unbiased and consistent. Furthermore, pooled OLS requires the fulfillment of key classical linear regression assumptions, such as the absence of multicollinearity, homoskedasticity, and no autocorrelation in the residuals. Under this approach, the sample mean of the idiosyncratic error, conditional on the explanatory variables across all time periods and the unobserved effects, is equal to zero. Each independent variable exhibits variation over time for at least some units, ensuring that the model captures temporal changes in migration patterns. Additionally, no perfect linear relationship exists among the independent variables, thereby satisfying the assumption of non-multicollinearity, which is crucial for obtaining reliable coefficient estimates. The sample variance of the differenced error terms remains constant over time, fulfilling the assumption of homoskedasticity, and no autocorrelation is present in the idiosyncratic errors, implying that past disturbances do not influence future errors.

Table 2 presents the estimation results for the specified equations, both in their basic and extended form. The signs of the estimated coefficients align with theoretical expectations, and the parameters are statistically significant, thereby confirming the relevance of the considered migration determinants. The adjusted R-squared value, which accounts for the number of predictors in the model, is notably high for the second equation, indicating that the explanatory variables explain a substantial proportion of the variability in the dependent variable. Unlike the standard R-squared, which may artificially increase with additional explanatory variables, the adjusted R-squared provides a more accurate measure of model fit by penalizing excessive predictors, ensuring that the included variables contribute meaningfully to the explanation of migration trends. Additionally, the coefficient values are consistent with findings from similar previous analyses, reinforcing the robustness and validity of the estimated relationships.

Table 2: Estimation results, coefficients and p-values for the considered equations.

Independent Variable	Basic Equation	Extended Equation
Intercept	*-7,27 (0)*	*-5,64(0)*
GDPcap_o		*-1,68(0)*
GDPcap_d		*1,53(0,001)*
pop_o	*1,49(0)*	*1,31(0,005)*
pop_d	*1,09(0,0001)*	*1,01(0,003)*
dist	*-2,98(0)*	*-2,37(0)*
unemp_diff		*0, 75(0,001)*
wage_diff		*0,7(0,0007)*
edu_diff		*0,58(0,004)*
PolStab_o		*0,65(0,005)*
Adjusted R-square	*0,5649*	*0,7781*

Source: Authors' calculations.

4. CONCLUSION

The findings of this study highlight the significant role of economic, demographic, and institutional factors in shaping migration flows from the Western Balkans to key European destinations. By employing a gravity model approach, this research confirms that GDP per capita, population size, and labor market conditions are key

determinants influencing migration decisions. The empirical results align with theoretical expectations, demonstrating that higher economic opportunities in destination countries attract migrants, while adverse conditions in origin countries push individuals to seek better prospects abroad. The application of the pooled ordinary least squares (OLS) method provided robust estimations, ensuring that the model effectively captures the relationship between migration and its driving factors. The high adjusted R-squared value in the extended model indicates that the explanatory variables account for a substantial proportion of the variation in migration flows, reinforcing the model's reliability. Furthermore, the estimated coefficients exhibit consistency with findings from prior studies, strengthening the validity of the analysis. Despite the robustness of the results, certain limitations should be acknowledged. The gravity model, while effective in explaining spatial patterns of migration, may not fully capture dynamic and policy-driven changes affecting migration decisions. Future research could benefit from incorporating time-varying factors such as sudden policy shifts, economic crises, and climate-related displacement to enhance predictive accuracy.

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The Demand for Language Skills in the Albanian Labor Market: A Study of Language Skills and Skill Pairings in Job Listings

Era Hoxhaj[1] Arjan Shumeli[2] Erion Shehu[3] Ervin Hoxhaj[4]

[1]Agricultural University of Tirana, Department of Foreign Languages, email: erahoxhaj11@gmail.com, ORCID:0009-0005-3470-8255

[2]Agricultural University of Tirana, Department of Foreign Languages, e-mail: ashumeli@ubt.edu.al ORCID:0000-0002-3737-8176

[3]Agricultural University of Tirana, Department of Foreign Languages, email: erion.shehu@ubt.edu.al

[4]University of Tirana, Department of Foreign Languages, email: ervin.hoxhaj@unitir.edu.al, ORCID:0009-0004-9582-8261

Abstract: Recent literature has shown that foreign language skills play a crucial role in the job market, including the Albanian labor market thanks to its openness and flexibility. The demand for such skills in the Albanian market is driven by the presence of multinational companies and the export-oriented nature of many Albanian businesses. To better understand the demand for language skills and their '*skill* pairings' with specific job roles, this study examines 60 job listings, analyzing the most sought-after languages and their corresponding skill pairings. The findings indicate that English is the most dominant language, appearing in nearly all job postings across various industries, with Italian emerging as the second most in-demand language, particularly in customer service, sales, and marketing roles. Additionally, bilingual proficiency—especially in English and Italian—is frequently required for administrative and managerial positions. The study showed that German language skills occupy a niche demand and are primarily required in sales positions as well as health and care sectors. Moreover, there is no demand for language skills in low-skilled jobs. The findings further reveal that language skills are often paired with strong technical, communication, and business-related competencies, emphasizing the importance of a diverse skillset for career advancement. These results highlight the significance of language proficiency in Albania's evolving job market and underscore the need for job-seekers to develop multilingual capabilities to enhance employability in key sectors. The research findings will help guide language policy makers, teacher trainers, employers, and career advisors in enhancing foreign language learning programs to improve job opportunities.

Keywords: skills, job-seeker, job market, skill pairings, employability.

1. Introduction

Language is a structured and regulated system of communication that allows individuals to express ideas, convey information, and interact within a society (Oxford University Press, n.d.). Beyond its communicative function, language is a vital asset in the global economy. It plays a crucial role in facilitating negotiations, driving business expansion, and enabling the growth of multinational enterprises. In an era of globalization, multilingualism has become increasingly valuable in the economic sphere, fostering cross-border collaboration, expanding market access, and stimulating economic growth (Gazzola & Wickström, 2016). Moreover, globalization and English language are often considered to influence each other, acting as mutual driving forces. Both have a significant impact on employment (Debrah & Smith, 2002) and are linked to major transformations in the labor market (Orbeta, 2002). Furthermore, language proficiency is widely regarded as a key component of human capital, with its economic returns influenced by factors such as the number of speakers, contextual demand, and individual circumstances (Chiswick & Miller, 1995, 2003).

The significance of language skills in the labor market has been extensively studied, with ongoing research highlighting their importance for career advancement and economic mobility (Grin, 2001). At the European level, the Council of the European Union emphasizes that linguistic proficiency enhances mobility, employability, and personal development, aligning with the Europe 2020 strategy, which prioritizes economic growth and job creation through skills development (Council of the European Union, 2014).

This trend is evident not only in major economies, but also in emerging economies like Albania, where language skills are increasingly essential for employment across sectors such as IT, healthcare, finance, and accounting. Historically, under Albania's communist regime, mastery of any given language was primarily a political tool, restricting its broader social and economic functions. However, in the post-communist era, language proficiency has expanded beyond these constraints, playing a more dynamic and economically driven role. While language

training faculties and centers actively address the supply side, the demand side remains underexplored, particularly regarding the specific languages and skill pairings sought by employers.

Considering this perspective, this study aims to:

(1) analyze the demand for language skills in Albania's labor market,

(2) identify the most frequently required languages,

(3) and examine their relevance in combination with other job-specific competencies.

Additionally, it explores how language proficiency has evolved from a politically constrained tool to a key economic asset. To address these questions, foreign language supply will be analyzed and job listings from online job advertisment portals will be examined to provide valuable insights into labor market needs and inform more effective language education policies.

2. Literature Review

2.1. Foreign language skills in Albania

With the opening of the economy, Albania became open for business. In the years prior to 1990, language proficiency remained low due to the country's decades of isolation, during which mastery of foreign languages was viewed primarily as a political tool rather than a valuable skill in the labor market. However, with the influx of NGOs, there was a surge in demand for foreign language education. Language instruction was provided by Faculties of Foreign Languages (*Departments*) and Secondary Schools of Foreign Languages. Additionally, foreign language centers began operating across the country, with record-high enrollments of people across various ages in foreign language classes.

A 2018 report by the Albanian Institute of Statistics (INSTAT) indicated that among adults aged 25–64: 40.0% speak English, 27.8% speak Italian and 22.9% speak Greek.

This demand increased steadily until early 2020, after which there was a noticeable decline in enrollment for foreign language courses, with some programs across various teacher training faculties coming dangerously close to closure.

At the same time, foreign language instruction was also provided by privately owned language centers, which thrived until about the same period, with students' interests in foreign language programs beginning to decline. With the arrival of multinational companies and the expansion of Albanian businesses into international markets, foreign language skills became increasingly recognized as essential in the business world.

Nevertheless, foreign language learning continues to play a significant role in Albania's public education system, and its importance in the curriculum has gradually increased over the past decades. The same trend extends to secondary schools, where policies promoting the instruction of two foreign languages in the curriculum have been implemented.

2.2. Proficiency in language and the damand side

Proficiency in languages is a crucial asset in the job market. Many studies have been undertaken to analyze how foreign language skills influence labor market outcomes and performance. Language skills increase employability for job-seekers and have a positive influence on the earnings in particular among immigrants. Kossoudji (1988) explores the connection between English language skills and labor market performance, highlighting how fluency impacts employment opportunities and economic outcomes for immigrants. On the other hand, lack of fluency, as found in a study in England and Wales by Schellekens (2001) demonstrates that limited English proficiency serves as a barrier to entering the job market. Other studies have highlighted the critical role of English language proficiency in securing employment and achieving success in the job market. Research has further demonstrated that "*the better the English, the higher the participation rates*" (DIMIA, 2002, p. 8), emphasizing the strong correlation between language skills and workforce engagement. Further to this, a study by Paolo and Tansel (2019) found that proficiency in English is associated with a higher likelihood of being employed as a wage earner and, to a lesser extent, being unemployed but actively seeking employment, while it decreases the probability of being involved in household tasks.

Moreover, Casale and Posel (2011) highlighted the link between English proficiency and earnings in South Africa. They noted that individuals with greater proficiency in English received a wage premium of more than 50% compared to those with limited English skills, demonstrating the substantial economic advantage of language proficiency. Some studies by the same authors have equated language proficiency with the significance of holding a secondary school diploma or even a bachelor's degree in securing employment, emphasizing its crucial role in the job market.

Despite extensive research across various factors, the positioning of foreign language skills within the Albanian labor market remains unexplored. Furthermore, no studies to date have examined the interplay between language proficiency and other competencies to determine which skills foreign language competences are commonly associated with. While recent research has investigated the link between English proficiency and employability in specific countries, the broader relationship between English skills and overall employability has received limited attention. Consequently, the role of English language proficiency within employment dynamics remains inadequately understood in the Albanian context.

3. Methodology

To assess the significance of foreign language proficiency for job seekers in Albania, we conducted a structured analysis of online job advertisements from the **Dua Pune** (Alb. *in search of a job*) portal. Online job portals play a crucial role in matching candidates to open positions and have evolved into comprehensive employment communities that provide real-time insights into labor market demands (Kureková & Zilincikova, 2015). These platforms offer a valuable data source for examining the qualifications and skills employers seek in prospective employees.

Our study was all about collecting a total of 60 job listings, of which 50 were deemed relevant for the current study, as they explicitly required foreign language proficiency. The primary objective was to quantify the demand for language skills in the labor market and identify the most frequently required languages, with a particular focus on English, Italian and other languages.

Beyond language demand, we analyzed *skill pairings* to determine which additional competencies were most commonly required alongside language proficiency. Low-skilled job postings that did not specify foreign language requirements were excluded from the analysis to maintain the study's focus on roles where multilingualism played a significant role in employability.

For data processing and qualitative analysis, we applied a thematic approach using Excel spreadsheets. Job listings were categorized under predefined themes such as "English," "Italian," "other languages" as well as "job pairings". A keyword search was conducted to classify listings, and results were systematically recorded under each theme. To facilitate further analysis, we used Excel's Pivot Table function, which allowed us to synthesize the data and draw meaningful insights (see Table 1).

Table 1: Language skills analysis

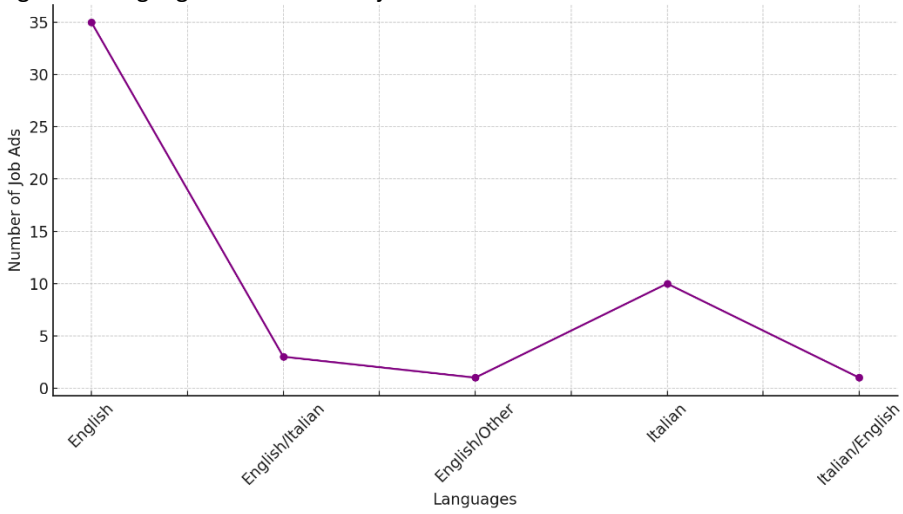
		Languages skills required					Skill pairings	
Nr	Job advertisments	English	Italian	Eng-Italian	Italian-English		Computer	Commun.
	TalentBridge is a leading firm in the staffing and tech industry, centrally located in the capital city of Tirana, Albania. TalentBridge is the perfect company for you. Job requirements: Make your next career move with us! English Level C1 required.; Full Training provided for all qualified applicants.;	1						

4. Results & Discussion

The analysis of job advertisements in the Albanian labor market reveals a clear preference for English language proficiency. As depicted in the graph below (Graph 1), English stands out as the most in-demand language, appearing in 35 out of 50 job postings, emphasizing its critical role in securing employment opportunities. This finding is in line with other studies which have underscored English as the most sought-after language in a number of European markets. Interestingly, in all four countries (Czech Republic, Hungary, Poland and Slovakia)

English is the most frequently demanded language with 64% of the Polish advertisements focusing on English language skills (Beblavý et al., 2016). As in most European countries, and by virtue of language policy, English is by far the most popular foreign language with more than 70 percent of the working-age population knowing and using it (Gazzola & Templin, 2022).

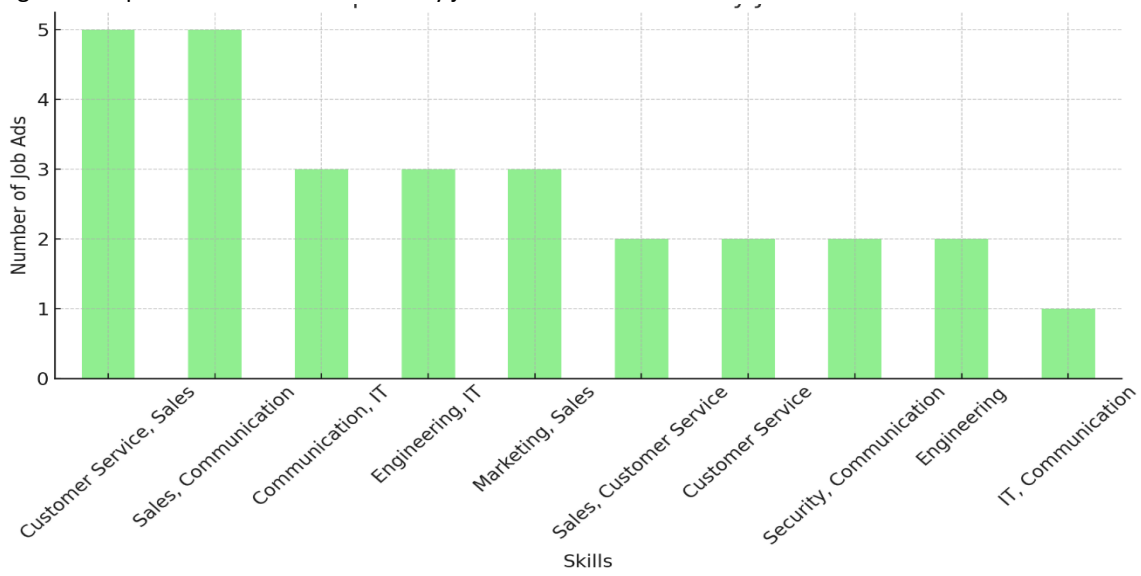
Figure 1. Language demand across job ads.



On the basis of the graph, Italian follows as the second most required language, though with significantly lower demand, appearing in a few job ads. Interestingly, bilingual combinations such as English/Italian and Italian/English are mentioned in only a few listings, suggesting that while multilingual skills may be beneficial, they are not a primary requirement in most job postings. Additionally, job advertisements requiring languages other than English and Italian are scarce, further highlighting the dominance of these two languages in the Albanian job market.

The analysis of top-demanded skills in job ads highlights customer service & sales and sales & communication as the most sought-after, each appearing five times. Other in-demand skills include communication & IT, engineering & IT, and marketing & sales, emphasizing the importance of combining technical expertise with strong interpersonal skills.

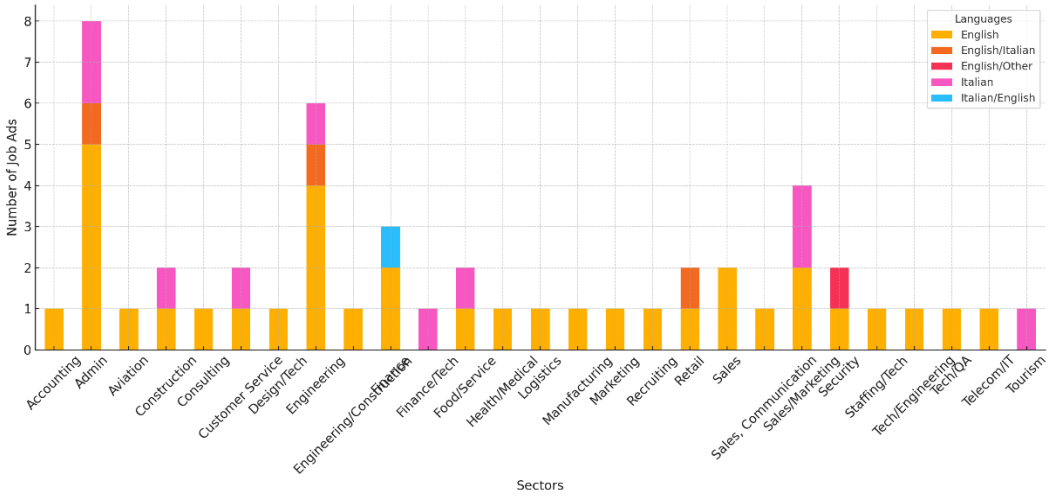
Figure 2. Top 10 most demanded skills by job ads



While sales and communication dominate, technical skills in IT and engineering remain crucial, particularly when paired with problem-solving and customer engagement abilities. The data suggests that soft skills are highly valued across industries, while technical skills gain importance when combined with communication proficiency.

A further analysis of language demand across different sectors is quite a revelation. The graph below shows the demand for various languages across different job sectors. English dominates across most sectors, appearing in the majority of job ads, especially in sectors like accounting, administration, and engineering/construction.

Figure 3. Language demand across different sectors

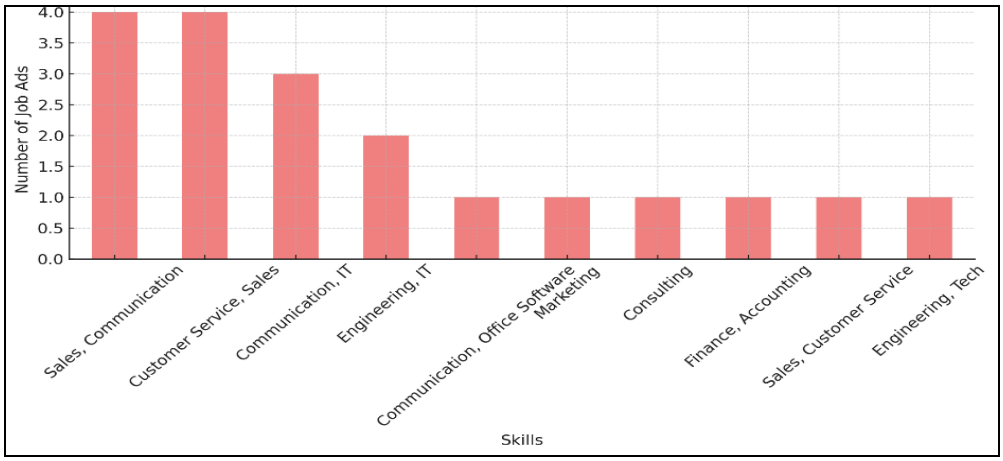


In sectors like sales/marketing and customer service, there's a noticeable demand for English/Italian, indicating that some positions require both languages. The engineering and consulting sectors also show a slight demand for English/other languages, and Italian/English is mostly required in niche roles such as security sector.

Overall, the graph suggests that English is by far the most important language across most sectors, with Italian showing specific demand in roles that require interaction with Italian-speaking clients or teams.

With regard to top skill pairings with English language we could safely say that the most in-demand combinations are centered around sales and customer service, with sales, communication and customer service, sales topping the list.

Figure 4. Top skill pairings with English language

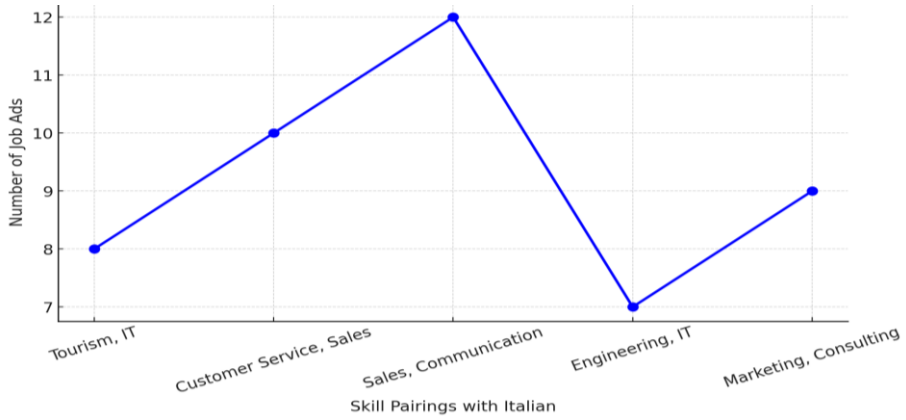


Other frequently required skill pairings include communication, IT and engineering, IT, indicating that technical roles also prioritize strong communication alongside specialized skills. Skills like marketing, consulting, finance and accounting appear less frequently, showing that while they are important, they are not as prevalent as the sales and customer service-related skills. This graph highlights that communication and sales skills, especially in combination with English, are highly sought after in the current job market.

The analysis of job ads highlights that sales & communication roles have the highest demand for Italian proficiency, followed closely by customer service & sales. This underscores the importance of Italian in client-

facing roles, particularly in business and tourism-related sectors. Tourism & IT and marketing & consulting also show steady demand, reflecting the need for bilingual professionals in strategic and service-oriented positions. In contrast, engineering & IT has the lowest demand for Italian, indicating that technical fields prioritize expertise over language skills. Overall, Italian fluency is most valuable in sales, customer service, and tourism, where strong communication is key.

Figure 5. Fluctuations in demand for top skill pairings with Italian.



Whereas, in the case of German, given the limited scope of data, the only association was with health and care sectors. In addition, German language skills occupy a niche demand and are primarily required in sales positions, especially those involving export and trade with German-speaking countries.

A few job listings were thrown out of the study since they did not require any knowledge of foreign languages and they fell under the so-called low skilled jobs including positions like plumbers, carpenters, stock-takers, gas statation attendants etc.

4. CONCLUSIONS

The findings confirm that English remains the dominant language in the Albanian labor market, with its presence in the majority of job advertisements across various sectors. Its widespread demand aligns with broader European trends, where English serves as the primary foreign language for business and professional interactions. While Italian ranks as the second most requested language, its demand is significantly lower, mainly concentrated in customer service, sales, and tourism-related roles. The relatively low occurrence of bilingual job postings suggests that while multilingualism is valued, English proficiency alone remains sufficient for most positions.

Additionally, the analysis of skill pairings highlights the high demand for a combination of sales, communication, and customer service skills, particularly when coupled with English. Technical skills in IT and engineering are also valued but tend to be more specialized and often do not require fluency in Italian. Interestingly, German was primarily linked to the health and care sector, reflecting an increasing trend of Albanian professionals seeking employment opportunities abroad, particularly in Germany. These insights reinforce the importance of strong communication abilities alongside industry-specific expertise, with English continuing to be the key language driving employment prospects.

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21. Yüzyıldaki Küresel Enerji Krizleri ve Türkiye'nin Enerji Politikalarındaki Değişimler

Prof. Dr. Erdal ARSLAN[1] **Muhammed Abdulkadir DEMET[2]**

[1]Selçuk Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İktisat, erdalarslan@selcuk.edu.tr, ORCID: 0000-0003 4892-2963.

[2] Yüksek Lisans Öğrencisi, Selçuk Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İktisat, mabdemet@gmail.com, ORCID: 0009-0003-7594 6466.

Özet: Bu çalışma, 2000-2025 yılları arasında küresel enerji krizlerinin nedenlerini, dinamiklerini ve Türkiye'nin enerji politikalarındaki değişimleri incelemektedir. Küresel enerji piyasalarında yaşanan dalgalanmalar, petrol ve doğal gaz fiyatlarında görülen ani artış ve düşüşler, jeopolitik gerilimler ve arz güvenliği sorunları ele alınarak analiz edilmiştir. 2008 küresel finans krizi, 2014-2016 petrol fiyatlarındaki çöküş, COVID-19 pandemisinin enerji talebine etkileri ve 2022'de Rusya Ukrayna Savaşı sonrası ortaya çıkan enerji krizleri, dünya genelinde enerji politikalarının dönüşümünü tetiklemiştir. Türkiye, artan enerji talebi ve ithalat bağımlılığı karşısında yenilenebilir enerji yatırımlarını artırmış, enerji arz güvenliğini sağlamak amacıyla doğal gaz tedarik anlaşmalarını çeşitlendirmiş ve nükleer enerji projelerini hayata geçirmiştir. Çalışma, Türkiye'nin enerji politikalarındaki dönüşüm sürecini detaylandırarak, yenilenebilir enerji teşvik mekanizmaları, TANAP ve Türk Akım gibi boru hattı projeleri ve Akkuyu Nükleer Güç Santrali gibi büyük ölçekli yatırımları ele almaktadır. Sonuç olarak, Türkiye'nin enerji arz güvenliğini güçlendirmek ve dışa bağımlılığı azaltmak amacıyla kapsamlı adımlar attığı, ancak küresel enerji krizlerinin ülkedeki enerji politikaları üzerinde belirleyici olmaya devam ettiği vurgulanmaktadır.

Anahtar Kelimeler: Küresel Enerji Krizleri, Türkiye'nin Enerji Politikası, Yenilenebilir Enerji, Doğal Gaz Arz Güvenliği, Nükleer Enerji

Abstract: This study examines the causes and dynamics of global energy crises between 2000 and 2025 and analyzes the transformations in Türkiye's energy policies. Fluctuations in global energy markets, sharp increases and decreases in oil and natural gas prices, geopolitical tensions, and supply security issues are assessed in detail. The 2008 global financial crisis, the 2014-2016 oil price collapse, the impact of the COVID-19 pandemic on energy demand, and the post-2022 energy crises triggered by the Russia-Ukraine War have significantly influenced energy policies worldwide. Facing increasing energy demand and import dependency, Türkiye has expanded its renewable energy investments, diversified its natural gas supply agreements to enhance energy security, and launched nuclear energy projects. This study explores Türkiye's energy policy transformation, focusing on renewable energy incentive mechanisms, strategic pipeline projects such as TANAP and TurkStream, and large-scale investments like the Akkuyu Nuclear Power Plant. The findings indicate that Türkiye has taken comprehensive steps to strengthen energy security and reduce external dependence; however, global energy crises continue to shape the country's energy strategies.

Key Words: Global Energy Crises, Türkiye's Energy Policy, Renewable Energy, Natural Gas Supply Security, Nuclear Energy

1. GİRİŞ

Küresel enerji piyasaları, 21. yüzyılın ilk çeyreğinden itibaren artan enerji talebi, jeopolitik gerginlikler ve ekonomik dalgalanmalar nedeniyle büyük değişimlere uğramıştır (Gül, Ercan, Akınoğlu & Açıkgöz, 2025). Özellikle Çin, Hindistan ve diğer yükselen ekonomilerin hızlı sanayileşmesi, küresel petrol ve doğal gaz talebinde büyük artışlara yol açmış ve bu durum arz-talep dengesinde ciddi dalgalanmalara neden olmuştur (Acar, Kat, Rogner, Saygin & Taranto, 2023). Enerji krizleri yalnızca enerji fiyatlarını etkilemekle kalmamış, aynı zamanda ekonomik büyüme, dış ticaret dengeleri ve ulusal güvenlik politikaları üzerinde de belirleyici bir faktör haline gelmiştir (Balcı, 2023).

Özellikle 2000'lerden itibaren enerji fiyatlarında gözlenen sert dalgalanmalar, küresel ekonominin kırılgan yapısını ortaya koymuş, arz güvenliğini yeniden tartışmaya açmıştır. 2008 küresel finans krizi sonrası yaşanan ekonomik daralma, enerji talebinde keskin bir düşüşe neden olmuş, ardından ABD'nin kaya gazı devrimi enerji piyasalarında yeni dengeler oluşturmuştur. 2020'de COVID-19 pandemisinin küresel enerji talebine olan etkisi ve 2022'de Rusya-Ukrayna savaşının tetiklediği enerji arz krizleri, ülkelerin enerji politikalarını yeniden şekillendirmesine yol açmıştır (Merdan, 2021). Bu süreç, enerji arz güvenliğini sağlamaya yönelik uluslararası iş birliklerini artırmış, yenilenebilir enerji kaynaklarına olan yönelimi hızlandırmış ve alternatif enerji tedarik yöntemlerini gündeme getirmiştir (Pala, 2024).

Türkiye, büyük ölçüde ithal fosil yakıtlara bağımlı bir enerji portföyüne sahip olması nedeniyle küresel enerji krizlerinden doğrudan etkilenmiştir. 2000'li yılların başında Türkiye'nin enerji tüketimi büyük ölçüde doğal gaz ve kömür gibi ithal fosil yakıtlara dayanıyordu ve bu durum ülkenin cari açığını artırarak ekonomik kırılganlığı derinleştirmiştir (Koca & Yoldaş, 2022). Küresel enerji krizleri ve fiyat dalgalanmaları, Türkiye'nin enerji arz güvenliği politikalarını yeniden gözden geçirmesini zorunlu hale getirmiştir. Bu doğrultuda Türkiye, yenilenebilir enerji yatırımlarını artırmış, LNG altyapısını güçlendirmiş ve nükleer enerji projelerini hayata geçirerek dışa bağımlılığı azaltmaya yönelik çeşitli stratejiler geliştirmiştir (Akyüz, 2024).

Bu çalışma, 21. yüzyıldaki küresel enerji krizlerinin nedenlerini ve Türkiye'nin bu krizlere karşı geliştirdiği stratejik politikaları ele almayı amaçlamaktadır. Çalışmada, enerji krizlerinin fiyat dalgalanmalarına ve arz güvenliğine olan etkileri incelenecek, Türkiye'nin yenilenebilir enerji yatırımları, doğal gaz tedarik anlaşmaları ve nükleer enerji projeleri bağlamında izlediği enerji politikaları analiz edilecektir. Ayrıca, geleceğe yönelik sürdürülebilir enerji politikalarının nasıl şekillenebileceği tartışılacaktır. Araştırma, son beş yıla ait akademik çalışmaların, uluslararası enerji kuruluşlarının raporlarının ve güvenilir haber kaynaklarının verileri temel alınarak gerçekleştirilecektir. Bu araştırma, küresel enerji krizlerinin dinamiklerini ve Türkiye'nin enerji politikalarındaki dönüşümü detaylı bir şekilde ele alarak, enerji güvenliği, sürdürülebilirlik ve ekonomik istikrar bağlamında kapsamlı bir değerlendirme sunmayı hedeflemektedir.

2. KÜRESEL ENERJİ KRİZLERİ (2000-2025)

Küresel enerji piyasaları, 21. yüzyılın başından itibaren ekonomik büyüme, jeopolitik gelişmeler ve teknolojik dönüşümler nedeniyle sürekli değişim göstermektedir. 2000'li yılların başında özellikle gelişmekte olan ekonomilerin enerji talebindeki artış, petrol ve doğal gaz fiyatlarında önemli dalgalanmalara neden olmuştur (Demir, 2023). Küresel ekonomik krizler, tedarik zinciri sorunları ve jeopolitik çatışmalar enerji piyasalarını doğrudan etkilemiş, arz güvenliği ve fiyat istikrarı konularını yeniden gündeme getirmiştir (Yıldırım, 2019).

Son 25 yılda küresel enerji krizleri; 2000'li yılların başındaki artan talep ve spekülatif hareketler, 2008 küresel finans krizi, 2010'lu yıllardaki kaya petrolü devrimi, 2020 COVID-19 pandemisi ve 2021-2022 küresel enerji krizleri gibi farklı dinamikler üzerinden şekillenmiştir. Bu krizler, yalnızca fiyat dalgalanmalarıyla sınırlı kalmamış; aynı zamanda ülkelerin enerji politikalarında köklü değişikliklere yol açarak yenilenebilir enerji yatırımlarının hızlanmasına ve tedarik stratejilerinin çeşitlendirilmesine neden olmuştur (Akyüz, 2024; Furuncu & Akbaş, 2019).

2.1. 2000'li Yılların Başlarında Artan Talep ve İlk Dalgalanmalar

2000'li yılların başında küresel enerji talebi, özellikle Çin, Hindistan ve diğer yükselen ekonomilerin hızlı sanayileşmesi nedeniyle büyük bir artış göstermiştir. Artan talep, petrol ve doğal gaz piyasalarında arz-talep dengesini bozarak fiyatların yükselmesine yol açmıştır (Demir, 2023). 2000-2007 döneminde ham petrol fiyatları, spekülatif hareketler, OPEC üretim politikaları ve küresel ekonomik büyümenin etkisiyle 60-70 ABD doları seviyelerine ulaşmıştır (Yıldırım, 2019).

Bu dönemde, OPEC üyesi ülkeler arzı dengelemek adına üretim kotalarını belirli seviyelerde tutmaya çalışmış, ancak jeopolitik olaylar ve spekülatif yatırımlar fiyat dalgalanmalarını kaçınılmaz hale getirmiştir. Örneğin, 2003'te Irak Savaşı'nın başlaması, arzda ciddi belirsizlikler meydana getirmiştir. Bu belirsizlikler petrol fiyatlarını ani bir şekilde yükseltmiştir (Akova, 2019). Aynı dönemde doğal gaz piyasası da hızla büyümüş, ancak bölgesel boru hattı anlaşmalarına dayandığı için fiyat dalgalanmaları petrol piyasasına kıyasla daha sınırlı kalmıştır (Yılmaz & Erdem, 2021).

2.2. 2008 Küresel Finans Krizi ve Petrol Fiyatlarındaki Keskin Düşüş

2008 yılı enerji piyasaları açısından kritik bir dönüm noktası olmuştur. Temmuz 2008'de petrol fiyatları 147 ABD dolarına ulaşarak tarihi zirvesine çıkmış, ancak Eylül 2008'de patlak veren küresel finans krizi, enerji talebinde ani bir düşüşe neden olmuştur. Krizin etkisiyle petrol fiyatları Aralık 2008'de 40 ABD dolarının altına inerek %70'lik bir gerileme kaydetmiştir (Demir, 2023; Kaya, 2022).

Finansal belirsizlik, yatırımcı güvenini sarsarken, OPEC tarihinin en büyük üretim kesintisi anlaşmasını uygulamaya koyarak piyasayı istikrara kavuşturmaya çalışmıştır. Ancak bu önlem, kısa vadede fiyatların istikrar kazanmasını sağlayamamış, enerji sektöründeki belirsizlikler devam etmiştir (Çelik & Şimşek, 2021). Ayrıca, kriz döneminde enerji yatırımları yavaşlamış ve ülkeler enerji arz güvenliğini sağlamak amacıyla stratejik petrol stoklarını artırmaya yönelik politikalar geliştirmiştir (Akyüz, 2024).

2.3. 2010'lu Yıllarda Arz Fazlası, Kaya Petrolü Devrimi ve Piyasa Yeniden Dengeleme Süreci

2010'lu yıllarda küresel ekonomi toparlanmaya başlarken, ABD'deki kaya petrolü devrimi küresel enerji piyasasında büyük bir dönüşüme yol açmıştır. ABD'nin petrol üretimindeki artış, küresel arz fazlası oluşturarak fiyatları ciddi şekilde düşürmüştür. 2014'te petrol fiyatları 115 ABD dolarından 50 ABD dolarına kadar gerilemiştir (Koca & Yoldaş, 2022).

Bu dönemde OPEC'in üretim kısıtlama politikaları içindeki tutarsızlıklar, Suudi Arabistan öncülüğünde OPEC+ grubunun oluşmasına yol açmıştır. 2016 itibarıyla OPEC+ üretim kesintileriyle piyasayı dengelemeye çalışmış, ancak fiyat dalgalanmaları devam etmiştir (Öztürk, 2020; IEA, 2022).

Doğal gaz piyasasında da benzer değişimler yaşanmıştır. ABD'nin kaya gazı üretimindeki artış, Avrupa'nın enerji güvenliği politikalarını yeniden şekillendirmiş ve LNG ithalatı önemli ölçüde artmıştır (Furuncu & Akbaş, 2019).

2.4. 2020 COVID-19 Pandemisi: Talep Şoku ve Piyasa Dönüşümü

COVID-19 pandemisi, küresel enerji piyasalarında eşi benzeri görülmemiş bir talep şokuna neden olmuştur. 2020'nin ilk çeyreğinde küresel enerji tüketiminde %4 oranında azalma kaydedilmiş, ABD'de petrol talebinin hızla düşmesi nedeniyle fiyatlar Nisan 2020'de sıfırın altına gerilemiştir (IEA, 2021). COVID-19 pandemisi küresel enerji piyasasında talep şokuna yol açarak petrol fiyatlarını eşi benzeri görülmemiş seviyelere düşürmüştür (Emre & Sözen, 2024).

Bu süreçte OPEC+ ülkeleri, piyasada istikrarı sağlamak amacıyla Mayıs ve Haziran 2020'de toplamda 9.7 milyon varil/gün üretim kesintisi uygulamıştır (Demir, 2023). LNG piyasalarında ise arz fazlası nedeniyle fiyatlar rekor seviyelere düşmüş, ancak uzun vadeli tedarik anlaşmalarıyla piyasa dengeye oturmuştur (Akyüz, 2024).

Pandemi sürecinde, ülkeler fosil yakıtlardan yenilenebilir enerjiye yönelme konusunda daha güçlü adımlar atmış, bu durum karbon emisyonlarında geçici bir düşüşe neden olmuştur (Visual Capitalist, 2023). Ancak, ekonomik toparlanma sürecinde enerji talebinin hızla artması emisyonları tekrar yükseltmiştir.

Pandeminin enerji piyasalarındaki etkileri, aynı zamanda ülkelerin uzun vadeli stratejilerinde de belirleyici bir rol oynamıştır. Ekonomik belirsizlik dönemlerinde, ülkeler enerji arz güvenliğini sağlamak amacıyla stratejik rezervlerini artırmış, yeni altyapı yatırımlarına yönelmiş ve yenilenebilir enerji teknolojilerine hız kazandırmıştır. Özellikle ABD, Avrupa ve Çin gibi büyük ekonomiler, pandemi sonrası toparlanma sürecinde temiz enerjiye geçişi hızlandıran politikaları hayata geçirmiştir.

2.5. 2021-2022 Küresel Enerji Krizi ve Jeopolitik Çatışmaların Derin Etkileri

2021'de küresel ekonomi toparlanırken, arz tarafında yaşanan gecikmeler ve düşük yatırım seviyeleri nedeniyle enerji piyasasında yeni bir kriz ortamı doğmuştur. Talep artışı ve arz yetersizliği, küresel enerji fiyatlarını hızla yükseltmiştir (IEA, 2022).

Şubat 2022'de Rusya'nın Ukrayna'yı işgali, enerji piyasalarında büyük bir şok etkisi oluşturmuştur. Avrupa'daki doğal gaz fiyatları rekor seviyelere ulaşmış, bu durum küresel enerji güvenliği politikalarında köklü değişimlere yol açmıştır (Akyüz, 2024). Avrupa Birliği, LNG ithalatını artırma, yenilenebilir enerji yatırımlarına yönelme ve Rusya'ya bağımlılığı azaltma stratejileri geliştirmiştir (Kılınç-Ata, 2021).

Bu kriz, küresel enerji arz güvenliğinin önemini bir kez daha vurgulamış, ülkeleri yeni enerji stratejileri geliştirmeye zorlamıştır. Yenilenebilir enerjiye olan ilgi artarken, uzun vadeli tedarik sözleşmeleri ve enerji depolama yatırımları enerji piyasasında istikrar sağlamaya yönelik adımlar olarak öne çıkmıştır (Pala, 2024).

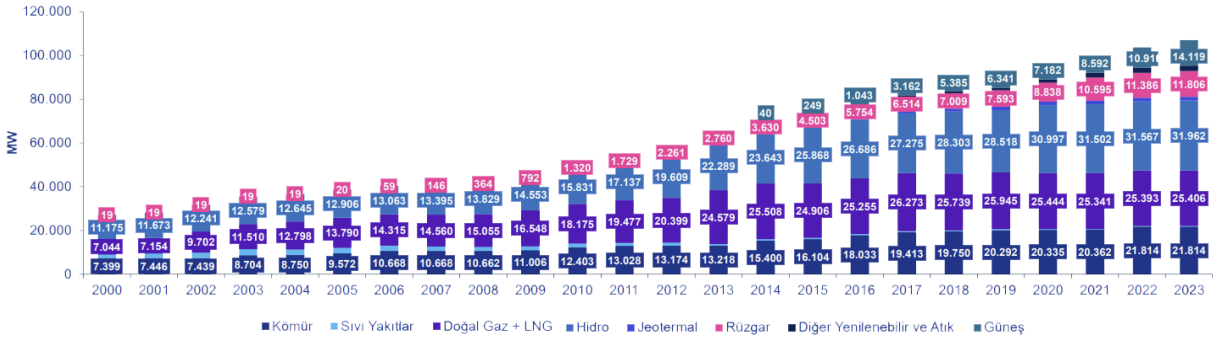
2021-2022 küresel enerji krizi, tarihsel olarak benzeri görülmemiş boyutlarda arz-talep dengesizlikleri, fiyat şokları ve jeopolitik çatışmaların etkisini ortaya koymuştur. Bu kriz, enerji piyasalarının kırılgan yapısını bir kez daha gözler önüne sermiş; aynı zamanda temiz enerjiye geçişin, arz güvenliğini ve ekonomik istikrarı sağlamada kaçınılmaz bir strateji olduğunu kanıtlamıştır.

3. TÜRKİYE'NİN ENERJİ POLİTİKALARINDAKİ DEĞİŞİMLER

Türkiye, 21. yüzyılın başlarından itibaren hızla artan enerji talebi ve dışa bağımlılığın getirdiği ekonomik riskler nedeniyle enerji politikalarında kapsamlı bir dönüşüm sürecine girmiştir. Özellikle küresel enerji krizlerinin

tetiklediği dalgalanmalar, ithalata dayalı bir enerji sisteminin sürdürülebilir olmadığını göstermiş ve ülkeyi alternatif enerji kaynaklarına yönelmeye teşvik etmiştir. Türkiye'nin enerji politikalarının evriminde, hem reaktif (krizlere yanıt olarak) hem de proaktif (geleceğe yönelik planlı) yaklaşımlar etkili olmuştur. 2017 yılında açıklanan Milli Enerji ve Maden Politikası, enerji güvenliği, yerlileşme ve öngörülebilir piyasa koşullarına odaklanarak uzun vadeli bir çerçeve sunmuştur (Kerimoğlu, 2020). Bu bağlamda, Türkiye'nin enerji politikalarındaki değişimler üç temel eksende şekillenmektedir: yenilenebilir enerji yatırımları, doğal gaz tedarikinde çeşitlendirme ve arz güvenliğinin artırılması ile nükleer enerji projeleri. Bu başlıklar altında Türkiye'nin enerji dönüşümü detaylı olarak ele alınacaktır.

Şekil 1: Türkiye'nin Kaynağa Göre Kurulu Güç Kapasitesi(MW)



Kaynak: KPMG APlus Enerji Sektör Raporu (2024: 28).

3.1. Yenilenebilir Enerji Yatırımları

Türkiye, 2000'li yılların başlarında büyük ölçüde ithal fosil yakıtlara dayalı bir enerji portföyüne sahipti. Bu durum, küresel enerji fiyatlarındaki dalgalanmalara ve döviz kurlarındaki değişimlere bağlı olarak ekonomik kırılganlığı artırmaktaydı (Koca & Yoldaş, 2022). Bu bağımlılığı azaltmak ve sürdürülebilir enerji üretimine geçişi sağlamak amacıyla, 2005 yılında Yenilenebilir Enerji Kanunu (5346 sayılı Kanun) yürürlüğe girdi. Bu kanunla birlikte rüzgâr, güneş, jeotermal, biyokütle ve hidroelektrik kaynaklarından enerji üretimini teşvik eden çeşitli mekanizmalar geliştirildi (Demir, 2023). 2007 yılında yürürlüğe giren Enerji Verimliliği Kanunu, yenilenebilir enerji kullanımının artırılmasını, enerji verimliliğinin teşvik edilmesini ve yenilenebilir enerji kaynaklarının daha yaygın hale getirilmesini amaçlamıştır. 2010 yılında YEK Kanunu'nda yapılan düzenlemeyle, yenilenebilir enerjiye dayalı üretim tesislerinde kullanılan mekanik ve elektro-mekanik ekipmanların yurt içinde üretilmesi durumunda, bu tesislerde üretilen elektrik enerjisi için ek fiyat garantisi sağlanmıştır. 2011 yılında yürürlüğe giren 6094 sayılı kanun ile YEK Kanunu'nda önemli değişiklikler yapılmış, farklı yenilenebilir enerji kaynakları için farklı teşvik tarifeleri belirlenmiş ve yerli ekipman kullanımına yönelik ek destek mekanizmaları oluşturulmuştur. 2013 yılında kabul edilen 6446 sayılı Elektrik Piyasası Kanunu ile ise lisanssız elektrik üretim kapasitesi 1 MW'a yükseltilmiş ve yenilenebilir enerji kaynaklarına dayalı üretim tesislerine şebekeye bağlantı konusunda öncelik tanınmıştır.

Özellikle 2010 yılında devreye giren Yenilenebilir Enerji Kaynaklarını Destekleme Mekanizması (YEKDEM), bu dönüşümde kritik bir rol oynadı. YEKDEM, lisanslı santraller için 10 yıl boyunca sabit fiyat garantisi sunarak hem yerli hem de yabancı yatırımcıları yenilenebilir enerji sektörüne yönlendirdi (Invest in Türkiye, 2023). Bunun sonucunda, 2023 yıl sonu verilerine göre Türkiye'nin toplam kurulu güç kapasitesi 106,7 GW'a yükselmiştir. 2002 yılında bu güç 32 GW'dır (SHURA, 2023). 20 yılda gerçekleşen bu artışın %62'si yenilenebilir enerji santrallerinden sağlanmıştır. 2023 yıl sonunda elektrik kurulu gücün %65,8'ini güneş enerjisi, %14,4'ünü rüzgar enerjisi ve %13,7'sini hidroelektrik santralleri sağlamıştır (EPDK, 2024).

Türkiye'nin yenilenebilir enerji alanındaki büyümesini destekleyen diğer önemli politika aracı ise Yenilenebilir Enerji Kaynak Alanları (YEKA) ihaleleri oldu. 2017 yılında başlatılan bu ihale süreciyle büyük ölçekli rüzgâr ve güneş enerjisi santralleri devreye alınmış, yerli üretim teşvik edilerek teknoloji transferi sağlanmıştır (Özkaya & Yıldırım, 2021). Bu politikalar sayesinde Türkiye, 2024 itibarıyla kurulu enerji üretiminin %60'ını yenilenebilir enerji kaynaklarından sağlamayı başarmıştır (ETKB, 2024). Nitekim bu büyüme istihdama da katkısı olmuştur Türkiye'deki güneş enerjisi sektörü 2022 yılı verilerine göre 50.000'den fazla kişiye istihdam sağlamaktadır (SolarPower Europe, 2022). Yenilenebilir enerji yatırımları sadece enerji arz güvenliğini sağlamakla kalmamış, aynı zamanda Türkiye'nin Paris İklim Anlaşması kapsamında üstlendiği karbon emisyonlarını azaltma taahhüdüne de büyük katkı sağlamıştır (Climate Action Tracker, 2022). Gelecekte, 2035 Ulusal Enerji Planı çerçevesinde

yenilenebilir enerji kapasitesinin daha da artırılması hedeflenmektedir (Türkiye Enerji ve Tabii Kaynaklar Bakanlığı, 2023).

T.C. Enerji ve Tabii Kaynaklar Bakanlığı'nın resmi internet sitesinde yer alan bilgilere göre, Türkiye'nin rüzgâr enerjisi potansiyeli 2006 yılında Türkiye'nin Rüzgâr Enerjisi Potansiyeli Atlası (REPA-V1) aracılığıyla incelenmiştir. Bu çalışma, orta ölçekli sayısal hava tahmin modeli ile mikro ölçekli rüzgâr akış modeline dayanarak hazırlanmış bir veri seti kullanılarak gerçekleştirilmiştir. Analiz sonuçları, yer seviyesinden 50 metre yüksekte bulunan alanlarda yıllık ortalama rüzgâr hızının 7,5 m/s'nin üzerinde olduğunu ortaya koymuştur. Bu bölgelerde kilometrekare başına 5 MW kapasiteli rüzgâr santrallerinin kurulabileceği öngörülmüştür. Türkiye genelinde inşa edilebilecek rüzgâr enerji santrallerinin toplam kapasitesinin ise 47.849,44 MW olarak hesaplandığı belirtilmiştir. Bu potansiyel, ülkenin toplam yüzölçümünün %1,30'una denk gelmekte olup, Türkiye'nin rüzgâr enerjisinden faydalanma açısından önemli bir kapasiteye sahip olduğunu göstermektedir. Türkiye'nin yenilenebilir enerji yatırımlarındaki dönüşümü, ülkenin enerji arz güvenliğini artırmasının yanı sıra, ekonomik büyüme ve çevresel sürdürülebilirlik hedeflerine de önemli katkılar sağlamaktadır (ETKB, 2024) Wind Europa raporunda, özellikle rüzgâr enerjisinin Türkiye için öncelikli bir konu olduğu ve enerji bağımsızlığı açısından hem siyasi hem de toplumsal düzeyde geniş destek gördüğü vurgulanmaktadır (Wind Europe, 2024). Türkiye özel sektörün enerji piyasasına katılımını teşvik etmiş, yerli üretimi desteklemiş ve teknoloji transferi sağlamıştır. Bu süreçte elde edilen tecrübeler, gelecekteki politika reformları için de yol gösterici niteliktedir. Türkiye, 2035 Ulusal Enerji Planı kapsamında yenilenebilir kapasite hedeflerini daha da yükseltmeyi planlamakta; örneğin güneş enerjisi kapasitesinin 52,9 GW'a, rüzgâr enerjisinin ise 29,6 GW'a ulaşması öngörülmektedir (Türkiye Enerji ve Tabii Kaynaklar Bakanlığı, 2023). Böylece, yenilenebilir enerji sektöründeki büyüme, ithalat bağımlılığını azaltacak ve ülkenin enerji dengesinde daha sürdürülebilir bir yapı oluşturacaktır.

Türkiye, 2000'li yılların başında büyük ölçüde ithal fosil yakıtlara bağımlı bir enerji sistemi ile yol alırken, bu bağımlılığın ekonomik ve jeopolitik riskler taşıdığı anlaşılmış ve enerji arz güvenliğini artırmaya yönelik kapsamlı reformlar gerçekleştirilmiştir (Çetinkaya, 2019). Yenilenebilir enerji yatırımları, doğal gaz tedarik çeşitliliği ve nükleer enerji projeleri, Türkiye'nin enerji politikalarının temel direkleri olmuştur. Küresel düzeyde yenilenebilir enerji teknolojilerinin maliyetlerinin düşmesi, Türkiye için bir fırsat olarak değerlendirilmelidir. Ancak, şebeke entegrasyonu, enerji depolama kapasitesinin artırılması ve enerji verimliliği alanlarında daha fazla yatırım gerekmektedir (Aydın, 2023).

Özellikle yenilenebilir enerji alanında sağlanan teşvikler ve düzenleyici çerçeve, Türkiye'nin rüzgar, güneş ve jeotermal enerji kapasitesini önemli ölçüde artırmasını sağlamıştır (Aslan, 2023). 2005 yılında yürürlüğe giren Yenilenebilir Enerji Kanunu ve 2010'da uygulamaya giren YEKDEM mekanizması, özel sektör yatırımlarını teşvik etmiş, böylece 2022 itibarıyla Türkiye'nin toplam yenilenebilir enerji kapasitesi hızla büyümüştür (Ertuğrul & Tür, 2023). Bunun yanı sıra, YEKA projeleri sayesinde büyük ölçekli yenilenebilir enerji yatırımları gerçekleştirilmiş, yerli üretim teşvik edilerek enerji teknolojilerinde bağımsızlık sağlanmaya çalışılmıştır (Yılmaz, 2019).

3.2. Doğal Gaz Anlaşmaları ve Arz Güvenliği

Türkiye'de doğal gaz ilk kez 1970 yılında Kırklareli yakınlarındaki Hamitabat ve Kumrular bölgelerinde keşfedilmiştir. Keşfedilen doğal gaz, ilk olarak 1976 yılında Pınarhisar Çimento Fabrikası'nda kullanılmaya başlanmıştır (Özdemir, 2017). Ülkemize yurt dışından sağlanan doğal gazın iletiminden sorumlu tek yetkili firma olan Boru Hatları ile Petrol Taşıma Anonim Şirketi (BOTAŞ), 1974 yılında Türkiye Petrolleri Anonim Ortaklığı (TPAO) tarafından kurulmuştur (BOTAŞ, 2018). Bir diğer doğal gaz keşfi ise 1975 yılında Mardin Çamurlu sahasında gerçekleşmiş olup, burada çıkarılan doğal gaz 1982 yılında Mardin Çimento Fabrikası'nda kullanılmaya başlanmıştır. Türkiye, yerli doğal gaz rezervlerinin sınırlı olması nedeniyle enerji arz güvenliği konusunda uzun yıllardır tedarik çeşitliliğine dayalı politikalar yürütmektedir. Günümüzde Türkiye'de tüketilen doğal gazın yaklaşık %99'u ithal edilmektedir (IEA, 2022). Bu bağımlılığı azaltmak amacıyla Türkiye, Rusya, Azerbaycan, İran gibi ülkelerle uzun vadeli boru hattı projeleri geliştirmiş ve aynı zamanda LNG terminalleri ve yüzer LNG tesisleri (FSRU) yatırımları ile arz güvenliğini artırmıştır (Koca & Yoldaş, 2022).

Rusya ile 1986'dan bu yana süregelen enerji ortaklığı, Mavi Akım (2003) ve TürkAkım (2020) boru hatları ile daha da güçlenmiştir. Bu projeler, doğrudan Karadeniz altından geçen boru hatları ile Türkiye'ye gaz sevkiyatını güvence altına almıştır (Yıldız & Öztürk, 2021). Ayrıca, 2012'de faaliyete geçen TANAP (Trans Anadolu Doğal Gaz Boru Hattı) projesi, Azerbaycan'dan gelen doğal gazın Türkiye üzerinden Avrupa'ya iletilmesini sağlamış ve Türkiye'nin enerji portföyüne çeşitlilik kazandırmıştır (Invest in Türkiye, 2023). 2010'lu yıllarda Gazprom Export ve SOCAR'dan özel doğal gaz alımına başlanmıştır. 2015 yılı itibarıyla Trans Anadolu Doğal Gaz Boru Hattı (TANAP) kapsamında gaz tedarik edilen bölge sayısı 66'ya ulaşmıştır. 2016 yılında ise Yüzer LNG Depolama ve Gazlaştırma

Ünitesi (FSRU Projesi) faaliyete geçmiş, Tuz Gölü Yer Altı Doğal Gaz Depolama Tesisinde gaz dolum işlemleri başlatılmıştır. Aynı dönemde, Enerji Piyasaları İşletme Anonim Şirketi (EPİAŞ) kurulmuş ve doğal gaz piyasasında faaliyet gösteren paydaşların alım-satım taleplerini gerçekleştirebileceği bir sistem oluşturulmuştur. Bu sürece yönelik gerekli mevzuat düzenlemeleri de hayata geçirilmiştir. 2018 yılına gelindiğinde, EPİAŞ bünyesinde organize toptan doğal gaz satış piyasası resmen faaliyete başlamıştır (Dinçer & Ezan, 2021).

Bunun yanı sıra, LNG (Sıvılaştırılmış Doğal Gaz) yatırımları, Türkiye'nin enerji güvenliği stratejisinde önemli bir yer tutmaktadır. 2016-2020 döneminde Türkiye, LNG terminallerini genişletmiş ve FSRU yatırımlarını artırarak spot LNG piyasasından daha esnek gaz alımı yapma imkanına kavuşmuştur (Demir, 2023). 2022 itibarıyla LNG ithalatı, Türkiye'nin toplam gaz ihtiyacının %22'sini karşılamaktadır (IEA, 2022).

Doğal gaz arz güvenliğinin artırılması, Türkiye'nin enerji politikalarında bir diğer önemli stratejik alan olmuştur. Rusya, Azerbaycan ve İran gibi ülkelerle uzun vadeli anlaşmalar yapılmış, TANAP ve TürkAkım gibi büyük altyapı projeleri hayata geçirilmiştir (Keser, 2020). Ancak, Türkiye doğal gaz tedarikinde tek bir kaynağa bağımlı kalmamak adına LNG ithalatını artırmış ve FSRU (yüzer LNG depolama) terminalleri ile arz esnekliğini sağlamaya yönelik yatırımlar gerçekleştirmiştir (Çetinkaya, 2019). Bu strateji, 2022 yılında Rusya-Ukrayna savaşının meydana getirdiği küresel doğal gaz krizinde Türkiye'nin enerji tedarik güvenliğini güçlendiren unsurlardan biri olmuştur (Aydın, 2023).

Türkiye'nin doğal gaz tedarikinde en önemli kaynaklarından biri Rusya'dır. 1986'dan itibaren Sovyetler Birliği döneminde başlayan ve 1997'de geliştirilen Batı Hattı sayesinde, Rus gazı Türkiye'ye düzenli olarak ulaştırılmaya başlanmıştır. 2003 yılında devreye giren Mavi Akım boru hattı, Rusya'nın Karadeniz altından Türkiye'ye doğrudan gaz iletmesini sağlamış, böylece Ukrayna üzerinden geçen boru hattı riskleri minimize edilmiştir (Reuters, 2020). Mavi Akım'ın yıllık 16 bcm kapasitesi, Türkiye'nin gaz ihtiyacının önemli bir kısmını karşılamış; ancak bu yüksek bağımlılık, siyasi ve ticari riskler doğurmuştur. Özellikle 2015 yılında, Rusya ile yaşanan siyasi gerilimler sonucu gaz tedarikinde belirsizlikler ortaya çıkmış; bu durum, Türkiye'nin doğal gaz portföyünde çeşitlendirmeye gitme ihtiyacını doğurmuştur (Koca & Yoldaş, 2022).

Bu bağlamda, 2017'de başlatılan TürkAkım (TurkStream) projesi, Rusya gazının Türkiye'ye daha güvenli bir şekilde ulaşmasını sağlamak amacıyla önemli bir adım olmuştur. Türk Akımı (TurkStream), Rusya'dan Türkiye'ye ve Avrupa'ya doğalgaz taşımak amacıyla geliştirilen stratejik bir boru hattı projesidir. 2020 yılında tam kapasiteyle faaliyete geçen proje, Karadeniz'in altından geçen iki paralel hat ile Türkiye'ye ve Avrupa'ya toplamda 31,5 milyar metreküp doğalgaz taşıma kapasitesine sahiptir. Projenin ilk hattı Türkiye'nin iç pazarına doğrudan gaz sağlarken, ikinci hat Bulgaristan, Sırbistan, Macaristan ve diğer Avrupa ülkelerine doğalgaz iletmektedir. Ukrayna'yı transit geçiş ülkesi olmaktan çıkarması, Türk Akım'ının en önemli stratejik yönlerinden biridir. Bu sayede Rusya, Avrupa'ya enerji arzını daha güvenli ve doğrudan bir rotayla sağlamış, Türkiye ise bölgesel bir enerji merkezi olma yolunda önemli bir adım atmıştır (Sakal, 2021; Korkmaz, 2023).

Proje, Türkiye'nin enerji arz güvenliğini artırırken, aynı zamanda Avrupa'nın doğalgaz kaynaklarını çeşitlendirme politikalarında önemli bir rol oynamaktadır. Ancak, Türk Akım'ının jeopolitik etkileri de bulunmaktadır. Avrupa Birliği ve ABD, projenin Rusya'nın enerji ihracatında dominant bir pozisyona gelmesine ve bölgedeki enerji bağımlılığının artmasına neden olabileceği yönünde eleştiriler getirmektedir (Şahin & Karan, 2023). Bununla birlikte, proje Türkiye-Rusya enerji işbirliğini güçlendirmiş ve Türkiye'yi enerji geçiş noktası haline getirerek bölgesel enerji diplomasisinde stratejik bir aktör haline getirmiştir. Ekonomik boyutta, Türkiye'nin transit geçiş ücretlerinden ve doğalgaz ticaretinden elde ettiği kazanç, enerji piyasalarındaki konumunu güçlendirmektedir. Sonuç olarak, Türk Akımı, Türkiye'nin enerji merkezi olma hedefi, Rusya'nın enerji ihracat rotalarını çeşitlendirme politikası ve Avrupa'nın enerji güvenliği stratejileri çerçevesinde kritik bir enerji projesi olarak değerlendirilmektedir (Erdal & Söylemez, 2024).

Türkiye'nin doğal gaz arz güvenliği stratejisinde, Azerbaycan ile yapılan anlaşmalar kritik öneme sahiptir. 2006'da devreye giren Bakü-Tiflis-Erzurum (BTE) boru hattı, Azerbaycan'ın Şah Deniz 1 sahasından gelen gazı Türkiye'ye taşımaya başlamış, bu sayede ülkenin gaz portföyünde yeni bir kaynak oluşturulmuştur. 2012'de başlayan ve 2018'de faaliyete geçen Trans-Anadolu Doğalgaz Boru Hattı (TANAP) projesi, Azerbaycan'ın Şah Deniz 2 sahası ve diğer Hazar kaynaklarından çıkan gazı Türkiye üzerinden Avrupa'ya ulaştırmayı amaçlamaktadır. TANAP, yıllık 16 bcm kapasiteye sahiptir; bunun 6 bcm'si Türkiye'nin iç tüketimine, 10 bcm'si ise Avrupa pazarına yönelik olarak planlanmıştır (IEA, 2022). TANAP'ın uygulanması, Türkiye'nin doğal gaz tedarikinde Rusya dışı bir alternatif oluşturması açısından stratejik bir öneme sahiptir. 2020 sonu itibarıyla TANAP'dan gelen gaz miktarı, toplam ithalatın yaklaşık %15-20'sini karşılamaya başlamıştır (Invest in Türkiye, 2023). Türkiye, doğalgaz arz güvenliği için TANAP ve Türk Akım gibi projeleri hayata geçirmiştir. TANAP, Azerbaycan gazının Türkiye üzerinden Avrupa'ya

taşınmasını sağlarken, Türk Akım projesi ise Rus gazının doğrudan Türkiye'ye ulaştırılmasına olanak tanımaktadır (Kakışım, 2019).

Türkiye, İran ile de uzun yıllara dayanan doğal gaz ticareti yapmaktadır. 1996'da imzalanan anlaşma çerçevesinde Tebriz-Ankara doğalgaz boru hattı inşa edilmiş ve 2001'den itibaren İran'dan gaz akışı başlamıştır. Bu hat, yıllık maksimum ~10 bcm kapasiteye sahip olup, özellikle kış aylarında arzın güvenilirliği açısından önem taşımaktadır. Ancak, İran'dan gelen gazda yaşanan teknik aksaklıklar ve fiyat anlaşmazlıkları, zaman zaman arz güvenliğinde risk oluşturmuştur. Örneğin, 2012'de yaşanan fiyat tartışmaları sonucunda, Türkiye uluslararası tahkime başvurarak gaz fiyatlarında indirim sağlanmıştır (Koca & Yoldaş, 2022). İran'dan gelen gaz, Türkiye'nin doğal gaz portföyünde önemli yer tutsa da iç talebin artması ve dış kaynak çeşitliliği stratejileri nedeniyle uzun vadeli planlamalarda daha farklı kaynaklara yönelim söz konusu olmuştur. İran'dan 2013 yılında 8.730 milyon Sm^3 olan doğal gaz ithalatı 2022 yılında 9.405 milyon Sm^3 miktarına ulaşmıştır (EPDK & TPAO, 2022). Ancak 2013-2022 yılları arasındaki verilerine bakıldığında doğal gaz ithalatında en büyük paya sahip ülke Rusya olmuştur. Bunu sırasıyla İran, Azerbaycan ve Cezayir takip etmiştir. Ancak 2022 yılında ABD'den yapılan ithalatın artmasıyla, en fazla doğal gaz tedarik edilen ülkeler arasında yerini almıştır. 2022 yılı itibarıyla en çok doğal gaz ithal edilen ülkeler sırasıyla Rusya, İran, Azerbaycan, ABD, Cezayir, Mısır ve Nijerya olmuştur (EPDK & TPAO, 2022).

Türkiye, doğal gaz tedarikinde yalnızca boru hattı kaynaklarına bağımlı kalmamak amacıyla LNG ithalatını da stratejik bir araç olarak kullanmaya başlamıştır. 1990'larda devreye giren Marmara Ereğlisi terminali ve 2006'da açılan Ege terminali, LNG'nin ilk örnekleridir. Ancak, 2015 sonrasında küresel LNG piyasasının gelişmesiyle birlikte Türkiye, LNG kaynaklarına erişim konusunda ciddi adımlar atmıştır. LNG, doğal gazın spot piyasada ve uzun vadeli kontratlar dışında alınabilen esnek bir tedarik kaynağı olarak öne çıkmıştır. Özellikle, 2016-2020 döneminde FSRU (Yüzer LNG Depolama ve Gazlaştırma Üniteleri) yatırımları devreye alınmış, bu sayede Türkiye'nin LNG terminal kapasitesi önemli ölçüde artırılmıştır (IEA, 2022). Marmara Ereğlisi, Ege, Hatay ve Saros gibi farklı bölgelerde kurulan LNG terminalleri, ülke genelinde doğal gaz arz güvenliğini artırmak amacıyla stratejik olarak konumlandırılmıştır. Bu terminaller sayesinde, Türkiye hem spot piyasadan hem de uzun vadeli kontratlarla LNG çekebilmekte, arz kesintilerine karşı tampon görevi gören depolama alanlarını artırmaktadır. Örneğin, 2022'de LNG ithalatı, Türkiye'nin toplam gaz ihtiyacının yaklaşık %22'sini karşılamaya başlamıştır (Invest in Türkiye, 2023).

3.3. Nükleer Enerji Projeleri

Türkiye, enerji politikalarında büyük bir dönüşüm geçirerek yenilenebilir enerji, doğal gaz arz güvenliği ve nükleer enerji alanlarında kapsamlı yatırımlar yapmıştır. Yenilenebilir enerjiye yönelik teşvikler, YEKDEM ve YEKA projeleriyle desteklenmiş, doğal gaz tedarikinde LNG ve boru hattı projeleriyle çeşitlendirme sağlanmış ve nükleer enerji yatırımları hız kazanmıştır.

Ancak, enerji dönüşümü sürecinde teknolojik entegrasyon, şebeke altyapısının geliştirilmesi ve enerji depolama yatırımları gibi bazı zorluklar devam etmektedir (Yılmaz & Erdem, 2021). Gelecekte, yeşil enerji finansmanı, karbon piyasası mekanizmaları ve dijital enerji sistemleri Türkiye'nin enerji stratejisinde önemli bir yer tutacaktır (Climate Action Tracker, 2022). Türkiye'nin uzun vadeli enerji hedefleri doğrultusunda, 2035 Ulusal Enerji Planı kapsamında yenilenebilir enerji kapasitesinin artırılması ve enerji arz güvenliğinin daha da güçlendirilmesi planlanmaktadır (Türkiye Enerji ve Tabii Kaynaklar Bakanlığı, 2023).

Akkuyu Nükleer Güç Santrali (ANPP), Türkiye'nin enerji portföyünü çeşitlendirme ve enerji güvenliğini artırma hedefleri doğrultusunda geliştirilen stratejik projelerden biridir. Proje, uluslararası işbirliği çerçevesinde modern nükleer teknolojilerden yararlanılarak, yüksek verimlilikte ve güvenli enerji üretimi sağlamayı amaçlamaktadır (Akkuyu, 2025). Santralin tasarımında, çevresel etkilerin azaltılması, uluslararası nükleer güvenlik standartlarına uyum ve sürdürülebilirlik ilkeleri temel alınmıştır. Ayrıca, proje kapsamında gerçekleştirilen mühendislik ve teknolojik yenilikler, santralin ekonomik verimliliğini artırırken, enerji arz güvenliğine de önemli katkılar sunmayı hedeflemektedir.

Türkiye'nin nükleer enerji yatırımları da uzun vadeli enerji stratejisinde önemli bir yer tutmaktadır. Akkuyu Nükleer Güç Santrali, Türkiye'nin elektrik üretiminde nükleer enerjiyi ilk kez devreye alacağı büyük ölçekli bir projedir (World Nuclear News, 2023). 2010 yılında Rusya ile yapılan anlaşma çerçevesinde inşasına başlanan santralin ilk reaktörünün 2024 sonunda devreye alınması planlanmaktadır (Şahin, 2022). Bu bağlamda, Akkuyu NPP, dört adet VVER-1200/509 (AE-2006) tipi reaktörden oluşmakta olup, tam kapasite çalıştığında Türkiye'nin elektrik ihtiyacının yaklaşık %10'unu karşılayabilecek kapasitededir (Enerji ve Tabii Kaynaklar Bakanlığı, 2024). İlk ünitesinin 2025 yılında devreye alınması planlanmakta olup, santral tam kapasiteye ulaştığında yıllık ortalama 40 milyar kWh elektrik üretmesi öngörülmektedir (Akkuyu, 2025). Termoekonomik analizler doğrultusunda santralin

enerji verimliliği %35, ekserji verimliliği ise %68 olarak hesaplanmış ve yatırımın geri dönüş süresi 7-8 yıl olarak öngörülmüştür (Saylan & Aygün, 2024). Santralin çevresel etkileri ve atık ısı kullanımı da önemli bir araştırma konusu olmuştur. Yapılan analizlere göre, santralde üretilen atık ısının %68'i bölgesel ısıtma, seracılık ve tarımsal kurutma gibi alanlarda değerlendirilebilmektedir. Böylece, enerji verimliliği artırılırken, termal çevresel kirlilik de minimize edilmektedir (Saylan & Aygün, 2024). Sonuç olarak, Akkuyu Nükleer Güç Santrali, sadece elektrik üretimi açısından değil, aynı zamanda enerji verimliliği, ekonomik sürdürülebilirlik ve çevresel yönetim konularında da Türkiye'nin enerji stratejisinde kritik bir rol oynamaktadır. Akkuyu NGS'nin yanı sıra, Türkiye, nükleer enerji kapasitesini artırmak amacıyla Sinop ve İğneada'da yeni santrallerin planlamasını da sürdürmektedir (Harunoğulları, 2019). Ancak, nükleer enerji yatırımları, yüksek maliyetler, güvenlik ve teknoloji bağımlılığı gibi önemli tartışmaları da beraberinde getirmektedir.

4. SONUÇ

Türkiye'nin enerji dönüşüm süreci, küresel enerji krizlerinin getirdiği belirsizlikler ve dalgalanmalar karşısında ortaya koyduğu stratejik adımların, ekonomik, çevresel ve toplumsal boyutlarının bütüncül bir değerlendirmesini sunmaktadır. 21. yüzyılın başlarından itibaren yaşanan ani fiyat dalgalanmaları, jeopolitik gerilimler, ekonomik krizler ve beklenmedik talep şokları, dünya genelinde enerji piyasalarının kırılganlığını gözler önüne sererken, Türkiye de bu küresel dinamiklere adapte olmak için köklü reformlar yapmak zorunda kalmıştır. Ülkemiz, enerji arz güvenliğini sağlama, dışa bağımlılığı azaltma ve sürdürülebilir kalkınmayı destekleme hedefleri doğrultusunda, enerji portföyünü çeşitlendirerek yenilenebilir, doğal gaz ve nükleer enerji gibi farklı kaynaklara yönelmiş, böylece ulusal enerji stratejilerini yeniden şekillendirme yolunu izlemiştir.

Enerji sektöründeki dönüşüm, öncelikle yenilenebilir enerji alanındaki atılımlarla kendini göstermiştir. 2005 yılında hayata geçirilen düzenlemeler ve sonrasında getirilen teşvik mekanizmaları, güneş, rüzgar, hidroelektrik ve diğer yenilenebilir kaynakların hızla gelişmesini sağlamış; ülkemizin kurulu güç kapasitesinde gözle görülür artışa yol açmıştır. Bu süreçte, özel sektör yatırımları, yerli teknolojilerin desteklenmesi ve uluslararası iş birlikleri sayesinde, yenilenebilir enerji alanında kaydedilen ilerlemeler yalnızca enerji arz güvenliğini güçlendirmekle kalmamış, aynı zamanda istihdam olanaklarını artırarak ekonomik büyümeye de ivme kazandırmıştır. Türkiye'nin doğal kaynaklarını daha verimli kullanma ve çevresel duyarlılığa dayalı bir enerji üretim modeli geliştirme çabaları, enerji dönüşümünün temel taşlarını oluşturmuştur. Hem ekonomik hem de çevresel açıdan önemli olan bu dönüşüm, fosil yakıtların neden olduğu çevresel kirliliğin ve karbon ayak izinin azaltılmasına katkı sağlamaktadır.

Doğal gaz alanında ise, Türkiye'nin uzun yıllardır sürdürdüğü dışa bağımlılık, küresel piyasalardaki ani fiyat dalgalanmaları ve jeopolitik risklerin oluşturduğu belirsizlikler göz önünde bulundurulduğunda, tedarik kaynaklarını çeşitlendirmeye yönelik stratejik adımlar kaçınılmaz hale gelmiştir. Ülkemizin doğal gaz portföyünü zenginleştiren boru hattı projeleri ve LNG altyapı yatırımları hem iç piyasada hem de dış ticarette yeni fırsatlar meydana gelmiştir, enerji arz güvenliğini artırma konusunda önemli bir rol oynamıştır. TANAP ve Türk Akım gibi büyük ölçekli projeler, sadece doğal gazın Türkiye'ye ulaşımını kolaylaştırmakla kalmamış, aynı zamanda ülkemizin bölgesel enerji merkezi olma yolundaki stratejik hamlelerinin simgesi haline gelmiştir. LNG terminallerinde gerçekleştirilen yatırımlar, spot piyasadan esnek gaz tedarik imkânı sunarak, arz kesintilerinin meydana getirdiği riskleri minimize etme açısından da büyük önem taşımaktadır. Bu stratejik çeşitlilik, Türkiye'nin dışa olan enerji bağımlılığını azaltma ve ekonomik istikrarı koruma noktasında atılmış en önemli adımlardan biri olarak değerlendirilebilir.

Nükleer enerji ise, ülkemizin enerji portföyüne farklı bir boyut kazandırma amacıyla benimsenen, ileri teknoloji ve uzun vadeli stratejik yaklaşımların bir örneğidir. Akkuyu Nükleer Güç Santrali başta olmak üzere, nükleer projeler, enerji üretiminde çeşitliliği artırmak, verimliliği yükseltmek ve teknolojik bağımsızlığı sağlamak adına kritik bir rol üstlenmektedir. Nükleer enerji yatırımlarında uluslararası standartlara uygun güvenlik önlemleri, çevresel etkilerin azaltılması ve atık ısının verimli kullanılması gibi hususlar titizlikle ele alınmakta; böylece, projenin ekonomik ve toplumsal sürdürülebilirliği sağlanmaya çalışılmaktadır. Yüksek maliyetler, teknolojik bağımlılık ve güvenlik endişeleri gibi tartışmalı konuların yanı sıra, nükleer enerjinin toplumsal kabulü ve çevresel risk yönetimi de göz önünde bulundurularak, bu alanda sürekli iyileştirmeler ve yenilikçi çözümler geliştirilmesi gerekmektedir.

Tüm bu gelişmeler, Türkiye'nin enerji politikalarında hem reaktif hem de proaktif yaklaşımlar benimsediğini göstermektedir. Küresel enerji krizlerinin getirdiği zorluklar, ülkemizi enerji arz güvenliğini artırmaya ve dışa bağımlılığı azaltmaya yönelik kapsamlı reformlara yöneltirken, aynı zamanda uzun vadeli stratejik planlamaların hayata geçirilmesi için de zemin hazırlamıştır. Enerji piyasalarındaki ani dalgalanmalar ve küresel krizler, ülkemizi enerji politikasında yenilikçi çözümler aramaya ve dışa bağımlılığı azaltacak stratejiler geliştirmeye zorlamıştır.

Yenilenebilir enerji yatırımları, doğal gaz tedarikinde çeşitliliği artırma çabaları ve nükleer enerji projeleri, bu stratejik dönüşümün somut örnekleri olarak karşımıza çıkmaktadır. Her bir alanda yapılan reformlar, hem ulusal enerji arz güvenliğinin sağlamlaştırılmasına hem de ekonomik istikrarın korunmasına katkıda bulunmuş, ayrıca çevresel sürdürülebilirlik hedeflerinin gerçekleştirilmesine önemli ölçüde hizmet etmiştir. Yenilenebilir enerji yatırımları, yerli üretimin desteklenmesi ve teknolojik transferin sağlanması, yalnızca enerji arz güvenliğini güçlendirmekle kalmayıp, aynı zamanda bölgesel iş birliklerini, istihdamı ve ekonomik büyümeyi destekleyen önemli unsurlar olarak öne çıkmaktadır. Fosil yakıtların çevreye verdiği zararların azaltılması, karbon emisyonlarının düşürülmesi ve iklim değişikliğiyle mücadele gibi küresel sorunlar da enerji dönüşümünün ne kadar hayati olduğunu göstermektedir. Enerji politikalarında gerçekleştirilecek yeniliklerin, ekonomik kalkınma ve toplumsal refahın sağlanmasıyla doğrudan ilişkili olduğu bu dönemde, stratejik reformların sürekli olarak güncellenmesi ve teknolojik gelişmelerin yakından takip edilmesi elzemdir.

Sonuç olarak, Türkiye'nin enerji dönüşüm süreci, küresel enerji piyasalarının getirdiği belirsizlikler ve dalgalanmalar karşısında atılan stratejik adımlar sayesinde, ekonomik istikrar, çevresel sürdürülebilirlik ve ulusal güvenlik hedeflerine ulaşmada kritik bir rol oynamaktadır; yenilenebilir enerji, doğal gaz ve nükleer enerji gibi alanlarda gerçekleştirilen reformlar, ülkemizin dışa bağımlı enerji sisteminden kurtulup yerli ve sürdürülebilir kaynaklara dayalı, geleceğe dönük bir model benimsemesini sağlarken, dijital dönüşüm, yeşil finansman ve uluslararası iş birlikleriyle desteklenen bu kapsamlı dönüşüm, sadece mevcut sorunları çözmekle kalmayıp, Türkiye'nin uzun vadeli vizyonunu ve 2053 Net Sıfır Emisyon gibi küresel hedeflere ulaşma kararlılığını da ortaya koymakta; tüm bu gelişmeler, enerji stratejisinde atılan her adımın ulusal ve uluslararası düzeyde rekabet gücünü artıracak, bugünün ve yarının daha aydınlık, güvenli ve çevre dostu bir enerji geleceğine ulaşmasında önemli bir kilometre taşı olduğunu göstermektedir.

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Food-Related Lifestyle As An Innovative Approach In Food Processing Perception

Phd. (C) Erjola Çeça (Shehu)[1] **Prof.Assoc.Eda Luga[2]**

[1] Department of Management, Faculty of Economy, University College of Business, Albania, eshehu@kub.edu.al ORCID: 0009-0008-1688-7730

[2] Department of Agribusiness Management, Faculty of Economy and Agribusiness, Agricultural University of Tirana, Albania, eluga@ubt.edu.al ORCID: 0009-0009-7152-8316

Abstract: The way consumers select their food influences food processing and production methods. The Food-Related Lifestyle (FRL) method helps understand what consumers want in their food. As more people look for healthier, safer, and more natural food, food companies are changing how they process food to meet these needs.

People now pay closer attention to how their food is made, what ingredients are used, and how it impacts their health. To meet these growing expectations, food companies are implementing innovative methods like High-Pressure Processing (HPP). This technique helps extend the freshness, safety, and nutritional value of food without relying on artificial preservatives.

One widely recognized food classification system is NOVA, which categorizes foods based on their level of processing. Consumers are becoming more aware of the differences between unprocessed, minimally processed, processed, and ultra-processed foods. Many prefer fresh and minimally processed options because they are seen as healthier. This shift in preference is encouraging food companies to reduce artificial ingredients and explore new ways to maintain food safety and nutrition.

Sustainability is another major concern. Consumers want food that is produced with fewer chemicals and less waste. The FRL approach helps food producers stay informed about these changing demands and adjust their processing techniques to align with consumer expectations.

By analyzing various studies, this paper examines how FRL links consumer food choices to advancements in food processing. Understanding these trends is essential to ensuring that processed foods remain high-quality, safe, and nutritious. The findings contribute to the ongoing discussion on improving food production while maintaining consumer trust and satisfaction.

This study looks at past research to show how FRL can connect what consumers want with new ways of processing food. Understanding these trends is important to keep processed foods safe, healthy, high-quality, and good for the environment. The findings help improve food production while keeping consumers' trust and satisfaction.

Keywords: Food-Related Lifestyle (FRL), Consumer Food Preferences, Food Processing Innovations,High-Pressure Processing (HPP)

1. INTRODUCTION

Consumer preferences and behaviors towards food have evolved significantly in response to changing health concerns, technological advancements, and sustainability considerations. As individuals become more conscious of the food they consume, the perception of food processing methods plays a crucial role in shaping purchasing decisions. The Food-Related Lifestyle (FRL) framework provides a valuable tool for understanding how consumer values, motivations, and behaviors influence attitudes toward food processing techniques.

Food processing innovations, such as High-Pressure Processing (HPP), have emerged to address consumer demands for safer, healthier, and more natural food products while maintaining quality and nutritional value. The NOVA classification system, which categorizes foods based on their level of processing, has further influenced consumer awareness, guiding preferences toward minimally processed and natural options. Additionally, sustainability concerns have driven food producers to adopt eco-friendly processing methods that align with consumer expectations.

This study examines the relationship between FRL and consumer perception of food processing methods, exploring how knowledge, engagement, and cultural influences shape attitudes toward food innovation. By analyzing current trends and consumer segmentation, the research highlights the implications for food producers and policymakers seeking to balance technological advancements with consumer trust and satisfaction.

Food Related Lifestyles and Consumer Behavior

Lifestyles shape how individuals allocate their time and financial resources, influenced by motivations, social class, demographics, and personal experiences (Grunert, 2001). These factors play a key role in shaping consumer

attitudes and behaviors toward food choices. The Food-Related Lifestyle (FRL) instrument has been widely used to examine the significance of food in people's lives, evaluating aspects such as quality preferences, purchasing motives, eating habits, shopping behaviors, and price sensitivity (Grunert et al., 2019). This framework helps identify consumer segments based on their food-related values and decision-making processes. Consumer engagement with food varies based on knowledge, personal preferences, and cultural associations. Research indicates that familiarity with different food types, ingredients, and preparation methods influences food selection and meal planning (Mouret et al., 2013). Studies have also explored how traditional and locally produced foods align with consumer values, often reflecting heritage, social practices, and sustainability concerns (Gomez-Corona et al., 2016).

The Role of Consumer Knowledge and Engagement

Consumer knowledge, both subjective and objective, significantly impacts food preferences and decision-making. Subjective knowledge refers to an individual's perceived understanding of food and nutrition, while objective knowledge relates to factual awareness of ingredients, preparation techniques, and health benefits. Research suggests that well-informed consumers tend to base their choices on factors such as nutritional value, sourcing, and authenticity, whereas those with limited knowledge may rely more on convenience and branding (Banović et al., 2012). Greater engagement with food leads to more thoughtful selection and appreciation of its attributes.

In various food categories, research highlights that experienced consumers prioritize taste, ingredient quality, and sourcing, while less experienced individuals focus on packaging, branding, and accessibility (Ellis & Caruana, 2018). Studies have shown that individuals who engage with food culture, such as those interested in home cooking or sustainable eating, tend to be more discerning in their choices and explore diverse options beyond mainstream selections (García-Barrón et al., 2021).

2.2. Social and Cultural Influences on Food Choices

Social interactions and cultural influences play a crucial role in shaping consumer preferences. Eating habits are often influenced by traditions, communal experiences, and shared values. Previous research suggests that individuals with strong cultural ties are more likely to seek out foods that align with their heritage and personal identity (Trichopoulou et al., 2007). Local and artisanal food production, for example, is often linked to values of authenticity, craftsmanship, and regional pride (Gómez-Corona et al., 2016).

Furthermore, studies on food-related social behaviors indicate that individuals who frequently engage in communal dining or food-centric events attribute greater importance to sensory and experiential aspects of eating. They tend to value tradition, quality, and authenticity over convenience and mass production (Köster, 2009). Understanding these dynamics provides valuable insights into consumer engagement with food, highlighting the role of cultural and social factors in shaping preferences and purchasing decisions. Segmentation addresses individual differences among food consumers. It is used in both marketing and public policy to handle variations in consumer needs and responses (Grunert, 2019). Originally developed in marketing to match products with consumer wants (Wedel & Kamakura, 2012), segmentation now also helps guide food labelling, public health campaigns, and other measures aimed at influencing behavior (Kazbare, van Trijp & Eskildsen, 2010). By grouping consumers with similar traits, policies and strategies can target clusters rather than trying to reach millions of individuals.

Lifestyle has long served as a basis for segmentation. In the food context, the food-related lifestyle (FRL) instrument emerged in the mid-1990s (Brunsø, 1997; Brunsø & Grunert, 1998) and has since been used in over a hundred studies to explain and predict food-related behaviors (Grunert, Brunsø, Bredahl & Bech, 2001). The FRL approach treats lifestyle as a bridge between basic life values and behaviors toward specific food items, capturing how different views on food help people achieve what they value most.
The FRL is measured using a 69-item questionnaire that covers 23 dimensions across five areas: purchasing motives, quality aspects, cooking methods, shopping styles, and consumption situations. Studies show that the instrument maintains good measurement consistency across Western cultures (Scholderer, Brunsø, Bredahl & Grunert, 2004; Thøgersen, 2017). Empirical research has also confirmed that lifestyle mediates between values and food-related behavior (Brunsø, Scholderer & Grunert, 2004a; 2004b).

Researchers have applied the FRL in various ways. Some studies use the full instrument, while others select specific scales. For example, Thøgersen (2017) applied the complete FRL across ten European countries to explain

differences in meat and organic food consumption, as well as preferences for sustainable product innovations. Lombardini et al. (2015) used it in Italy to explore local food preferences, and Szakály et al. (2012) in Hungary identified five segments that linked lifestyle to functional food habits and health behaviors. Pèrez-Cueto et al. (2010) even found that certain FRL dimensions could predict obesity in a multi-country study including Belgium, Denmark, Germany, Greece, and Poland.

Other research has focused on parts of the instrument. In Australia, selected FRL items revealed that food skills and nutrition knowledge significantly affect household food practices (Burton, Reid, Worsley & Mavondo, 2017). In South Korea, Kim, Lee and Lee (2018) used 18 items to segment single households into groups such as utilitarians and variety seekers, linking these profiles to purchase frequencies for home meal replacements. Casini et al. (2019) identified three segments—quickies, foodies, and indifferent—in a study on food preparation time in Germany and Italy, associating them with different willingness to pay for time-saving products. Despite the FRL instrument's success, there is a need for updates. With 69 items covering 23 dimensions, the instrument is complex. In larger studies that measure several constructs, it is seen as too lengthy and complicated (Grunert, 2019). Moreover, views on food have changed. Today, ethics and sustainability in food production and consumption are key concerns. These aspects are largely missing in the original FRL, which was developed when such issues were less central (Sarti, Danall & Testa, 2018; Verain, Sijtsema & Antonides, 2016).

3. Food-Related Lifestyle in Food Processing Perception

Consumers' food-related lifestyles play a significant role in shaping their perceptions of food processing methods. Factors such as quality expectations, purchasing motives, and shopping behaviors influence how individuals evaluate processed foods. Some consumers prioritize freshness and minimal additives, while others focus on affordability and convenience. Additionally, the availability of clear information on food packaging impacts trust in processing techniques. The table below highlights the relationship between food-related lifestyle constructs and their influence on food processing perception.

Food-Related Lifestyle Construct	Impact on Food Processing Perception
Quality Aspects	Consumers prioritize food processing methods that maintain freshness, natural ingredients, and minimal additives.
Purchasing Motives	Purchasing decisions are influenced by processing techniques that align with personal values such as health, sustainability, and convenience.
Consumption Situations	Consumption habits affect preferences for processed foods, with some consumers favoring minimally processed options for specific occasions.
Ways of Shopping	Information availability on packaging plays a key role in consumer trust regarding processing methods and food safety.
Price Criterion	Price sensitivity determines the acceptance of processed foods, with some consumers opting for affordable alternatives over premium, less-processed options.

3.1. Impact of Food Processing Technologies on Consumer Segments

Food processing technologies like High-Pressure Processing (HPP) are reshaping consumer perceptions and behaviors, particularly when analyzed through frameworks like Food-Related Lifestyles (FRL). The FRL model categorizes consumers based on their attitudes towards food, including involvement in food preparation, purchasing habits, and health concerns. Studies indicate that consumer segments with high involvement in health and sustainability tend to be more receptive to innovative processing methods such as HPP, as they perceive these technologies as enhancing food safety while maintaining nutritional quality (Goraya et al., 2024).

Conversely, traditionalist consumers, who value familiarity and sensory characteristics, may be more resistant to these innovations, associating them with artificial or industrialized food production. HPP, which preserves freshness without the need for additives, particularly appeals to health-conscious and convenience-driven consumers who seek minimally processed yet safe and long-lasting food products. The willingness to adopt HPP-treated products also depends on the level of food neophobia—consumers with high food neophobia tend to avoid unfamiliar food processing technologies, whereas innovators and early adopters (often characterized by high FRL engagement) show greater acceptance. A study analyzing consumer perceptions of HPP and pulsed electric field (PEF) technologies found that consumers recognized the advantages of these methods in terms of naturalness, improved taste, and high nutritional value. However, skepticism due to lack of information remained a major barrier to acceptance, particularly among consumers with lower food technology awareness (Nielsen et al., 2009).

From a behavioral perspective, younger, urban, and educated consumers are generally more open to novel food processing technologies, whereas older demographics, particularly those with strong traditional food values, may require more targeted education and trust-building strategies. The FRL model helps in segmenting these consumers effectively, allowing food producers to tailor their messaging, product offerings, and innovation strategies to match different attitudes towards food technology. Future research could further explore how consumer trust in food technology influences adoption rates across various FRL segments.

4. CONCLUSION

Food-related lifestyle (FRL) is a key factor in shaping consumer food choices and perceptions of food processing. As consumers become more conscious of health, sustainability, and natural food options, their preferences influence how food companies adapt processing techniques. Innovations such as High-Pressure Processing (HPP) have gained traction due to their ability to preserve food safety and nutritional value without artificial additives.

The FRL model provides valuable insights into consumer segmentation, helping businesses and policymakers understand varying attitudes toward food technologies. While health-conscious consumers are more receptive to advanced processing methods, traditionalist segments remain cautious, emphasizing the importance of education and transparent labeling.

As the food industry continues evolving, maintaining consumer trust is crucial. Addressing concerns over food processing transparency, sustainability, and quality will determine the success of innovative technologies. Future research should explore how emerging processing techniques align with evolving consumer expectations, ensuring that food production remains both innovative and consumer-driven.

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Compliance of Public Procurement Legislation with EU Standards in the Balkans Countries: The Cases of Croatia, Romania and Albania

PhD (cand) Evis Shurdha[1]

[1]European University of Tirana, Tirana, Albania, evis.shurdha@uet.edu.al

Abstract: The study aims to examine the public procurement systems in Albania, Croatia, and Romania with regard to their conformity to EU directives and innovation strategies adoption. The paper main hypothesis is that based on the case studies of Albania, Croatia and Romania, public policy frameworks that align with EU regulations and are driven toward innovation produce more efficient, transparent, and sustainable public procurement practices. It argues that while all the three Balkan countries have incorporated in various steps the European public procurement laws, Croatia stands out for its advanced integration of EU innovation policies, actively supporting strategic procurement and R&D investment. Romania, despite improvements in professionalizing procurement staff, remains limited in innovation procurement. Meanwhile Albania is progressing toward digitalization and transparency but still faces many challenges in fostering innovation within procurement processes. To maximize the potential of public procurement in driving sustainable economies, further enhancements in innovation strategies and policy frameworks are needed in the countries taken here as case studies.

Keywords: Public procurement, Innovation, Regulation laws, Digitalization, Albania, Croatia, Romania, European Union, Acquis Communautaire.

1. Introduction

Public procurement is a fundamental pillar of effective governance, transparency, and economic growth (OECD, 2019). In a democracy many individuals, groups, and organizations in the

private sector including trade associations, professional associations, and business firms or companies (commonly known as interest groups) are actively involved in all aspects of the public procurement system" (Thai, 2005: 8). In the EU integration context, harmonizing national public procurement laws with European standards is crucial to ensure open, competitive and non-discriminatory procurement processes (EU, 2020). It holds more importance for EU Member States and the countries that are candidates for accession because: it helps in effective utilization of public funds; improves governance frameworks; bolsters integrity within their public sector. The compliance of public procurement legislation with EU standards has been a focal point in the EU's monitoring and support processes, as highlighted in the country reports of Croatia, Romania, and Albania (EU, 2023; EU, 2020). These countries' efforts to align their procurement systems with EU norms offer valuable insights into the challenges and successes faced by states in the EU integration process.

The European Commission's reports on Croatia, Romania, and Albania sheds light on how public procurement systems have evolved in these countries thus far and emphasize a major point: Harmonizing national legislation with EU is of paramount importance. They note progress as well as persisting issues to be resolved—in mainly institutional capacity, transparency and corruption prevention. In the ongoing process of EU integration for the countries take as case studies here, adherence to EU procurement norms continues to be a vital factor in economic development, improved governance and protection of public sector integrity. The alignment of public procurement laws with EU standards is not only a legal obligation for EU members and candidates but also an essential tool for achieving broader economic and governance objectives (EU, 2020).

This paper will examine the compliance of public procurement legislation with EU standards in Croatia, Romania, and Albania, focusing on the extent to which each country has harmonized its laws with EU directives, the challenges encountered in the process, and the impact of such compliance on public procurement practices. Through this analysis, the paper seeks to contribute to the broader discourse on the role of public procurement in EU integration and governance reform.

2. Theoretical Framework and EU Public Procurement Legislation

The compliance of public procurement legislation with EU standards is a critical aspect of the European integration process for candidate and member states alike. The European Commission's country reports indicate that Croatia, Romania, and Albania have aligned their national procurement systems to a very great extent with the EU norms and regulations. Croatia joined the EU in 2013 and has since then overhauled its public procurement regime to be in line with the EU directives. According to the European Commission's Croatia Country Report (2020), Croatia's progress in aligning procurement legislation with EU standards is particularly evident through transparency, competition and non-discrimination. Although it can be considered as a successful model of public procurement practices, however, challenges remain in enforcement and administrative capacity, as noted by the European Commission in its latest reports (European Commission, 2020).

On the other hand, the same reports consider Romania, a member of the EU since 2007, as a country which still needs to reform its public procurement laws with EU regulations. The Commission's Country Report on Romania for 2020 states that although significant progress has been made by the country in aligning its procurement laws with those of the EU, corruption, inefficiency of procurement procedures still remains. The document urges increased institutional capacity and transparency for full compliance with the EU standards (European Commission, 2020).

Part of the paper will be as well Albania, still a candidate country for EU membership, has been actively working to align its procurement legislation with EU rules in anticipation of its eventual EU accession. According to the European Commission’s 2020 Albania report, the country has made significant strides in improving transparency and competition in public procurement system. However, challenges related to corruption, and the need for more effective implementation mechanisms remain key concerns (European Commission, 2020), as well as the role of vested interests in decision-making processes (Sqapi, 2022).

The reports emphasize that strong public procurement systems help drive economic development, make effective use of public funds and avoid corruption. Adhering to EU procurement standards contributes significantly towards furthering these countries' EU integration processes.

3. Public Procurement Legislation in Croatia, Romania, and Albania

Public procurement legislation in Croatia, Romania, and Albania is closely aligned with EU standards, as all three countries are either EU member states (Croatia and Romania) or candidates for EU membership (Albania). Compliance with EU procurement rules is a fundamental aspect of their integration process. Since joining the European Union in 2013, Croatia's public procurement legislation followed EU Directives, especially transparency, competition and non-discrimination. Croatia’s legal framework intends to make effective use of public funds, safeguard integrity in the public sector and protect EU financial interests. Likewise in Romania — a member of the EU since 2007 — the legislation covers EU rules and requires procurement to be transparent, competitive. It has implemented and improved its legal institutional framework in line with the EU to combat issues such as corruption, inefficiency etc.

Although Albania has not yet attained EU membership, it has been diligently striving to align its public procurement practices with the standards set by the European Union as a component of its accession process. The government carried out major reforms, bolstering transparency, enhancing procurement processes and increasing competition — accountability and corruption issues were addressed. By harmonizing their procurement laws with the EU standards, these countries are taking necessary steps for economic development, better governance and fair competition in public procurement.

Since the launch of the Stabilization and Association Process, the EU has progressively concluded bilateral 'Stabilization and Association Agreements' (SAAs) with each of the Western Balkan partners. The SAAs are tools which provide for the economic development and political stabilization of the countries in the region, and for the creation of a close, long-term association between the EU and the Western Balkan countries. In fact, SAAs provide the legal framework for aligning with the EU acquis and for integration into EU markets over time. The SAAs laid down the establishment of a free-trade area during a transitional period; such agreements in principle relate to the elimination of import duties and non-tariff barriers on bilateral trade, and goods in all Harmonized System Chapters. Limited exceptions exist only for specific agricultural and fishery products; such products are not fully liberalized, and they are subject to reduced duties and/or preferential quantitative concessions.

In addition to these, agreements also cover competition issues, ensuring a high level of intellectual property rights protection and increasing cooperation on customs matters. They further encompass specific disciplines, in particular government procurement, legislative approximation in many areas including standardization, and

provisions regarding services and establishment. On November 8, 2023, the European Commission implemented a New Growth Plan for Western Balkans aimed at increasing proximity of the Western Balkan countries to the European Union by giving them some advantages of membership ahead accession, growing their economies and speeding up socio-economic convergence. A significant planned action in terms of free movement of goods includes the possible conclusion of Agreements on Conformity Assessment (ACAAs), based on full alignment with the relevant horizontal EU product acquis, to make the single market in goods manufactured in the Western Balkans accessible[1].

The Stabilization and Association Agreements (SAAs) it can be said that are the key instruments in the European Union's strategy to foster political stability, economic development, and gradual integration of Western Balkan countries into the European Union's market. These agreements have established a structured framework for cooperation and the creation of a free-trade area, progressively aligning the aspiring (for integration in EU) countries' legislation with the EU acquis. One of the critical areas covered by the SAAs is public procurement — a cornerstone of transparent and competitive economies. This paper explores the impact of SAAs on public procurement legislation compliance in Albania (a non-EU member) and compares it with Croatia and Romania (both EU members), highlighting the different stages of legal alignment and enforcement.

3.1. SAAs and Public Procurement: A Legal Framework

Public procurement involves the process by which public authorities purchase works, goods, and services. Within the SAA framework, the EU requires candidate and potential candidate countries to:

- Ensure transparency, non-discrimination, and fair competition in public procurement processes.
- Gradually harmonize national laws with EU public procurement rules.
- Guarantee EU companies access to public procurement markets on par with domestic companies.

The SAAs mandate legislative approximation in key areas, including standardization, intellectual property rights, and competition, all of which directly or indirectly influence public procurement.

3.2. Albania: SAA Implementation and Public Procurement Reform

Albania signed its SAA in 2006, marking the beginning of a structured relationship with the EU (EU Progress Report, 2023). Under this agreement, Albania committed to aligning its public procurement system with EU standards. Key reforms include:

- ✓ Legal Framework: The adoption of the Law on Public Procurement (amended several times) aimed at increasing transparency, enhancing competition, and reducing corruption.
- ✓ Market Access: Ensuring non-discriminatory access for EU businesses to Albanian public contracts.
- ✓ Monitoring and Enforcement: Albania's progress is monitored through annual European Commission reports, which assess legislative approximation and institutional capacity.

Despite these reforms, challenges remain, including:

- ✓ Weak enforcement of procurement laws.
- ✓ Limited institutional capacity to oversee compliance.
- ✓ Persistent corruption risks, particularly in large infrastructure projects.

3.3. Croatia and Romania: From SAAs to EU Membership

Croatia and Romania experienced similar SAA processes before their EU accession (Croatia in 2013 and Romania in 2007). The SAAs served as transitional tools, preparing both countries for full compliance with EU public procurement directives. Before joining the European Union, Croatia modified its Public Procurement Act by complying with EU Directive 2004/18/EC making biders subject to transparency and equal treatment. After joining the EU, Croatia concentrated on applying EU regulations and the European Commission supervised if there was any abuse of funds. Romania harmonized its public procurement laws with EU legislation as well.

[1] For more information see in Commission Communication on 'Western Balkans: Enhancing the European perspective', and the 2019 Communication on EU Enlargement Policy (EU, 2024).

However, post-accession, Romania faced challenges with corruption in procurement, prompting the EU to monitor its progress under the Cooperation and Verification Mechanism (CVM).

Aspect	Albania	Croatia	Romania
→Legal alignment	Gradual under SAA	Full EU acquis compliance	Full EU acquis compliance
→EU Market Access	Limited, under SAA provisions	Full access as EU member	Full access as EU member
→Monitoring Mechanism	SAA monitoring bodies	EU Commission	EU Commission (via CVM)
→Key Challenges	Enforcement, corruption	Effective implementation	Corruption in large projects

4. Analysis of Compliance with Public Procurement Regulations and EU Recommendations

4.1 Albania

Public procurement in Albania is governed by the Public Procurement Law (PPL), which was introduced in 2020 and subsequently amended in 2024. The PPL was designed to align with the Public Procurement Directives, incorporating key EU treaty principles such as transparency, equal treatment, and non-discrimination. It regulates procurement processes in both the classic and utilities sectors and applies to contracts exceeding and falling below EU financial thresholds. The law covers the entire procurement cycle, from planning to contract management. Also, the new Law on Public Procurement has been developed to further harmonize Albanian legislation with EU standards, specifically aligning with the EU Public Sector Directive 2014/24, the EU Utilities Sector Directive 2014/25, and the EU Remedies Directives. Additionally, the Law on Concessions and Public-Private Partnerships (PPP Law) aligns with many provisions of the EU Concessions Directive 2014/23. According to this law, concession and PPP contracts must follow the procedural rules established by the PPL. However, the EU Defense and Security Directive 2009/81 has not yet been implemented in Albania. To address this, a new draft Law on Procurement in the Field of Defense and Security Services was adopted by Albania's Council of Ministers on 12 March 2020, marking a step toward closing this legislative gap

In Albania, public procurement accounted for 9.4% of GDP in 2022, down from 10.7% in 2021 and 9.4% in 2020. The increases in 2020 and 2021 were largely due to post-earthquake reconstruction efforts and the economic impact of the COVID-19 pandemic. Albania uses a central electronic public procurement portal where tender and contract notices, along with other essential information, are published (APP, 2024). Although the portal's use is mandatory, including for low-value procurements, significant irregularities remain still in place. The Supreme Audit Institution (SAI) reported 64 irregularities in 2022, resulting in an estimated €3.1 million loss to the state budget (KLSH, 2023). The Public Procurement Agency (PPA) imposed fines on 102 employees and proposed disciplinary measures for 145 more. Despite these measures, the fight against corruption in Albania's public procurement sector remains insufficient. According to Balkan Tender Watch which is a regional coalition of civil society organizations working on fight against corruption in public procurement, 'there are no recorded corruption cases for 2022 according to the PPA. The General Directorate of Anticorruption's 2022 report has not been published, but their response to a Freedom of Information request stated that no criminal charges related to procurement were filed that year. These responses suggest that public authorities may be hesitant to report corruption cases, often shifting the burden of uncovering wrongdoing to the media or civil society organizations.

The 2020 Public Procurement Law in Albania, aimed at harmonization with the EU standards, hasn't brought about the desired changes. The European Commission's Albania 2023 Report (Progress Report), highlights — insists on—that public procurement requires further strengthening of competition, compliance and professionalization (EU, 2023). Monitoring has revealed that corruption risks exist across all stages of Albania's public procurement cycle. This involves: negotiated procedures without prior publication, inadequate calculation of funds and the lack of legal expertise for procurement staff. There are also project implementation shortfalls: deviations from project volumes, technical failures, initial estimates and final results. The typical signals indicating risk of corruption are: transparency issues, unjustified application of non-competitive procedures, unclear (definition) for evaluation criteria and contract specifications too narrow or too broad. Sqapi and Mile have stressed in relation to the weak institutions in Albania ("captured" by political parties) that the biggest

problems regarding the structural weakness of the state are mainly in terms of low infrastructural capacities and low law enforcement capacities (Sqapi 2019; Sqapi & Mile, 2022).

Data from Open Data Albania, a civil society organization promoting transparency, further expose these risks. An analysis of the 100 tenders with the highest contract values in 2022 showed that 39 were conducted as limited procedures, posing a high risk to competition. Bidding efficiency for these tenders was strikingly poor, with none securing an offer below 95% of the fund limit value, and most hovering at 99.9%. Among the top 10 highest-value contracts, eight were marked by procedural irregularities and competition concerns. The Albanian Road Authority (ARA) managed the three largest tenders of 2022, all flagged for red flags. The highest-value tender, the expansion of a national road (Phase 1), saw four of the six competing bidders disqualified, leaving only the eventual winner. Similar issues plagued the second-largest tender for another national road project (Lot 2), worth ALL 2.165 billion, and a contract for the Traffic Monitoring Centre, valued at ALL 2.12 billion, VAT excluded. The fourth-highest-value tender involved the construction of the National Theatre (Phase 1), led by the Municipality of Tirana. This tender, worth ALL 1.84 billion, also faced criticism for disqualifying all bidders except the winning consortium.

4.2 Croatia

The national policy framework for innovation procurement in Croatia is governed by a combination of legislative measures and institutional responsibilities. The Public Procurement Act NN 120/16, enacted in 2016, transposed the EU Public Procurement Directives 2014/23/EU, 2014/24/EU, and 2014/25/EU. Since then, the Act has undergone amendments, the most recent in 2022, reinforcing the use of value for money award criteria as a mandatory standard. Additionally, Regulation NN 19/2018 aligns with the EU public procurement Directive 2009/81/EC for defense and security procurement. The Directorate for Trade and Public Procurement Policy within the Ministry of Economy and Sustainable Development (MoESD) is responsible for public procurement policies, including innovation procurement. It operates the Public Procurement Portal and monitors the Electronic Public Procurement Bulletin of the Republic of Croatia. These platforms provide analysis, oversight, coordination of the public procurement system, as well as compliance with EU legislation. Furthermore, the Central State Office for Central Public Procurement (CPO) acts as a central purchasing body, aiming to achieve cost savings for national ministries while also engage in various monitoring and analysis activities. Supporting innovation procurement more directly, the Croatian Agency for SMEs, Innovations, and Investments (HAMAG-BICRO) facilitates initiatives that foster innovation and support innovative businesses.

In the 2024 benchmarking of national innovation procurement policy frameworks across Europe, Croatia ranked 19th out of 30 countries, with a total score of 26.44%. This is a big jump from the previous 28th place with only a 9.3% score. However, Croatia is still below the European average of 33.05%, lagging behind in 7 of the 10 indicators assessed. Croatia has implemented only 26.44% of the required policy measures; hence its innovation procurement framework is still nascent and needs to be strengthened further for realization of full potential. Croatia's innovation procurement efforts are mainly being fueled or strategic economic reforms, research & development policies and nascent supports from ICT policy. Training and financial incentives have recently been mobilized to encourage public buyers. Using value for money award criteria is mandatory, while there exists notable transparency in the procurement market.

However, there are notable weaknesses. Innovation procurement is still in its early stages, and key elements for fostering its growth are lacking. These include an action plan, spending targets, a monitoring system, and a structured, wide-scale capacity-building program—such as a national competence centre. Only two out of ten sectoral strategies (environment and energy) promote innovation procurement. Moreover, variants and preliminary market consultations are underutilized, and there is no innovation-friendly Intellectual Property Rights (IPR) policy to encourage innovative companies' participation in procurement processes. Increasing competition in the procurement market is also essential to create better opportunities for companies offering innovative solutions.

Croatia's public procurement market's innovation-friendliness is measured by two sub-indicators. The first sub-indicator assesses the use of techniques that foster innovation, where Croatia scored 31%, above the European average of 22.13%. This strong performance is primarily due to the high use of value for money award criteria—99% of public procurements published in the TED used criteria other than the lowest price, significantly above the European average of 43.87%. Despite this, Croatia scored poorly in other areas: the use of variants was absent (0% compared to the European average of 3.28%), and preliminary market consultations were also unused (0% compared to the 1.39% European average). The IPR default regime sub-indicator scored 25%, below the

European average of 40%, since Croatian law does not predetermine IPR allocation, leaving it to individual procurers to specify IPR arrangements in tender documents. The second sub-indicator evaluates the openness of the national public procurement market to EU innovations. Croatia scored 77.42%, slightly above the European average of 70.25% but below the satisfactory level of 79.4%. The level of competition in Croatia's public procurement market is 86.50%, surpassing the European average of 82.37%, but still under the EU's 92.5% benchmark. Transparency is relatively strong, with a 68.33% score, higher than the European average of 58.14% and exceeding the EU satisfactory level of 66.3%. These results reflect above-average performance in TED publication rates (8%), the proportion of call for tenders with complete bid information (97%), and full buyer registration numbers (100%).

In summary it can be written that Croatia's 'innovation-friendly public procurement market' indicator stands at 54%, above the European average of 46%. This improvement, up from 43% in the previous benchmarking, is largely due to the mandatory adoption of value for money award criteria. Despite this progress, Croatia must adopt a default IPR regime that fosters innovation, increase the use of variants and preliminary market consultations, and further enhance competition in public procurement to reach EU satisfactory levels. Continued efforts to strengthen its innovation procurement policy framework are crucial for Croatia to keep advancing.

4.3 Romania

Romania has transposed the European public procurement directives. The public procurement regulatory framework includes primary and tertiary legislation, with the main enactment represented by Emergency Ordinance 34/2006, aligned with relevant EU standards. The Romanian Government operates an electronic system for public procurement concessions to ensure transparency. Since 2016, contracting authorities must conduct at least 40% of their public procurements through this system:

The Romanian legislative package transposing these rules was enacted in May 2016. Since April 2018, the European Single Procurement Document (ESPD) is only provided in electronic form. E-CERTIS, an online system within the Internal Market Information System (IMI), facilitates administrative documentation. Romania benefits from five ESIFs: European Regional The National Agency for Public Procurement (ANAP) promotes and monitors public procurement policies. Since 2020, ANAP operates under the General Secretariat of the Government and coordinates strategic procurement, including innovation procurement. The Authority for Digitization of Romania (A.D.R.) manages national digital infrastructures for e-government. Romania ranks 26th in Europe for innovation procurement policy frameworks, with a score of 15.81%, below the European average of 33.05%. While Romania improved its score from 12.9%, it fell one position due to faster progress in other countries.

Strengths:

- Support for innovation procurement from public procurement and R&D policies.
- Guidelines for creating a Competence Centre for Innovation Procurement.
- Increasing professionalization of public procurement staff.

Weaknesses:

- No dedicated action plan, spending targets, or structured capacity-building measures for innovation procurement.
- Innovation procurement is not a strategic tool in most sectoral and horizontal policies.
- Lack of an IPR regime that fosters innovation in public procurement.
- Low use of value-for-money criteria and preliminary market consultations.
- Limited competition in the procurement market, reducing opportunities for innovative solutions.

To boost innovation procurement, Romania needs stronger policy support for strategic technologies, financial incentives for R&D procurements, and better competition in the procurement market.

5. Conclusions

The public procurement systems in Albania, Croatia, and Romania share a foundation rooted in aligning with EU directives, yet they exhibit notable differences in implementation and innovation strategies. All three countries have adopted European public procurement laws, with digital platforms ensuring transparency and competition. However, Croatia shows more advanced alignment with EU innovation policies, actively promoting strategic procurement and investing in R&D. Romania lags behind, ranking low in innovation procurement with limited

strategic focus, despite some improvements in professionalizing procurement staff. Albania, while striving for greater transparency and digitalization, still faces challenges in fully integrating innovation into its procurement processes. Overall, while progress is evident, especially in digital procurement, all three countries must reinforce innovation strategies, enhance competition, and strengthen policy frameworks to maximize the strategic potential of public procurement in fostering sustainable and innovative economies.

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Türkiye'nin Gagauzya Politikası

Fatih AKTEN[1]

[1] Trakya Üniversitesi, Sosyal Bilimler Enstitüsü, Uluslararası İlişkiler Bölümü, fatihakten@trakya.edu.tr, ORCID: 0000-0002-0062-9402

Özet: En yaygın görüşe göre kökenleri Oğuzlara dayanan Hristiyan Türkler olarak bilinen Gagauzlar, Osmanlı Devleti'nin Dobruca bölgesinden çekilmesinden bu yana yaklaşık 200 yıl gibi bir süre boyunca Bulgarlar, Romenler, Ruslar ve Moldavanların egemenliği altına kalmışlardır. Tüm zaman zarfında gerek birlikte ve içe dönük bir hayat sürmeleri gerekse kendi dilleri olan Gagauzca'yı kullanmayı bırakmamaları sayesinde öz benliklerini yitirmeden günümüze kadar gelebilmişlerdir. Bu bağlamda Gagauzlar, kendi dillerini koruyup ve gereken önemi ve özveriyi gösteren halkların başka toplulukların egemenliği altında olsalar bile asırlarca öz kimliklerini kaybetmeden hayatlarını sürdürebileceklerine örnek olmuşlardır.

Gagauzların 1930'lu yıllarda Hamdullah Suphi Tanrıöver ile başlayan Türkiye ile ilişkileri İkinci Dünya Savaşının başlaması ile sekteye uğramıştır. Dahası Türkiye 1945 yılından Sovyetlerin yıkılışına kadar SSCB egemenliğinde kalan Gagauzlar ile iletişim kuramamıştır. Türkiye'nin Gagauzlar'a ilgisi özellikle Sovyetler Birliği'nin yıkılması ile artmış, ardından Moldova Cumhuriyeti içerisinde kendi özerk bölgelerini kurmaları ile ikili ilişkiler gelişmiştir. Türkiye ve Türk milleti kendi soydaşları olarak gördüğü Gagauzlar'a her türlü desteği vermektedir. Çoğunluğu kültürel alanda gerçekleştirilen bu yardımların çok büyük bir bölümü TİKA (Türk İşbirliği ve Koordinasyon Ajansı) kapsamında yapılsa da YTB (Yurtdışı Türkler ve Akraba Toplulukları), YEE (Yunus Emre Enstitüsü), TÜRKSOY, Kızılay gibi kuruluşlarca ve ilgili bakanlıklar ile çeşitli belediyeler de Gagauzya'ya yardımlarını Sürdürmektedir.

Türkiye çeşitli kuruluşlarca yaptığı bu yardımları Gagauzlar'ı Müslümanlaştırmak gibi bir beklenti karşılığında değil aksine Gagauzlar'ın bulunduğu coğrafya nedeniyle Rusya, Moldova ve Romanya'nın etkilerinden kurtararak onların asimile olmamasını sağlamaktır. Bu çerçevede Türkiye'nin Gagauzya'ya yönelik politikası bölgenin altyapısını düzenleyip, ekonomik seviyesini yükseltip dillerini ve kültürlerini koruyup, çeşitli iş olanakları sağlayarak buradan dışarıya göç verilmesinin önüne geçmektir.

Anahtar Kelimeler: Gagauzlar, Moldova, Türkiye, Bucak Bölgesi

Abstract: According to the most common view, the Gagauz, known as Christian Turks whose origins are the Oghuz, have been under the sovereignty of the Bulgarians, Romanians, Russians and Moldavians for a period of approximately 200 years since the Ottoman Empire withdrew from the Dobruja region. Throughout this time, they have been able to survive to the present day without losing their true identity thanks to their collective and introverted life and their refusal to stop using their own language, Gagauz. In this context, the Gagauz have set an example for people who preserve their own language and show the necessary importance and devotion to it, even if they are under the sovereignty of other communities, to continue their lives for centuries without losing their true identity.

The Gagauz's relations with Türkiye, which began with Hamdullah Suphi Tanrıöver in the 1930s, were interrupted with the beginning of the Second World War. Moreover, Turkey could not communicate with the Gagauz under the rule of USSR from 1945 until the collapse of the Soviets. Türkiye's interest in the Gagauz increased especially after the collapse of the Soviet Union, and bilateral relations developed after they established their own autonomous region within the Republic of Moldova. Türkiye and the Turkish nation provide all kinds of support to the Gagauz, whom they see as their own kinsmen. Although a large portion of this aid, mostly in the cultural field, is provided by TIKA (Turkish Cooperation and Coordination Agency), organizations such as YTB (Turks Abroad and Related Communities), YEE (Yunus Emre Institute), TÜRKSOY, the Kızılay, and related ministries and various municipalities also continue to provide aid to Gagauzia.

Türkiye does not expect this aid from various organizations to convert the Gagauz to Islam, but rather to save the Gagauz from the influences of Russia, Moldova and Romania due to the geography in which they are located, and to prevent their assimilation. In this context, Türkiye's policy towards Gagauzia is to prevent emigration from the region by organizing the region's infrastructure, increasing its economic level, protecting its language and culture, and providing various job opportunities.

Key Words: Gagauz, Moldova, Türkiye, Bucak Region

1. GİRİŞ

Bu makalenin amacı; yaygın bir inanışa göre Oğuzlar'dan geldikleri düşünülen Gagauz Türklerinin tanınırlığını başta Türkiye olmak üzere dünya genelinde arttırmaya ve bu vesile ile kendilerinin yaşadıkları sorunları bir nebze de olsa daha geniş kesimlere ulaştırmaya çalışmaktır. Ayrıca Türkiye Cumhuriyeti'nin Gagauzya ve Gagauzlar üzerinde halihazırda izlemiş oldukları politikayı, yatırımları ve yardımları inceleyip bu yatırım ve yardımların sürdürülmesine katkıda bulunmaya çalışmak da makalenin amaçlarındandır.

Konstrüktivizm yani sosyal inşacılık, sosyalliği ön plana çıkarmaktadır. Bu makale de Türkiye Gagauzya ilişkileri, Türkiye'nin Gagauzya politikası, Türkiye'nin Gagauzya'ya daha çok kültürel alanda yaptığı yardımlar gibi sosyal konulara değindiğinden konstrüktivizm çerçevesinde incelenmiştir. Ayrıca bu makalede değinilen konular kronolojik bir sıra ile ele alınıp tarihsel araştırma yöntemi kullanılarak hazırlanmıştır.

2. GAGAUZLAR

Gagauzlar 11.yyda Orta Asya'dan gelip Karadeniz'in Kuzeyinden geçerek Balkanlar'a oradan da Moldova ve Ukrayna'ya göç eden dönemin şartlarına göre göçler, baskılar ve türlü zorluklara rağmen dillerini, kültürlerini ve benliklerini koruyabilen ve baskın bir görüşe göre kökenleri Oğuz boyuna dayanan bir Türk topluluğudur.(TRT Avaz, 2016) Günümüzde çoğunluğu Moldova Cumhuriyeti'nin güney batı kısmında ve Ukrayna'nın güney batısında tarihte Bucak bölgesi olarak tanımlanan yerde yaşayan Gagauzlar, komşularının etkisi ile Hristiyan Ortodoksluğu kabul etmiş ancak asimile olmadan kimliklerini koruyabilmiş Türk kavimlerinden biridir.(Karpat, 1992: 288)

2.1. Gagauz İsmi

Gagauz isminin nereden geldiği hakkında birçok görüş bulunmaktadır. Bunlardan ilki Gagauz isminin; Selçuklu Hanı olan 2. İzzeddin Keykavus'tan geldiği şeklindedir. Bu görüşe göre Sultan Keykavus, tahtını kaybetmesinin ardından Bizans'a sığınmış sonrasında Bizans tarafından kendisi beraberindeki Türkmenler ile 1261 yılında Dobruca bölgesine yerleştirilmiş, bu bölgede "Keykavus" ismi bozularak "Gagauz" ya da "Gagavuz" haline gelmiştir. (Özgüdenli, 2014)

İkinci görüş Gagauz isminin Gökoğuz kelimesinden geldiğidir. En yaygın olan bu görüşe göre Kiril alfabesinde "ö" harfi olmadığı ve "o" harfi de Slav dillerinde "a" sesi olarak okunduğu için Gök-Oğuz sözcüğü Gagauz olarak telaffuz edilmiştir. (Köseoğlu, 2007)

Diğer bir görüş ise Gagauz isminin Kaga-Oğuz isminden türediği şeklindedir. Bu görüşe göre ise Kaga kelimesi Türkmence "ata" anlamına gelip "Oğuz" kelimesi ile birleşerek Oğuzların atası anlamına gelen Gagauz ismine evrilmiştir. (Güngör ve Argunşah, 2002: 14)

Bu görüşlerden hariç Gagauz isminin Kaka-Uz, Kara-Guz, Gaga-Uz, Hak-Oğuz, Ganga-Guz, Ganga-Oğuz gibi kelimelerin birleşmeleri sonucu meydana geldiği görüşleri de mevcuttur. Bu görüşlerde de "Gagauz" ismini oluşturan ikinci kelimelerinin çoğunun "Oğuz" olduğu dikkat çekmektedir. Gagauz ismi ister "Keykavus" isminden isterse de "Oğuz" ya da "Uz" isminden türemiş olsun sonuç olarak Gagauzlar'ın Hristiyan Oğuzlar olduğu en yaygın görüştür.

Gagauz ismi ilk defa 1817 yılında Rusya'da yapılan nüfus sayımlarında Rus kaynaklarında yer almaktadır. Osmanlı'da ise Gagauzlar'dan ilk bahseden Jean Pietri adındaki bir Fransız Gazetecidir. 1876 yılında bu yazıdan alınan ilhamla Teodor Kasap tarafından "Hayal" isimli bir gazetede Gagauzlarla ilgili bir makale yayımlanmıştır. (TRT Avaz, 2015)

2.2. Gagauzlar'ın Kökeni

Gagauzlar'ın kökeni hakkında da çeşitli görüşler bulunmaktadır. Bulgar tarihçiler olan İvanov, Zaşuk, Zanetov ve Titorov'a göre Gagauzlar dillerini kaybetmelerine karşı dinlerini koruyabilen Bulgarlardır. Bu iddiayı savunan başka Bulgar araştırmacılar da vardır. Bir diğer görüşü savunan Yunan araştırmacıları Lissof ve Amantos'a göre ise Gagauzlar'ın kökeni Rumdur. Bu görüşü savunan St. George da Gagauzların Karaman Rumlarından olduğunu savunmaktadır. Bu görüşe göre Karaman'dan Balkanlar'a göç eden Gagauzlar, Anadolu'da yaşadıkları sürede ise Türkçeyi öğrenip Yunancayı unutmuşlardır. (Oğuz, 2018: 158)

Seyyid Lokman'ın kaleme aldığı "Oğuzname" den ilham alan Bulgar tarihçi Balasçev'e göre ise Gagauzlar Selçuklu Hükümdarı olan 2. İzzeddin Keykavus'u takip ederek Balkanlar'a yerleşen Türklerdir. Aynı görüşü Yazıcıoğlu Ali'nin yazdığı Selçukname'den ilham alan Wittek de ileri sürmektedir. Ayrıca bu görüş Faruk Sümer, Cansızof, Halil İnalcık, Zajackowski, Osman Turan ve Kemal Karpat gibi ünlü tarihçi ve araştırmacılar tarafından da benimsenmektedir.

Bazı araştırmacılara göre ise Gagauzlar, Karadeniz'in kuzeyinden geçerek Balkanlar'a göç eden Kuman Peçenek veya Oğuzların torunlarıdır. Çek araştırmacı Jirecek ve Rus Türkolog Moşkov, Gagauzları, Kumanlar'ın torunları

olarak belirtirken; Zeki Velidi Togan, Atanas Manov, Hüseyin Namık Orkun, Hikmet Tanyu, Mihail Çakır, Müstecip Ülküsal, Cami, Kara Şemsi, İbrahim Kafesoğlu ve Akdes Nimet Kurat ise Gagauzlar'ı Oğuzlar'ın Balkanardaki devamı olarak görmektedirler. (Güngör ve Argunşah, 1993: 5,6)

Gagauzların kökeni hakkında en önemli görüşlerden biri de Polonyalı bir Türkolog olan Tadeusz Kowalski'ye aittir. Bu görüşe göre Gagauz etnisitesi üst üste binen 3 katmandan oluşmaktadır. Bu katmanlara ise şöyledir; ilki Karadeniz'in kuzeyinden geçerek Balkanlar'a gelen Türk toplulukları, ikincisi Sarı Saltuk Gazi ve Sultan 2. İzzeddin Keykavus ile Anadolu'dan Balkanlar'a geçen Türk topluluğu, üçüncüsü ise Osmanlı Devleti ile bölgeye gelen Türklerdir. (Saygılı, 2022: 135)

Gagauz bir başpapaz olan Mihail Çakır Besarabyalı "Gagauzlar'ın İstoryası" isimli eserinde kendilerinin iddia edildikleri gibi Bulgar ya da Rum olmadıklarını kökenlerinin Oğuz Türklerine dayandıklarını delilleriyle birlikte açıklamıştır. (Güngör ve Argunşah, 2002: 11)

3. GAGAUZLAR'IN TARİHİ

Gagauzlar'ın tarihi 4.yy. da Hunlar'ın Karadeniz'in kuzeyinden geçerek Avrupa'ya gelmeleriyle başlamıştır. Aynı yolu takip eden Peçenekler, Kumanlar, Bulgarlar ve Uzlar ile bu akınlar devam etmiş ardından 11.yy. da Anadolu'ya gelen Selçuklu Türklerinin ve Osmanlı Türklerinin Balkanlara gelmesiyle bir çeşitlilik kazanmıştır. Doğu Avrupa'ya ve Balkanlar'a gelen ilk Türk toplulukları buradaki coğrafyada hâkim olan Hristiyanlık dininden etkilenmişlerdir. Burada bulunan misyonerlerin faaliyetleri ile Hunlar 528 senesinde Prens Grod'un Hristiyan olmasının ardından yavaş yavaş Hristiyan olmaya başlamışlardır. (media.turuz, 2016)

Gagauzlar, 1263 yılında başlarda resmen Bizans'a bağlı olup fiili olarak Bizans'tan ayrı olan ilk Gagauz Türk devletini Dobruca'da Sarı Saltuk liderliğinde kurmuşlardır. Devletin adı Uzi Eyaleti olup 2. İzzeddin Keykavus ile gelen Selçuklu Türklerinin katılımıyla güçlenip 1365 yılında Balık Bey liderliğinde bağımsızlıklarını ilan etmişlerdir. Balık Beyden sonra başa geçen Dobrotiç ise kahramanlıklarıyla Dobruca bölgesine ismini vermiştir. (İusiumbeli, 2018)

Yıldırım Bayezid'in bölgeye yaptığı akınlar sonucunda 1389 senesinde bu küçük Gagauz Devleti, Osmanlı Devleti'nin himayesine girmiş ve 1263 yılından beri Uzi Eyaleti yıkılmış, burada bulunan Türkler 'in bir kısmı Müslümanlaşmış diğer bir kısmı da Hristiyan olarak kalmıştır. (Güngör ve Argunşah, 2002: 24)

18.ve 19.yüzyıllara gelindiğinde bağımsızlık hareketleri ve Bulgar baskıları sonucunda Gagauzlar, Tuna nehrini geçip Besarabya bölgesine yerleşmişlerdir. Rusların yaptıkları propagandalarla Slavlaştırılmak istenmişler ve sınırlarda bir kalkan olarak tutulmuşlardır. Rus papazların faaliyetleri ile Provoslav dini olarak adlandırılan Rus Ortodoks Kilisesine geçmişlerdir. (Tarih Bilimi, 2018)

1905 yılında Rusya'da başlayan devrim hareketlerinden faydalanmak isteyen Gagauzlar, 1 yıl boyunca kendilerinin çoğunlukta olduğu Komrat şehrinde hazırlıklar yapmışlardır. Gagauzlar, bir üniversite öğrencisi olan Andrey Galatsan liderliğinde Komrat'da ayaklanmışlar ve 6 Ocak 1906 tarihinde Komrat Respublikası (Cumhuriyeti) ismiyle bağımsızlıklarını ilan etmişlerdir. Ancak bu bağımsızlık sadece 5 gün sürebilmiş ayaklanmacılar bölgeye gelen Rus askerlerince tutuklanınca bu hareket sona ermiştir. (Karanfil, 2021: 63)

1917 yılında gerçekleşen ekim devriminden faydalanan Romanya, Besarabya bölgesini ilhak etmiş burada bulunan Gagauzlar da Besarabya'nın Sovyetlerin eline geçişine kadar Romanya devletinin egemenliğinde yaşamışlardır. Bu yıllarda da Gagauzlar, çeşitli asimilasyonlara maruz kalmışlar, çeşitli bahanelerle tutuklanmışlardır. Baskılara dayanamayan bazı Gagauzlar ise çareyi çeşitli bölgelere göç etmekte bulmuşlardır.

Gagauzlar, 2. Dünya Savaşı sırasında ise aktif olarak Sovyetler Birliği'nin saflarında yer almışlar, bazı ileri gelen Gagauzlar ise Sovyet ordularında komutanlık yapıp Stalingrad'dan Besarabya' ya kadar savaşarak buranın alınmasında etkili olmuşlardır. (Politik Akademi, 2013)

1946-47 yıllarında savaş sonrasında SSCB tarafından oluşturulan yapay açlık felaketi ile binlerce Gagauz hayatını kaybetmiştir. Sovyet idaresi altında da çok zorluklar çeken Gagauzlar, Siyasi baskılar nedeniyle ana dillerinde kitap ve Gazete çıkaramamışlardır. 1957 yılında Sovyet hükümetince Gagauzlar'a verilen alfabe sayesinde dillerini koruyabilmişlerse de bu özgürlük fazla sürmemiştir. Gagauzlar'ın Türklüklerini korumaları ise çoğunlukla köylü hayatı yaşamaları ve içe dönük olmaları sayesinde olmuştur.

Mihail Gorbaçov'un getirdiği Glastnost (açıklık) ve Perestroyka (yeniden yapılanma) siyasetiyle Gagauzlar'da da bir aydınlanma yaşanmıştır. 1987 ve 1988 senelerinde Ana Sözü gazetesinin çıkarılması ile birlikte halk hareketleri ve Örgütlenmeleri baş göstermiştir. 1990 senesinde ise Stefan Topal liderliğinde Gagauz Cumhuriyeti

bağımsızlığını ilan etmişse de tanınmamıştır. Ancak Rusya ve Türkiye gibi ülkelerin desteği ile 1994 yılında özerkliğini ilan eden Gagauzlar bu sefer Moldova Cumhuriyeti tarafından da tanınmak zorunda kalmıştır. (Argunşah, 2016)

4. GAGAUZ YERİ ÖZERK BÖLGESİ

23 Aralık 1994 tarihinde özerkliğini ilan eden, başkanlıkla yönetilen, başkenti Komrat olan ve kendi bayrağı, kendi milli marşı ile kendi anayasası bulunan Gagauz Yeri Özerk Bölgesi'nin en önemli diğer şehirleri Çadır-Lunga ve Vulkaneştidir. Toplamda 170 bin civarında olan Gagauzya nüfusunun %83'ünü Gagauzlar, %5,1'ini Bulgarlar, %4,6'sını Moldovalılar %3,7'sini Ruslar ve %3'ü ise Ukraynalılar oluşturmaktadır. 1851 km^2 yüz ölçümüne sahip Gagauzya Özerk Bölgesi, aralarında toprak bütünlüğü olmayan 4 parçadan oluşmaktadır. Rusça, Gagauzca ve Moldovanca'nın resmi dil olduğu Gagauzya, 3 şehir ve 27 köy olmak üzere 30 yerleşim yerine paylaştırılmıştır. Ayrıca Gagauzya Özerk Bölgesinde nüfusun az bir kısmı Hristiyan Katolik olsa da büyük bir kısmı Hristiyan Ortodoks inancına sahiptir. Dahası Gagauzya Özerk Bölgesi'nin bulunmaktadır. (Bulut, 2016: 35)

33.843km^2 yüz ölçümüne sahip Moldova'nın güneydoğusunda yer alan Gagauzya Özerk Bölgesi, Moldova topraklarının %5,3'ünü kapsamakta ve 3,6 milyon olan Moldova nüfusunun ise %4,5'ini oluşturmaktadır. Ayrıca Gagauz Özerk Bölgesi "Gagauz Yeri, Gagauzya, Gagauziya ve Gagauz Özerk Cumhuriyeti olarak da adlandırılabilmektedir. (Bulut, 2016: 62).

4.1. Gagauz Yeri Özerk Bölgesi'nin İdari Yapısı

Sovyetler Birliğinin dağılmasının ardından 19 Ağustos 1990 tarihinde Gagauzlar, Gagauz Cumhuriyeti adında ayrı bir devlet olarak bağımsızlıklarını ilan etmişse de bu girişim başta Moldova olmak üzere diğer devletler tarafından tanınmamıştır. Gagauzya problemi 23 Aralık 1994 tarihinde Moldova Meclisi tarafından onaylanan ve 14 Ocak 1995 tarihinde yürürlüğe giren Gagauz Yeri'nin Özel Hukuki Statüsü kanunu ile giderilmiştir. Bu yasa Gagauz Yeri'ne muhtariyet verilmiş ayrıca Gagauzlar'ın bir azınlık değil halk oldukları belirtilmiştir. (Erdilmen, 2014)

5 Mart 1995 tarihinde ise Gagauz Yeri Özel Hukuki Kanununa dayanarak Gagauz Yeri'nin hudutlarının çizilmesi için bir referanduma gidilmiş ve Moldova'nın güneyinde bulunan 30 yerleşim bölgesi Gagauz Yeri hudutlarına alınmıştır. Yine bu referandumda Gagauz Yeri'nin başkenti Komrat olarak seçilmiştir. Gagauz Yerinde bulunan şehirler Komrat, Çadır-Lunga ve Vulkaneşti olarak belirlenmiştir. (Erden vd., 1999: 13)

Komrat şehrinin köyleri: Aşağı Kongazcık, Avdarma, Aleksevka, Beşalma, Kongaz, Sviyetli, Başköy, Köseli Rus, Bucak, Dizgince, Yukarı Kongazcık, Dudulеşti, Çok Maydan, Kırlannardır ve Paraponitikadır. Çadır-Lunga şehrinin köyleri: Haydar, Beşgöz, Baurçi, Coltay, Kiriyet-Lunga, Kazayak, Tomaydır ve Kıpçaktır. Vulkaneşti şehrinin köyleri ise: Yeni Tülüköy, Kırbalı, Çeşmeköy ve Tülüköydür. Oluşturulan bu yapı yine bu referandum ile Gagauzların çoğunlukta olduğu yerleşim yerleri olarak belirlenmiştir. (mgm.gov.tr)

4.2. Gagauz Yeri Özerk Bölgesi – Yürütme ve Yasama

Gagauzya Özerk Bölgesi'nde yürütmenin başı olan "Başkan" dört senede bir seçilmekte ve tüm kamu organları bu makama bağlı bulunmaktadır. Gagauz Yeri'nde seçimler direkt olarak halkın oylarıyla yapılmakta ve "Başkan" Moldova hükümetinin doğal üyesi sayılmaktadır. Yine Gagauz Yeri'nde Bakanlar Kurulu misyonunu "İcra Komitesi" adındaki oluşum ile gerçekleştirmektedir. Bu oluşumun üyeleri ise başkanın tavsiyesi ve meclisin kabulü ile 4 seneliğine seçilmektedir. İcra Komitesinin ve Başkanın, kanun tasarısı hazırlama ve yasa teklifi verme hakları bulunmaktadır. Gagauzya Özerk Bölgesinin şimdiki başkanı ise 30 Nisan ve 14 Mayıs 2023 tarihinde gerçekleşen seçimlerin galibi Evghenia Guțuldur.

Gagauz Yeri'nin parlamentosu ise Halk Topluşu olarak isimlendirilmekte ve Gagauz Yeri sınırlarında dokunulmazlık hakkına sahip 35 milletvekilinden oluşmaktadır. Bu vekiller 5 seneliğine halk tarafından seçilmektedir. (ULUSAM, 2018: 11,12) Herhangi bir Moldova vatandaşı Halk Topluşu'na milletvekili olarak girebilmekte ve Gagauzya Başkanı olarak seçilebilmektedir. Milletvekili seçilebilme şartı ikamet yerinin Gagauz Yeri olması, Başkan seçilebilme şartı ise Gagauzca'nın çok iyi bilinmesidir. (Aktan, 2011)

4.3. Gagauzların Dünyadaki Dağılımı

Gagauzlar, günümüzde geniş bir coğrafyaya dağılmış bir şekilde hayatlarını sürdürmektedir. Çeşitli sebeplerle dünyanın dört bir yanına göç etmek zorunda kalan Gagauzlar bugün en yoğun olarak "Bucak" ismiyle bilinen bölgede yaşamaktadırlar. Bucak bölgesi ise günümüzde Moldova'nın güneyi ve Ukrayna'nın güney batısındaki ucu yani Moldova'nın Karadeniz ile bağlantısını kestiği yer olarak karşımıza çıkmaktadır. Bunun yanında bugün Gagauzlar, Türkiye, Rusya, Yunanistan, Kazakistan, Gürcistan, Romanya, Bulgaristan, Azerbaycan, Brezilya, Amerika Birleşik Devletleri, İspanya, Kırgızistan, Beyaz Rusya, Kanada, Türkmenistan, gibi pek çok ülkede dağınık bir şekilde yaşam sürmektedirler. (İusiumbeli, 2018)

4.3.1. Moldova'da Yaşayan Gagauzlar

Moldova Cumhuriyeti bugün Gagauzlar'ın en kalabalık oldukları ülkedir. Gagauzların çoğunluğu ülkenin güneyindeki Bucak bölgesinde bulunan Komrat Vulkaneşti ve Çadır-Lunga şehirlerinde ve civarındaki köylerde yaşamaktadır. (Cebeci, 2008: 178) Moldova Cumhuriyetinde toplamda yaklaşık 170.000 Gagauz yaşamaktayken sadece Gagauz Yeri'nde yaşayan Gagauzlar'ın nüfusları ise şöyledir.

Tablo 1: Gagauz Yeri Özerk Bölgesi'nde Nüfus

	Yetişkin	**Çocuk**	**Toplam**
Komrat Bölgesi	51.570	17.690	69.260
Çadır-Lunga Bölgesi	49.781	15.457	65.238
Vulkaneşti Bölgesi	20.288	4.931	25.219
Toplam	121.639	38.078	159.717

Kaynak: T.C. Sağlık Bakanlığı, (2009)

4.3.2. Ukrayna'da Yaşayan Gagauzlar

Ukrayna'da yaşayan Gagauzlar çoğunlukla Odesa şehri ve civarında bulunmaktadırlar. Sadece Odesa şehri etrafında yaşayan Gagauzlar'ın sayısı 27,6 binken tüm Ukrayna'da bulunan Gagauzlar'ın nüfusu 32 bin civarıdır. (Hünerli ve Arnaut, 2017: 17,21) Yine Odesa şehrine bağlı Bolgrad ilçesinde bulunan; Kubey (Çervonoarmeyskoye) köyü, Satılık – Hacı (Aleksandrovka) köyü, Karlıçukur/Kanlıçukur (Dimitrovka) köyü, Reni ilçesinde bulunan; Bolboka (Kotlovina) köyü ve Kilikya İlçesinde bulunan Yeniköy (Novosyolovka) köyü, Eski Troyan (Starıye Troyanı) köyleri, Gagauzların yaşadığı köylerdir. Bu köylerden Karakurt ve Kubey dışındaki bütün köylerde nüfusun neredeyse tamamı Gagauzlardan ibarettir. (Hünerli, 2016: 23)

4.3.3. Romanya'da Yaşayan Gagauzlar

Romanya'daki Gagauzlar'ın nüfusu 2000-5000 arasında tahmin edilmektedir. Buradaki Gagauzlar'ın tam sayısının bilinememesinin nedeni bir taraftan yaşadıkları asimilasyon diğer taraftan nüfus sayımlarında kendilerinin ayrı bir etnisite olarak görülmemelerinden kaynaklanmaktadır. (Karpat, 1992: 288) Romanya'daki Gagauzlar, Dobruca'nın kasabaları ve köyleri olan Kokarca, Yılanlık, Dobromir ve Mnaklaya'da yaşamakta ayrıca Başkent Bükreş'te bulunan Gagauzlar da bulunmaktadır. (Cebeci, 2008: 180)

4.3.4. Bulgaristan'da Yaşayan Gagauzlar

Bulgaristan devletine göre 1900 yılında 5500 olan Gagauzlar'ın sayısı bugün sadece 540 olarak belirtilmektedir. Bunun da nedeni Bulgaristan'ın Gagauzlar'ı zorla Türkçe öğretilmiş Bulgarlar olarak saymaları ve nüfus sayımlarında onları Bulgar hanesine kaydedilmeleridir. Bulgaristan'daki Gagauzlar, Varna başta olmak üzere Balçık ve Kavarna şehirlerinde ayrıca bu şehirlerin etrafındaki köylerde yaşamaktadırlar. (Bulgaristan Cumhuriyeti Azınlık Komitesi)

4.3.5. Yunanistan'da Yaşayan Gagauzlar

Bugün Batı Trakya'da bulunan Dedeağaç, İskeçe ve Gümülcine şehirlerinde pek çok Gagauz köyleri bulunmaktadır. Bilhassa Dedeağaç ilinin bir ilçesi olan Orestiada (Kumçiftliği) ve civarındaki 12 köyler de Gagauzlara ev sahipliği yapmaktadır. Gagauzlar buraya Edirne'den ve Havsa'nın köylerinde 1924 mübadelesi ile

gelmişlerdir. Ayrıca Kavala şehrinde bu şehre bağlı Zihne ilçesinde ve beraberindeki yakın köylerde Gagauzlar yaşamaktadır. Buradaki Gagauzlar ise 1064 senesinde Tuna nehrinin güneyine inerek buraya yerleşmişlerdir. Son olarak Demirhisar ilçesinin Haznedar kasabası Kırklareli'nin Karahalil ve öteki köylerinden mübadele nedeniyle gelen Gagauzlar'ın kasabasıdır. (Cebeci, 2008: 179) Yunanistan'da bulunan Gagauzlar'ın sayısı ise 19.yüzyılın başlarında 7.300 iken bugün 3.000'in üzerindedir. (İusiumbeli, 2018)

4.3.6. Rusya'da ve Kazakistan'da Yaşayan Gagauzlar

Rusya'da bulunan 13.690 Gagauz Rusya'nın Kursk, Donetsk, Voronej şehirlerinde ve Kafkasya'nın kuzey bölgelerinde yaşamaktadır. Ayrıca Gagauzya'da iş bulamayan binlerce Gagauz genci iş bulmak amacı ile kendilerine yakın olarak gördükleri Rusya'ya göç etmektedir. (Rusya İstatistik Sitesi, 2002) Son olarak günümüzde Sibirya'da, Kazakistan'da, Özbekistan'da yaşayan ve buralara 1941-1949 yılları arasında Bucak bölgesinden sürgün edildikleri bilinen Gagauzlar'ın tahmini sayısı ise 10 bin civarındadır. (Ulutaş, 2013: 441)

5. TÜRKİYE'NİN GAGAUZYA POLİTİKASI

Türkiye Cumhuriyeti, kuruluşundan itibaren Mustafa Kemal Atatürk ile başlayarak, dış siyasette Türkiye dışında kalan ancak köken itibari ile aslen Türk olan topluluklarla ilişkilerini en iyi seviyelere çıkarma eğiliminde olmuştur. Bu bağlamda Türkiye tarafından Oğuz soyundan geldiklerinde mutabık kalınan Hristiyan Gagauzlarla da ilişkiler, Atatürk dönemine dayanmaktadır. Hamdullah Suphi Tanrıöver'in Bükreş'e tayin olması ile başlayan Türkiye'nin Gagauzlarla ilişkileri günümüze kadar neredeyse hiç kesilmemiştir

5.1. Atatürk Dönemi Türkiye'nin Gagauzya Politikası

Osmanlı Devleti'nin yıkılmasının ardından Türkiye Cumhuriyeti'nin Gagauzlar ile ilişkilerinin başlaması noktasında 20 Mayıs 1931 yılında Hamdullah Suphi'nin (Tanrıöver) Bakanlar Kurulu kararı ile Bükreş 1. Sınıf Orta Elçisi olarak tayin edilmesi bir dönüm noktası olmuştur. (T.C. Cumhurbaşkanlığı Devlet Arşivleri)

Hamdullah Suphi Romanya'ya tayin olduktan sonra burada bulunan ve Müslüman olan Türk topluluklarının haricinde burada bulunan Gagauzlar'ı keşfetmiş onların da yaşadıkları yerleri ziyaret etmiş, durumları hakkında raporlar hazırlamış Gagauzlar'ın durumlarının iyileşmesi için Romen hükümeti ve Türk hükümeti ile temaslarda bulunmuştur. Hamdullah Suphi bu temaslar sonucu olarak Gagauzlar'ın yaşadığı birçok köy ve kasabada Türkçe öğreten okullar ve kurslar açılmasını sağlamış bölgeden Türkiye'ye öğretmen atanmasına vesile olmuş ve Türkiye'den Türkçe kitaplar getirtmiştir. (Anzerlioğlu, 2006: 32)

Ayrıca Hamdullah Suphi, Gagauzlar'ı kendileri için anavatan olarak nitelendirdikleri Türkiye'ye yerleştirmek için çok uğraş vermiş ancak birtakım nedenlerden dolayı başarılı olamamıştır. Bu amacını gerçekleştiremeyen Hamdullah Suphi birçok Gagauz çocuğunun Türkiye'de eğitim görmelerini sağlamıştır. (Yavuz, 2010: 180)

1931-1944 yılları arasında Bükreş'te elçilik görevini yürüten Hamdullah Suphi tarafından, Türkçe öğretmek amacıyla Türkiye'den getirilen öğretmen sayısı 80 Türkçe eğitim verilen köy ve kasaba sayısı 26 olmuştur. Ayrıca o dönem Bükreş Büyükelçiliği çalışanları Hamdullah Suphi'nin Gagauzlar'a olan sevgisinden dolayı ona "Gagauz Metropoliti" lakabını koymuşlardır. (İusiumbeli, 2018)

Yine o yıllarda Gagauzlar'la çok yakından alakadar olan ilk Türk yazarlarından olan Yaşar Nabi Nayır,1936 yılında Balkanlar'a yaptığı bir araştırma gezisinde bulunmuş ve bu gezi sırasında edindiği bilgileri "Balkanlar ve Türklük" adlı kitabında anlatmıştır. (Pınar, 2017: 107) Yaşar Nabi bu kitabında Gagauzlar'ın anayurtlarına ve dillerine çok bağlı olduklarını ve onların Türkiye'ye yerleştirilmesinin önemini açıklamıştır. (Nayır, 1999: 57-113).

5.2. 1991-2001 Yılları Arasında Türkiye'nin Gagauzya Politikası

Sovyetler Birliği'nin egemenliği altında bulunan Gagauzlar'da da tıpkı diğer milletlerde olduğu gibi zaman zaman milli benliklerinin uyanması ve başkaldırılar yaşanmıştır. Özellikle 1957 yılında gerçekleşen ayaklanma yine Sovyetler Birliği tarafından kısa sürede bastırılmıştır.

Sovyetler Birliği'nin egemenliğinde kalan Gagauzlar'la Türkiye'nin ilişkileri yok denecek kadar azdır. Ayrıca Sovyet rejiminde Gagauzlar'ın aldığı eğitim sisteminde değişikler yapılıp ana dillerinde eğitim alma hakları ellerinden almıştır. Ancak bu dönemde de Gagauzlar, Türkiye'nin desteğini alamamışlardır.

Açıkçası 20.yy.da Gagauzlar ile Türkiye ilişkilerinde Besarabya'nın Romanya'nın egemenliğinde olduğu zamanlar gelişme yaşanmış, Sovyerler Birliği denetimine girdiklerinde yok denecek kadar azalmasına rağmen Sovyetler'in dağılıp Moldova'nın bağımsızlığını ilan etmesiyle tekrar canlanmıştır. (Pancu, 2018: 38)

Sovyetler Birliği'nin dağılışının ardından Türkiye'nin 8.Cumhurbaşkanı olan Turgut Özal, Moskova'ya bir ziyaret gerçekleştirmiş, bu ziyaret sırasında Gagauzların lideri olan Stefan Topal ve onun yardımcısı olan Georgi Ratkoğlu'yla buluşmuş ve Türkiye'nin kültürel, politik ve iktisadi alanda Gagauzlar'ı desteklediğini söylemiştir.

Moldova'nın bağımsızlığını elde etmesi ve buna paralel olarak Gagauzya'nın özerkliğini kazanması Türkiye'nin Moldova Cumhuriyeti ve Gagauzya ile ilişkilerinin gelişmesini sağlamıştır. 27.08.1991 tarihinde Moldova Sovyetler 'den bağımsızlığını ilan etmiştir. Türkiye ise Moldova'nın bağımsızlığını 16.12.1991 tarihinde tanımıştır. Başbakan Süleyman Demirel'in gönderdiği Moldova'ya gönderdiği mektupta; Moldova-Türkiye ilişkilerinde Gagauzlar'ın adeta bir köprü görevi gördüğünü açıklaması Gagauzların özerkliklerini kazanmasında oldukça önemli bir yer tutmuştur. (Öncü, 2014: 93-99)

Türkiye Cumhuriyeti'nin varlığı Gagauzya'nın kuruluşundan bu yana Gagauzlar için önemi her daim büyük olmuştur. 1994 yılında Moldova'nın başkenti Kişinev'de açılan Türk Büyükelçiliğine Büyükelçi olarak atanan Ender Arat, Gagauz Hükümeti ile Moldova Hükümeti arasında düşük düzeyde de olsa gerçekleşen çatışmaları engellemeyi amaçlamıştır.

Türkiye ile Gagauzya arasındaki en mühim diplomatik ilişki, Süleyman Demirel'in Gagauzya şehirleri olan Çadır-Lunga ve Komrat şehirlerine 1994 yılının haziran ayında yaptığı ziyaretlerle gerçekleşmiştir. Yapılan bu ziyaret Gagauzya'nın lideri olan Stefan Topal'ca "Gagauzya tarihinin en mühim zamanı" olarak nitelendirilmiştir. Dahası yapılan bu ziyaretten hemen önce 88.235 dolar değerinde Gagauzya ve Moldova'ya ilaç yardımında bulunulmuştur. (Pancu, 2018: 40)

Süleyman Demirel, Moldova Cumhurbaşkanı ile birlikte Çadır-Lunga'ya gerçekleştirdiği ziyaret sırasında su problemini çözüme kavuşturmak amacı ile 35 milyon dolar miktarında kredi vermek istemiştir. Ancak Moldova hükümeti 35 milyon dolarlık teklifin sadece 15 milyon dolar kadarını kabul etmiştir. (Özçayan, 2013: 19)

Süleyman Demirel'in 26.07.1998 tarihinde gerçekleştirdiği ikinci ziyareti Türkiye ile Gagauzya Münasebetlerinin ikinci önemli ayağını oluşturmuştur. Demirel bu ziyareti sırasında Moldova Cumhurbaşkanı olan Petru Lucinchi ile birlikte Gagauzya'nın Komrat ilinde "Komrat Atatürk Kütüphanesinin açılışını gerçekleştirmiştir. Bu ziyaret sırasında Demirel ayrıca Çadır-Lunga ilinde bulunan Çocuk verem Sanatoryumuna 200.000 dolar destek olmuş ayrıca Komrat Devlet Üniversitesine 100.000 dolar daha bağışlamıştır. (Güngör ve Argunşah, 2002: 58)

Süleyman Demirel'in Cumhurbaşkanlık ve Başbakanlık yaptığı zamanlarda Gagauzya lideri olan Stefan Topal ve Georgiy Tabunşcik Türkiye'ye 6 defa ziyaretlerde bulunmuştur. Ankara- Komrat arası mekik dokuyan Stefan Topal içme suyu ağı ve rafineri gibi Gagauzya'nın ihtiyaçlarına binaen büyük destekler almıştır. Bu ziyaretlerden 1994 yılında olanında Süleyman Demirel ile aralarında şu konuşma geçmiştir.

Demirel "Söyle bakalım Topal, nüfusunuz kaç? Kaç Türk'sünüz orada?" diye sorduğunda Stefan Topal gecikmeden "-Yüz altmış bin" cevap verince Demirel "Yanlış" diye yanıtlamıştır. Demirel devamında "Sorulduğu zaman nüfusumuz yetmiş iki milyon yüz altmış bin diyeceksin" diyerek Türkiye'deki Türklerin ve Gagauzya'daki Türklerin bir olduğunu vurgulamıştır. Stefan Topal, Gagauzya'ya geldikten sonra Demirel ile aralarında konuştukları bu diyaloğu çokça kez Türklük gururu ile dile getirmiştir. (Çelikdönmez, 2018)

Süleyman Demirel döneminde Gagauzya'ya yapılan yardımlar bunlarla sınırlı kalmamıştır. Bu yardımların yapılmasında da TİKA (Türk İşbirliği ve Kalkınma Ajansı) nın rolü büyük olmuştur. Başta Ana Sözü olmak üzere Gagauz dilinde yayınlanan gazetelere ekonomik desteklerin verilmesi, yine başta GRT (Gagauz Radyo ve Televizyonu) olmak üzere radyo ve televizyonlara yapılan ekonomik destekler, Gagauz Ulusal Tiyatrosuna, Gagauzca Olimpiyatlarına ve kütüphanelere yapılan yardımlar, kültür alanında yapılan destekleri kapsamaktadır.

3000 tane resimli Latin harflerinden oluşan Gagauz alfabesinin basılması, Komrat Devlet Üniversitesi'ne yapılan ekonomik destekler ve bu üniversitede açılan Türkoloji bölümüne gönderilen öğretim üyeleri, Gagauz Türkçesiyle orta ve ilkokullar için okuma, dil bilgisi ve edebiyat kitaplarının basılması, Kongaz, Kişinev ve Çadır-Lunga da açılan özel Türk liseleri (bu liselerden Kongaz'da açılanın açılışına Süleyman Demirel katılmış lisenin ismi de Süleyman Demirel lisesi olmuştur.) Komrat Atatürk Kütüphanesinin açılması eğitim alanında yapılan desteklerdir. (Güngör ve Argunşah, 2002: 58)

"Yabancı Yatırımların Kolaylığı ve Korunması" anlaşmasının Türkiye ile Moldova arasında 1994 yılında imzalanması, 1995 yılında TÜYAP'ın Kişinev'de açtığı Türk Ticaret ve Sanayi sergisiyle Gagauzya'yı da Türk iş

insanlarına tanıtması açılması, Gagauzya'ya ekonomik alanda yapılan desteklerdir. Yine bu bağlamda Türkiye'nin Kişinev Büyükelçisi olan Mümin Alanat'ın Türk iş insanlarının Gagauz bölgesine yatırım yapmalarını sağlamak için çalışmıştır. Dmitriy Kroytor'un Gagauzya başkanı seçilmesi ardından Türkiye'yi ziyareti ve Süleyman Demirel'in sözüyle 2000 senesine kadar Türkiye'den 20 milyon dolarlık kredi sağlanmıştır. Dahası Türkiye İçişleri bakanlığınca Gagauz polis kıyafetlerinin temin edilmiş ve 5 polis otosu bağışlanmış, Gagauzya'da Kiremit ve tütün fabrikası açılmıştır. (Güngör ve Argunşah, 2002: 59)

5.3. 2001 Sonrası Türkiye'nin Gagauzya Politikası

Türkiye'nin Moldova münasebetleri uzun bir dönem hareketsiz bir şekilde devam etmiştir. 2003 yılında Moldova Başbakanı olan Tarlev'in Türkiye'ye yaptığı ziyaret bu ilişkilerin hareketlenmesine vesile olmuştur. Bu ziyaret Moldova Cumhuriyeti'nin bağımsız olmasından bu yana başbakanlık seviyesinde yapılan ilk ziyaret olmuştur. Bu ziyaret sırasında Türkiye ile Moldova arasında 7 ayrı dalda protokol ve anlaşmalar imzalanmıştır. Yine bu ziyaret sırasında görüşülen en önemli konulardan biri Gagauzya'da yaşayan Gagauz Türkleri'nin durumları olmuştur. Dönemin Türkiye Başbakanı olan Recep Tayyip Erdoğan, Moldova'da yaşamını sürdüren Gagauzlarla ilgili mevkidaşı ile görüşerek onların hukuki durumlarının belirlenmesini arzu etmiştir. Bunun sonucunda ise Gagauzlar'ın muhtariyet hakları ve hukuki durumları Moldova anayasasının 111. maddesinde belirlenmiştir. Böylelikle Gagauzlar büyük ölçüde rahata kavuşmuştur. Bu durum onların destekler alabilmelerinde ve seslerini duyurup haklarını aramada büyük bir yarar sağlanmıştır. (Gökdağ, 2014: 37)

Türkiye'nin Gagauzya'ya yaptığı yardımlar büyük oranda TİKA bünyesinde gerçekleşmektedir. Çadır-Lunga şehrinin içme suyu projesi 2004 yılında, Komrat'ta bulunan Güneşcik Kreşinin bahçe duvarlarının imal edilmesi ve buraya çevre düzenlemesi yapılması, Çadır-Lunga'da bulunan Beşgöz köyünün sağlık ocağının çatısının yenilenmesi, Moldova Cumhuriyeti Sağlık Bakanlığına bağlı olarak Gagauzya Özerk Bölgesine Ambulans temini, Çadır-Lunga'da bulunan bölge hastanesine jeneratör temini, Kıpçak Belediyesi Spor Merkezine malzeme yardımı, Komrat'ta bulunan Beşalma lisesine yapılan mobilya desteği ve Uzman doktor ve Sağlık elemanı yetiştirilmesi 2009 ve 2010 yılları içerisinde yapılan yardımlar olmuştur. (TİKA, 2018)

Moldova Sağlık Bakanlığına ambulans temini, Vulkaneşti'te bulunan bölge hastanesinin tamiratı, Kıpçak köyüne su temin eden kuyuların yenilenmesi, 2. Uluslararası Ekonomi Forumuna yapılan yardım, Ana Sözü gazetesine yapılan destek, Moldova'da gerçekleştirilen yiyecek ve hayat güvenliği programı 2011 yılında Gagauzya'ya yapılan yardımlardır.

Gagauzya Sanayi ve Ticaret Odası'na malzeme temini, Komrat Huzurevi'nin yenilenmesi ve malzeme temini, Kimsesiz kalan çocuklara giysi desteği, Djoltay köyü ortaokulunun ısıtma tertibatının tadilatı, Gökoğuz Radyo ve Televizyonu olan GRT'nin altyapısının ihya projesi, Çadır-Lunga'da bulunan Saxan Spor Kulübü için stadyum inşası, Milli Koreografi Koleji'ne yapılan halk oyunları için giysi yardımı, Moldova Cumhuriyeti Sağlık Bakanlığı'na bağlı Baltsi Çocuk Geçici yerleştirme ve iyileştirme merkezi down sendromu ve SP'li hastalar bölümünün yenilenmesi ve malzemelerinin temini, Gagauzya'ya 2012 yılında yapılan yardımlardır.

Komrat'ta bulunan Atatürk kütüphanesinin yenilenmesi ve buraya kitap yardımı, Gagauzya Halk Toplusu binasının tadilatı, Komrat'ta yer alan bölge hastanesi için suni solunum cihazı yardımı, Moldova Cumhuriyeti Dışişleri ve Avrupa Entegrasyon Bakanlığı protokol ve toplantı salonunun tadilatı, 2013 yılında gerçekleştirilen yardımlar olmuştur.

Cotiujenii-Mici köyünde bulunan Kültür Evinin yenilenmesi, Çadır-Lunga'ki kimsesizler Okulunun kazan dairesi ve Isıtma tertibatının tadilatı, Gagauzya Komrat bölge hastanesinin restorasyonu için yapılan planlama, Gagauzya Kültür ve Turizm Genel Müdürlüğü'nün ses kayıt stüdyosu için malzeme temini, Gagauzya'ya 2014 yılında yapılan yardımlardır.

Gagauzya Bilim ve Araştırma Merkezine malzeme tedariki, Kongaz Köyü Teorik Lisesi Halı Sahasının Faaliyete Açılması, Çadır-Lunga 7 No'lu Kreş'in Tadilatı, Gökoğuz Yeri Ticaret Ve Sanayi Odası Eğitim Merkezi Eğitim Salonu İle Dil Laboratuvarının Tadilatı Gökoğuz Yeri I. Yatırım Forumu'na Destek, 2015 yılında Gagauzya'ya yapılan yardımlardır. (TİKA, 2018)

Moldova Ana Çocuk Sağlığını muhafaza ve bilimsel araştırmalar enstitüsü binasının onarımı, Çadır Lunga'daki sel mağdurlarına ev yapımı, Kıpçak köyüne 4 numaralı kreşin inşa edilmesi, Komrat'ta bulunan Süleyman Demirel kreşi'nin döşemelerinin yapılması, Kongaz Süleyman Demirel Moldova-Türk Lisesi'nin onarımı, Vulkaneşti Göz Hastanesi'nin malzemelerinin yenilenmesi, Vulkaneşti'de "15 Temmuz Şehitlerini Anma Parkı"nın yapımı, Kongaz köyü'nde su kuyusu açılması, Kongaz Köyüne engelli aracı alınması, okullarda ve kreşlerde ilk yardım eğitimi,

" "Hamdullah Suphi ve Gagauzlar Uluslararası Bilgi Şöleni'ne" yardım, Komrat'ta açılacak olan Recep Tayyip Erdoğan Eğitim Kompleksinin projelendirilmesi 2016 yılında Gagauzya'ya yapılan yardımlardır.

Moldova Ana Çocuk Sağlığını Koruma ve Bilimsel Araştırmalar Enstitüsü binası için malzeme temini, Komrat şehrinde yatılı kreş binasının açılışı, Komrat şehri hastanesinin ek binasının İnşası, Çadır Lunga sel afetlerinin engellenmesi için Stratan nehrinin iyileştirilmesi, "FULGER" Polis eğitim merkezi spor salonunun onarımı ve malzeme temini, Komrat şehrinde bulunan Atatürk Kütüphanesi'nin onarımı, Vulkaneşti şehri su tesisatının yenilenme projesinin planlanması, Türkiye'den getirilen masal kitaplarının Gagauzca yayınlanması, Gagauzya kamu kuruluşlarının tabelalarının değiştirilmesi, Uluslararası Polis Eğitimi, 2017 gerçekleştirilen yardımlardır.

Moldova Cumhurbaşkanlığı binasının restorasyonu, Komrat şehrinde Nasrettin Hoca Yatılı Kreşinin açılışı, Aziz Sancar Sağlık Merkezi'nin açılışı ve Gagauzya için 5 tane minibüs alımı, Altındağ belediyesi tarafından Komrat Kültür Evi'nin onarımı, Kriyet Lunga kültür evinin restorasyonu Vulkaneşti şehrinde 3 adet su kuyusunun inşası, Kıpçak Köyü'nde 15 Temmuz Parkı inşası, Türkiye-Moldova iktisadi münasebetlerinde Yeni Ufuklar Sempozyumu için yardım, Komrat şehrinde bulunan Recep Tayyip Erdoğan Huzurevi'ne bir sera inşası, Gagauzya'dan Türkiye'ye 23 Nisan Ulusal Egemenlik ve Çocuk Bayramı için çocukların getirilmesi 2018 yılında TİKA tarafından yapılan yardımlardır. (TİKA, 2018) Ayrıca yaşlı ve engelliler için120 adet tekerlekli sandalye, 60 tansiyon ölçüm aleti, 20 koltuk değneği, 6 akülü sandalye, 51 işitme cihazı yardımı bu yılda gerçekleştirilmiştir. (Kızılay 2018)

Yine 17-18 Ekim 2018 tarihinde Cumhurbaşkanı Recep Tayyip Erdoğan'ın Moldova ve Gagauzya ziyareti ikili ilişkilerde ayrı bir dönüm noktası olmuştur. Erdoğan iki günlük bu ziyaretin ilk gününde Moldova Cumhurbaşkanı olan İgor Dodon ve Moldova Başbakanı olan Pavel Philip ile Başkent Kişinev'de görüşmüş liderler arasında Türkiye-Moldova Stratejik Ortaklık anlaşması ve birçok anlaşmalar imzalanmıştır. Gagauzya'da bir süredir devam eden projelerin açılışlarını yapan Erdoğan, meydanda toplanan Gagauz halkına hitaben bir konuşma gerçekleştirmiştir. (Sputnik, 2018)

Gagauzlar'a "Gökoğuz Türkü soydaşlarım" diyerek hitap eden Erdoğan, Türkiye Türklerinin yüreklerinin Gagauzlarla beraber olduğunu ve onların selamını getirdiğini belirtmiştir. Erdoğan konuşmasının devamında Gagauz Yeri Özerk Bölgesinin kuruluşunda emeği geçen Cumhurbaşkanı Süleyman Demirel'i, Moldova Cumhurbaşkanı Mircea Snegur'u ve Gagauzların lideri Stefan Topal'ı anmış ve kendilerine teşekkür etmiştir. Moldova'nın toprak bütünlüğünün muhafaza edilmesini oldukça önemli gördüklerini belirten Erdoğan, hem Moldova'da hem de Gagauzya'da yaşanan gelişmeleri oldukça yakından takip ettiklerini söylemiştir. Kendi milli kimliklerini korumak adına Gagauz diline sahip çıkmanın oldukça önemli olduğuna değinen Erdoğan, Sovyetlerden ayrılan birçok devletin 1994 senesinde iç çekişmeler ile boğuştuğunu ancak Moldovalılar ile Gagauzların kardeşçe yaşamayı seçtiklerini belirtmiştir. (C.B. İletişim Başkanlığı, 2018)

Yapımına 2017 yılında başlanan Recep Tayyip Erdoğan Eğitim Kompleksi de Gagauzya için büyük bir eğitim yardımı olarak göze çarpmaktadır. 500 öğrenciye hizmet veren kompleks içerisinde 1 okul 2 yurt binası 452 kişilik kapalı spor salonu, 270 kişilik konferans salonu, 350 kişilik yemekhane ve futbol, voleybol, basketbol ve tenis sahaları barındırmaktadır. (TİKA, 2018)

İkili ilişkileri geliştirmek adına 27 Ağustos 2020 tarihinde Gagauz Yeri Özerk Bölgesi'nin başkenti Komrat'ta bir Türk konsolosluğunun açılması oldukça büyük bir önem arz etmektedir. Açılan bu konsolosluğun ilk temsilcisi Hasan Akdoğan olmuştur. Konsolosluğun günümüz misyon şefi ise Başkonsolos Adnan Hayaldir. Konsolosluğun sahası ise Gagauzya toprakları ile beraber tüm Güney Moldova olarak belirlenmiştir. (Komrat Başkonsolosluğu)

Yine 2020 yılında YTB (Yurtdışı Türkler ve Akraba Topluluklar Başkanlığı) tarafından Gagauzya'nın özerkliğinin 25.yılını kutlamak adına belgesel niteliğinde bir kitap hazırlanmış ve Gagauzya'da eğitime destek vermek adına 5000 adet kitap bağışında bulunulmuştur. (YTB, 2020)

YEE (Yunus Emre Enstitüsü) de 14 Eylül 2021 tarihinde Gagauzları konu edinen "Kültürü Hisset Aynı-Ayrı" isimli belgeseli yayınlamıştır. Türklerin ve Türk kültürünün ele alındığı belgeselde Gagauz Türklerinin kültürü anlatılmıştır. 2015 yılından beri Komrat'ta çalışmalarını sürdüren YEE'nin yayınladığı bu belgesel 25 dakikadır. (TRT Avaz, 2021)

Gagauzya'da Gagauz Türklerinin tarihi konulu Uzi Eyalet – Son Düüş tiyatro oyununa TÜRKSOY da icabet etmiştir. Ayrıca TÜRKSOY'un da yardımları yayımlanan Gagauz yazarlar birliği dergisinin son iki sayısı ve Gagauz çocukları için bir masal kitabı olan Kurt-Kuş Dünnesi'nin tanıtımı 12 Aralık 2022 tarihinde Komrat Kültür Merkezi'nde yapılmıştır. (TÜRKSOY, 2022)

13-17 Mart 2023 tarihleri arasında Gagauzya Komrat'ta TRT tarafından GRT (Gagauzya Radyo Televizyonu) çalışanlarına medya eğitim semineri verilmiştir. 5 gün süren bu seminere TRT'den Ankara Radyosu Spikerlerinden Rıza Okur, Dijital Yayınlar Birimi'nden Ayşe Şimşek, TRT Haber'den Serkan Durmazer katılmıştır. (TRT Haber, 2023)

2024 yılında TİKA tarafından Gagauzca'nın unutulmasının önüne geçmek adına çocuklara yönelik Gagauzca çizgi filmler hazırlanmıştır. Hazırlanan bu 16 çizgi film GRT'de yayınlanmaya başlanmış, dahası Gagauzya Eğitim Müdürlüğü'nün verdiği destekle Gagauzya'daki kreşlerde gösterilmeye başlanmıştır. (TİKA, 2024)

2025 yılında ise Gagauz dilini, kültürünü, gelenek göreneklerini ve tarihini tanıtmak adına Kişinev'de bulunan Mihail Çakır Kütüphanesinin restorasyonu yapılmıştır. 1992 yılından beri çalışmalarını sürdüren kütüphaneye doküman takviyesi de yapılmıştır. (Chirciu, 2025)

İkili ilişkiler açısından karşılıklı resmi ziyaretler de oldukça önem arz etmektedir. Bu bağlamda Gagauz Yeri Özerk Bölgesi'nin kuruluşundan günümüze onlarca karşılıklı resmi ziyaret gerçekleşmiştir. Bu ziyaretler genelde bakanlıklar düzeyinde olsa da başbakanlık ve cumhurbaşkanlığı düzeyinde ziyaretler de yapılmıştır.

Tablo 2: Türkiye'den Gagauz Yeri Özerk Bölgesine Yapılan Resmi Ziyaretler

Türkiye'den Gagauzya'ya Ziyaretler		
Tarih	**İsim**	**Makam**
3.06.1994	Süleyman Demirel	Başbakan
26.06.1998	Süleyman Demirel	Cumhurbaşkanı
1.06.2005	Kürşat Tüzmen	Devlet Bakanı
14.05.2008	Kürşat Tüzmen	Devlet Bakanı
18.05.2010	Faruk Çelik	Devlet Bakanı
28.04.2011	Mehmet Fatih Ceylan	Dışişleri Bakan Yardımcısı
29.04.2012	Hayati Yazıcı	Gümrük ve Ticaret Bakanı
13.05.2012	Ahmet Davutoğlu	Dışişleri Bakanı
14.06.2012	Sadullah Ergin	Adalet Bakanı
21.09.2013	Bekir Bozdağ	Başbakan Yardımcısı
9.05.2014	Cemil Çiçek	Meclis Başkanı
2.04.2015	Mevlüt Çavuşoğlu	Dışişleri Bakanı
6.05.2017	Binali Yıldırım	Başbakan
20.12.2017	Hakan Çavuşoğlu	Başbakan Yardımcısı
18.10.2018	Recep Tayyip Erdoğan	Cumhurbaşkanı
22.02.201	Mevlüt Çavuşoğlu	Dışişleri Bakanı
16.09.2022	Mustafa Şentop	Meclis Başkanı

Kaynak: Akten, (2025)

Tablo 3: Gagauz Yeri Özerk Bölgesi'nden Türkiye'ye Yapılan Resmi Ziyaretler

Gagauzya'dan Türkiye'ye Ziyaretler		
Tarih	**İsim**	**Makam**
1995	Georgiy Tabunşcik	Gagauzya Başkanı
1997	Georgiy Tabunşcik	Gagauzya Başkanı
1999	Georgiy Tabunşcik	Gagauzya Başkanı
1.12.1999	Dmitri Kroytor	Gagauzya Başkanı
2.02.2000	Mihail Kendigelen	Meclis Başkanı
1.07.2000	Dmitri Kroytor	Gagauzya Başkanı
2.10.2000	Dmitri Kroytor	Gagauzya Başkanı
10.10.2000	Mihail Kendigelen	Meclis Başkanı
3.11.2000	Dmitri Kroytor	Gagauzya Başkanı

2.02.2001	Dmitri Kroytor	Gagauzya Başkanı
9.05.2003	Georgiy Tabunşcik	Gagauzya Başkanı
29.01.2009	Mihail Formuzal	Gagauzya Başkanı
25.02.2012	GHT Heyeti	Milletvekili
1.10.2012	Mihail Formuzal	Gagauzya Başkanı
25.10.2014	GHT Heyeti	Meclis Başkanı
21.06.2016	İrina Vlah	Gagauzya Başkanı
20.03.2018	İrina Vlah	Gagauzya Başkanı
22.02.2021	İrina Vlah	Gagauzya Başkanı
15.09.2023	Evghenia Gutul	Gagauzya Başkanı

Kaynak: Akten, (2025)

Türkiye Gagauzya'ya yaptığım yatırımların en büyük kısmını TİKA aracılığı ile yapmaktadır. TİKA 1994 yılından beri bölgeye yaptığı yardımları sürdürmektedir. (Özdenoğlu, 2018) Ancak Türkiye'nin Gagauzya'ya yaptığı yardımlar ve yatırımlar sadece TİKA ile sınırlı kalmamaktadır. Gagauzya'ya TİKA haricinde YTB (Yurt Dışı Türkler ve Akraba Toplulukları Başkanlığı), TÜRKSOY, Türk Kızılayı, YEE (Yunus Emre Enstitüsü), bakanlıklar, belediyeler, Türk iş insanları ve diğer sivil toplum örgütleriyle yardımlar ve yatırımlar yapılmaktadır. (ULUSAM, 2018: 19)

Türkiye, yaptığı bu yardımlar dışında Gagauzya'yı Rusya'nın etkisinden korumaya ve Moldova'nın genel politikası içerisinde bulunmaya çalışmakta ancak bu konuda pek başarılı olamamaktadır. 2014 yılında TBMM başkanı Cemil Çiçek'in Moldova'ya yaptığı bir ziyarette Gagauzya'nın Avrupa'ya entegre edilmesinden yana olduklarını savunması, Gagauz Birliği Topluluğunun yayın organında "Erdoğan Partisinin Gagauzya'da yeni hatası başlığı ile bir haber yayınlanmış ve Türkiye'nin Gagauzya'yı AB tarafına çekmesi tepki ile karşılanmıştır. Ayrıca 2014 yılında gerçekleştirilen referandumda Gagauzların %98'i Avrupa Birliği'ne karşı çıkarak Moldova'nın Rusya liderliğindeki Avrasya Gümrük Birliğine girmesi için oy kullanması bu tezi destekler niteliktedir. (Atsız, 2014: 38)

Özetlemek gerekirse Türkiye, Gagauzya'nın siyasetinde belirleyici bir rol oynayamamaktadır. Gagauzya'daki siyasi güçler büyük oranda Rusya merkezli olup diğerleri AB merkezli ve Bağımsızlık merkezli olmaktadır. Bölgede Türkiye bünyesinde bir siyasi güç bulunmamakla beraber Türkiye Gagauzya siyaseti bu bölgenin kalkınması ve gelişmesi için yardımlar, yatırımlar ve destekler yaparak yumuşak bir güç meydana getirmektedir. (ULUSAM, 2018: 19).

6. SONUÇ

Türkiye Cumhuriyeti'nin dış politikası Mustafa Kemal Atatürk ile kuruluşundan beri Türkiye dışarısında kalan ancak aslen Türk topluluklarıyla teması en yüksek düzeye ulaştırmaya çalışmak olmuştur. Bu bağlamda Türkiye büyük bir çoğunluğu Moldova'nın güneyinde bulunan ve neredeyse ortak bir inanışa göre Oğuzlar'ın soyundan geldikleri bilinen Gagauzlara kayıtsız kalmamıştır. Atatürk döneminde başlayan ilişkiler kesintiye uğrasa da Sovyetlerin dağılması ile tekrar tesis edilmiş ve günümüzde de devam etmektedir.

Türkiye'nin Gagauzya politikası onların iç siyasetine karışmak ya da misyonerlik gibi faaliyetlerle onları müslümanlaştırmak üzerine değil aksine Gagauzları Moldova, Rusya ve Romanya üçgeninde asimile olmalarını engellemeye çalışmaktır. Bu bağlamda Türkiye uyguladığı yumuşak güç çerçevesinde çeşitli kurum ve kuruluşlarca bölgeye yardımlar yapmakta Gagauz dilinin kullanımını yaygınlaştırmaya çalışmaktadır. Bölgeye yapılan gerek alt yapı gerekse ekonomik yatırımlar ile de Gagauz gençlerin dışarıya göç vermesini engellemek ve onların kendi vatanları için hizmet etmelerini sağlamak istemektedir. Ancak tüm bu yapılanlara rağmen Gagauzya'da Rusya'nın etkisi çok büyüktür. Siyaset, din, dil, medya ve eğitim alanlarında etkisini gösteren Rusya, Gagauzların milli kimliklerini kaybedip asimile olmaları için çok büyük bir tehlike arz etmektedir.

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Para Politikası Belirsizliği Endeksi ile Türkiye'nin Döviz Piyasası Baskısı Arasındaki Dinamik Nedensellik İlişkisi

Dr. Öğr. Üyesi Fatih CEYLAN[1]

[1]Uşak Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İktisat, fatih.ceylan@usak.edu.tr, ORCID: 0000-0002-3685-2032

Özet: Ülkelerarası finansal entegrasyonun giderek artmasıyla birlikte ABD kaynaklı para politikası belirsizlikleri küresel ekonominin ve özellikle de gelişmekte olan ülkelerde piyasayla ilgili çeşitli faaliyet ve süreçlerdeki belirsizlikleri yoğunlaştırmada önemli bir rol oynayabilmektedir. Bu bağlamda dış ekonomik koşullar ile yurtiçi makroekonomik faktörler arasında etkileşimde döviz kuru önemli bir gösterge olarak öne çıkabilmektedir. Döviz kurunda meydana gelen dalgalanmaların yurt içi ekonomi politikaları üzerinde etkilerinin önemi dikkate alındığında dış faktörlerin döviz kuru baskısını belirleme de rolünün belirlenmesinin önemli olduğu ifade edilebilir. Bu nedenle çalışmada 2003:01-2024:07 tarihleri arasında ABD kaynaklı para politikası belirsizlik endeksinin Türkiye'de döviz piyasası baskısının nedeni olup olmadığı zamana göre değişen Granger nedensellik analizi ile tespit edilmeye çalışılmıştır. Çalışmada ABD kaynaklı para politikası belirsizlik değişkeni olarak Baker vd. (2016) tarafından hesaplanan endeks kullanılırken, Türkiye'de döviz piyasası baskısını ölçmek amacıyla literatürde yer alan döviz kuru değişimlerinin yanı sıra döviz rezervleri ve faiz oranları farkını birlikte dikkate alan döviz piyasası baskı ölçütleri kullanılmıştır. Elde edilen bulgular ABD kaynaklı para politikası belirsizliğinin zamana göre değişmekle birlikte Türkiye döviz piyasası baskısının özellikle küresel finans krizi sonrası dönemde nedeni olduğunu göstermektedir. Bu çalışmanın Türkiye'de döviz piyasasında dış kaynaklı para politikası belirsizliklerinin rolünü anlamada katkı sunması beklenmektedir.

Anahtar Kelimeler: ABD Para Politikası Belirsizlik Endeksi, Döviz Piyasası Baskısı, Zamana göre Değişen Nedensellik Testi, Türkiye

Abstract: With the increasing financial integration among countries, uncertainties arising from US monetary policy may play an important role in intensifying uncertainties in various market-related activities and processes in the global economy and particularly in developing countries. In this context, the exchange rate emerges as a crucial indicator of the interaction between external economic conditions and domestic macroeconomic factors. Considering the importance of exchange rate fluctuations in shaping domestic economic policies, it is essential to assess the role of external factors in determining exchange rate pressure. For this reason, this study aims to investigate whether the US-based monetary policy uncertainty index is the cause of exchange market pressure in Turkey between 2003:01 and 2024:07, using time-varying Granger causality analysis. In this study, the index calculated by Baker et al. (2016) is used as the US monetary policy uncertainty variable, while the measures of exchange market pressure in the literature, which consider exchange rate changes as well as foreign reserves and interest rate differentials, are used to measure exchange market pressure in Turkey. The results suggest that US monetary policy uncertainty, although time-varying, is the main driver of exchange market pressure in Türkiye, especially in the post-global financial crisis period. This study is expected to contribute to the understanding of the role of exogenous monetary policy uncertainty in the Turkish exchange market.

Key Words: US Monetary Policy Uncertainty Index, Exchange Market Pressure, Time-varying Causality Test, Türkiye

1. GİRİŞ

Son dönemde küresel finansal entegrasyonun artmasıyla birlikte hem gelişmiş hem de gelişmekte olan ekonomilerde politika yapıcılar için önemli fırsatlar ve zorluklar ortaya çıkmıştır (Aizenman ve Binici, 2016: 66) Bu süreçte, ülkeler, bölgeler ve hatta dünya genelinde finansal krizler yaşanmıştır (Olanipekun vd., 2019a:1) Küresel finansal krizin ardından uygulanan niceliksel genişleme (quantitative easing) gibi geleneksel olmayan para politikaları, küresel likidite bolluğuna yol açmıştır. Bu likiditenin bir kısmı, küresel varlık yöneticilerinin yüksek getiri arayışıyla gelişmekte olan ülkelere aktarılmış ve bu durum, yerel para birimleri üzerinde baskı yaratmıştır (Tillmann, 2016:137). Ancak, 2013 yılında Amerika Birleşik Devletleri Merkez Bankası'nın niceliksel gevşemeyi azaltacağı ve para politikalarını sıkılaştırmaya başlayacağı (bu döneme "taper tantrum" denir) yönündeki açıklaması, gelişmekte olan ekonomilerde sermaye çıkışlarına yol açmış ve yerel para birimlerinin önemli ölçüde değer kaybetmesine sebep olmuştur. Bu süreç, gelişmekte olan ülke ekonomilerinde, yerel para birimlerinde değer kayıplarının yanı sıra volatilitenin artmasına neden olmuş ve döviz piyasasında baskıyı arttırmıştır (Patnaik ve Pundit, 2019: 2-3). Dahası, gelişmiş ekonomilerle birlikte birçok gelişmekte olan ekonomi Covid-19 salgınının ekonomik etkilerine yanıt olarak parasal genişlemeye yönelik politikalar uygulamıştır. Mevcut küresel ekonomik ortamda, enflasyonist baskıyı dengelemek için ABD'de faiz indirimleri tartışılmaktadır. Bu politika değişikliklerinin etkisi küresel ekonomiyi etkileyerek daha fazla belirsizlik yaratacaktır (Glebocki Keefe ve Saha, 2022).

Ekonomik belirsizlik, ekonomik aktörlerin bir ekonominin mevcut durumu hakkında yeterli ve güvenilir bilgiye ulaşamaması durumu olarak tanımlanabilir. Bu belirsizlik, bir ülkenin ekonomik büyümesini ve performansını şekillendiren, doğrudan gözlemlenemeyen ve ölçülmesi zor olan bir faktör olarak önemli bir rol oynamaktadır (Aftab vd., 2024). Bununla birlikte Bloom (2014) belirsizliğin "tüketicilerin, yöneticilerin ve politika yapıcıların zihnindeki olası geleceğe ilişkin belirsizliği yansıttığını" savunmaktadır. Bloom (2014), belirsizliğin geniş tanımının doğrudan ölçülmesini güçleştirdiğini ve bunun yerine genellikle ekonomik göstergelerin dalgalanması, içsel ve dışsal şoklar, tahminler ile analist raporlarındaki farklılıklar gibi unsurlar ve sosyal medyada yaygın olarak kullanılan terimler gibi çeşitli dolaylı göstergelerle temsil edildiğini belirtmiştir. Ancak Baker vd. (2016), gazete makalelerinin para politikasına dair belirsizlik hakkında bilgi sağladığını ve Federal Rezerv'in eylemlerine yönelik kamuoyu algısındaki belirsizlikleri ölçen bir endeks geliştirdiklerini belirtmişlerdir. Bu endeks, Lehman Brothers'ın çöküşü, Brexit, 2016 ABD seçimleri, Rusya-Ukrayna savaşı ve COVID-19 salgını gibi önemli olaylarla belirsizlik artışlarını ilişkilendirebilmektedir.

ABD para politikası belirsizliği, birkaç kanal aracılığıyla etkisini gösterir. Faiz oranları, ekonomideki en önemli fiyatlardan biri olup, hanehalklarının tüketim ve firmaların yatırım kararlarını şekillendirir. Bu nedenle, faiz oranlarının geleceğine dair belirsizlik, temel ekonomik değişkenleri etkileyebilir. Örneğin, faiz oranlarındaki belirsizliğin artması, firmaları büyük yatırımlardan caydırabilir. ABD faiz oranlarına dair belirsizlik, ABD varlıklarının göreceli çekiciliğini etkileyerek yatırımcı duyarlılığını ve davranışını değiştirir, bu da sermaye akışlarını ve döviz kurlarını etkileyebilir (Park vd., 2020).

Bu çalışma, özellikle ABD para politikası belirsizliğinin Türkiye'de döviz piyasası üzerindeki baskıyı nasıl şekillendirdiğini incelemekte ve bu etkinin küresel finans krizi öncesi ve sonrasında zaman içinde nasıl değiştiğini analiz etmektedir. Türkiye gibi gelişmekte olan önemli bir ekonomi için döviz kuru dalgalanmalarının, birçok makroekonomik değişken aracılığıyla ekonomik ve finansal istikrar üzerinde önemli etkiler yarattığı dikkate alındığında, ABD kaynaklı para politikası belirsizlik şoklarına Türkiye'nin verdiği tepkilerin anlaşılmasının politika yapıcılar, uluslararası yatırımcılar ve portföy yatırımcıları için katkılar sunması beklenmektedir.

Bu çalışmanın geri kalanı şu şekilde düzenlenmiştir: Bir sonraki bölümde literatür taraması kısaca sunulmaktadır. Bölüm 3'te çalışmanın verileri ve metodolojisi açıklanacaktır. Bölüm 4, bulguların sonuçları, Bölüm 5 ise genel sonuçlarla tamamlanmaktadır

2. LİTERATÜR

Gelişmekte olan ekonomilerde, belirsizlik ölçütleri (örneğin, ekonomik politika belirsizliği, para politikası belirsizliği, küresel finansal piyasalardaki belirsizlikler vb.) ile döviz kuru piyasası arasındaki ilişkiler üzerine yapılan literatür incelemeleri, genellikle döviz kuru değişimleri ve döviz kuru oynaklıkları arasındaki etkileşime odaklanmaktadır (Kido, 2016: Kido, 2018: Park vd., 2020: Abid, 2020: Hossain ve Sultana, 2022: Aftab vd., 2024). Ancak, döviz kuru piyasası, döviz piyasasında yaşanan tüm olayları, yani ülkeye özgü döviz piyasası baskısını tam olarak yansıtamayabilir. Döviz piyasası baskısı, genellikle döviz kuru değer kaybı ve uluslararası rezerv kaybının yanı sıra faiz oranı farklarının bir araya gelerek oluşturduğu ağırlıklı bir toplam olarak ölçülür. Bu kavram, özellikle gelişmekte olan piyasa para birimlerinin analizinde ve ekonomik krizlerin tanımlanmasında sıklıkla kullanılmaktadır (Aizenman ve Binici, 2016). Bu nedenle döviz piyasası baskısı, döviz kuru değişikliklerinden daha kapsamlı bir gösterge olarak öne çıkmaktadır. Çünkü döviz piyasası baskısı, döviz kuru rejiminden bağımsız olarak döviz piyasasındaki tüm hareketleri bir araya getirerek analiz edilmesini sağlayabilir. Bu sayede hem esnek hem de sabit döviz kuru rejimlerinde döviz piyasasındaki baskılar daha net bir şekilde izlenebilir. Ayrıca, döviz kuru değişikliklerinin yanı sıra dış rezerv kayıplarını da gözlemleyerek, döviz piyasasındaki baskılar hakkında daha geniş bir bilgi sunabilir (Olanipekun vd., 2019a). Bu bağlamda, döviz piyasası baskısını ölçmek amacıyla döviz kuru ve rezerv değişimlerinin yanı sıra nominal faiz oranı farkları ve parasal tabanı dikkate alarak ağırlıklı endeksler geliştirilmiştir (Pentecost vd., 2001: Klaassen ve Jager, 2011: Aizenman vd., 2012: Aizenman ve Binici, 2016).

Belirsizlik ölçütleri ile döviz piyasası arasındaki ilişkinin literatürde sınırlı olduğu ve bu ilişkinin genellikle küresel finansal kriz sonrası döneme odaklandığı görülmektedir. Olanipekun vd. (2019b) çalışmalarında, 1995-2018 yılları arasındaki aylık verileri kullanarak Brezilya, Rusya, Hindistan ve Çin ekonomileri arasında döviz piyasası baskısı ile hem küresel hem de yerel ekonomi politikası belirsizliği arasındaki nedensel ilişkileri incelemişlerdir. Bootstrap panel Granger nedensellik yaklaşımını kullandıkları bu çalışmada, genel olarak, söz konusu ülkelerde döviz piyasası baskısının küresel ekonomi politikası belirsizliğinden etkilendiği sonucuna ulaşmışlardır. Yazarların aynı yıl içinde yaptıkları bir diğer çalışmada, ekonomi politikası belirsizliğinin döviz piyasası baskısı hareketlerindeki rolü araştırılmaktadır. Bu çalışmada, 2003Q1 ile 2017Q4 arasındaki dönemi kapsayan 20 ülkeden oluşan bir panel incelenmiştir. Çalışma, döviz piyasası baskısı ile ekonomi politikası belirsizliği arasında uzun vadeli bir ilişki

olduğunu ortaya koymuştur. Tahmin sonuçları, ekonomi politikası belirsizliğinin uzun vadede döviz piyasası baskısının şiddetini artırdığını göstermektedir (Olanipekun vd., 2019a). Olasehinde-Williams ve Olanipekun (2022) Afrika ekonomilerine odaklandıkları çalışmalarında, döviz piyasası baskısı ABD'nin ekonomik politika belirsizliği arasındaki nedensel bağlantıları araştırmışlardır. Dokuz Afrika ülkesinden oluşan bir panel, 1996-2018 yılları arasında aylık veriler kullanılarak incelenmiştir. ABD ekonomik politika belirsizliği Afrika ülkelerinde döviz piyasası baskısına Granger neden olduğunu tespit etmişlerdir. Ülke düzeyinde, Mısır, Etiyopya, Gana, Kenya, Libya ve Güney Afrika'da ABD ekonomik politika belirsizliğinden döviz piyasası baskısına doğru giden nedensel ilişkiler bulmuşlardır. Ancak Angola, Fas ve Nijerya'da nedensel ilişkiler tespit edilememiştir. Bu durum, ABD'den kaynaklanan politika belirsizliğinin olumsuz etkilerinin döviz piyasasındaki etkisi yoluyla kendi ekonomilerine aktarılabileceğini göstermektedir.

Aizenman ve Binici (2016) ise çalışmalarında iç ve dış küresel faktörlerin (risk iştahı, küresel likidite, ABD para politikası ve emtia fiyatları gibi) küresel finansal kriz öncesi ve sonrasında döviz piyasası baskısını nasıl etkilediğini incelemişlerdir. 2000-2014 dönemi için üç aylık veriler ve dinamik panel model tahminleri kullanılarak yapılan analiz, dış faktörlerin hem OECD ülkelerinde hem de gelişmekte olan piyasa ekonomilerinde döviz piyasası baskısını artırmada önemli bir rol oynadığını ve bu etkinin gelişmekte olan ülkelerde küresel finans krizi sonrası dönemde daha belirgin olduğunu ortaya koymuştur. Aftab ve Phylaktis (2022) ise dış para ve ekonomi politikası belirsizliklerini göz önünde bulundurarak hem reel hem de finansal ekonomik entegrasyonun döviz piyasası baskısı üzerindeki etkisini incelemektedir. Analiz, para ve ekonomi politikası belirsizliğini artıran küresel finansal kriz ve taper tantrum dönemlerini kapsayan 2000-2018 döneminde Asya'daki gelişmekte olan piyasalara odaklanmaktadır. Bulgular, döviz piyasasının para ve ekonomi politikası belirsizliklerine verdiği tepkilerin, ülke düzeyinde heterojen olduğunu ve çoğu durumda bu etkilerin zaman içinde arttığını göstermektedir.

Ülke özelinde yapılan çalışmalarda ise Liu (2022) yerel ve dışsal ekonomik belirsizlik şoklarının Çin'in döviz piyasası baskısı üzerindeki etkisini zaman içinde değişen bir perspektiften değerlendirmektedir. Aylık veri setine dayalı TVP-VAR modeli kullanılan çalışmada ekonomik politika belirsizliğinin etkisinin büyüklüğünde önemli bir zamana bağlı bir değişimin olduğunu, özellikle 2011 ortasından sonra bu etkinin artığını tespit etmişlerdir. Ampirik bulgular, ABD ekonomik politika belirsizliğinde bir artışın, Çin yerel para biriminin dolara karşı değer kazanmasına yol açtığını göstermektedir. Kumeka vd. (2023) ise Nijerya'da ekonomi politikası belirsizliği ile döviz piyasası baskısı arasındaki ilişkiyi kantil regresyon ekonometrik tekniğini ve 1996-2019 yılları arasındaki aylık verileri kullanarak incelemektedir. Bu çalışma hem küresel hem de yerel ekonomi politikası belirsizliklerinin Nijerya'daki döviz piyasası baskısı üzerindeki etkisini araştırmaktadır. Sonuçlar, Nijerya'da bir yandan küresel ekonomik politika belirsizliği ile döviz piyasa baskısı arasında, diğer yandan da yerel ekonomik politika belirsizliği ile döviz piyasa baskısı arasında, özellikle piyasanın düşüş ve sükûnet koşulları yaşadığı dönemlerde yapısal bağımsızlık olduğunu ancak üst kantillerde bu ilişki etkisinin güçlendiğini göstermektedir. Poyraz ve İncekara (2021) ise 2010M1-2020M3 dönemine ait Türkiye'deki döviz piyasası baskısı endeksinin belirleyicilerini, model belirsizliğini dikkate alarak Bayesian model ortalama yöntemiyle tespit etmişlerdir. Model sonuçlarına göre getiri eğrisinin eğimi, yerel kredi büyümesi, uzun vadeli getiri farkları ve kısa vadeli portföy akımlarının Türkiye'nin döviz kuru baskılarının belirleyicileri olarak önemli bir rol oynadığını göstermektedir.

Literatür incelendiğinde küresel finansal kriz sonrasında özellikle ABD ekonomik politika belirsizliğinin, gelişmekte olan ülkelerin döviz kuru değişimleri ve oynaklıkları üzerindeki etkisinin daha fazla incelendiği görülmektedir. Ancak, döviz piyasasında meydana gelen gelişmeleri daha ayrıntılı bir şekilde açıklayan döviz piyasası baskısı kavramının literatürde sınırlı çalışmalarda ele alındığı dikkat çekmektedir. ABD ekonomik politika belirsizliği ve yerel ekonomik belirsizliklerin dikkate alındığı gelişmekte olan ülkeler üzerine yapılan sınırlı çalışmalarda, Türkiye örneğinin kullanılmadığı gözlemlenmektedir. Bu bağlamda özellikle ABD kaynaklı para politikası belirsizliklerinin Türkiye'deki döviz piyasası baskısı ile zaman içinde değişen nedensel ilişkilerinin belirlenmesi, araştırmacılar, politika yapıcılar ve uluslararası yatırımcılar için önemli olacağı düşünülmektedir. Elde edilen bulgular, özellikle küresel finansal kriz sonrası Türkiye'deki döviz piyasası baskısının belirleyicisi olarak ABD para politikası belirsizliğinin de dikkate alınması gerektiğini ortaya koymaktadır.

3. VERİ ve METODOLOJİ

Bu çalışmada, ABD para politikası belirsizlik endeksinin Türkiye'deki döviz piyasası baskısı üzerindeki zamanla değişen Granger nedensellik ilişkisi, 2003:01-2024:07 dönemi arasındaki veriler kullanılarak araştırılmaktadır. ABD para politikası belirsizlik endeksi olarak Baker vd. (2016) tarafından önerilen para politikası belirsizlik endeksi kullanılmıştır. Bu endeks, ABD para politikası belirsizliği hakkındaki makaleleri belirlemek için Access World News tarafından kapsanan yüzlerce ABD gazetesinden oluşan dengeli bir panelden yararlanmaktadır. (Baker vd., 2016).

Döviz piyasası baskısını ölçmek amacıyla ise literatürde yer alan Klaassen ve Jager (2011), Aizenman vd. (2012) ve Aizenman ve Binici (2016) tarafından geliştirilen üç farklı döviz piyasası baskısı göstergesi, Türkiye'ye özgü olarak hesaplanıp kullanılmıştır. Çalışmada yapılan analizlerde, ABD para politikasındaki belirsizliği temsil etmek için MPU (Monetary Policy Uncertainty) ve döviz piyasası baskısını temsil etmek için ise EMP (Exchange Market Pressure) kısaltmaları kullanılmıştır. Aizenman vd. (2012) tarafından tartışılan standart döviz piyasası baskısı ölçütü şu şekilde tanımlanmaktadır:

$$EMP_{1t} = \frac{e_t - e_{t-1}}{e_{t-1}} - \frac{ir_t - ir_{t-1}}{ir_{t-1}} \quad (1)$$

Burada e_t ABD doları karşılığı Türk lirasını, ir_t ise Türkiye'nin dolar cinsinden altın hariç döviz rezervini göstermektedir. Dolayısıyla, burada kullanılan EMP ölçütü, döviz kuru ve döviz rezervlerindeki aylık göreli değişimi yansıtmaktadır. Klaassen ve Jager (2011), standart döviz piyasası baskısı ölçütüne ek olarak döviz kuru baskısı ölçümünde yerli ve yabancı faiz oranı farklarını kullanmışlardır.

$$EMP_{2t} = \frac{e_t - e_{t-1}}{e_{t-1}} - (i_t - i_t^*) - \frac{ir_t - ir_{t-1}}{ir_{t-1}} \quad (2)$$

Burada i_t ve i_t^* sırasıyla Türkiye ve ABD için para politikası faiz oranlarıdır. Aizenman ve Binici (2016), iki ölçütü standartlaştırarak, üçüncü bir ağırlıklandırılmış döviz piyasası baskısı ölçütü kullanmıştır.

$$EMP_{3t} = \frac{\Delta e_t - \mu_e}{\sigma_e} - \frac{\nabla i_t - \mu_i}{\sigma_i} - \frac{\Delta ir_t - \mu_{ir}}{\sigma_{ir}} \quad (3)$$

Burada Δe_t ve Δir_t döviz kuru ve rezervlerde aylık değişimi, ∇i_t faiz oranları farkını, μ ilgili değişkenlerin ortalamasını ve σ ilgili değişkenlerin standart sapmasını göstermektedir.

ABD para politikası belirsizlik endeksi logaritmik forma dönüştürülmüş olup https://www.policyuncertainty.com adresinden temin edilmiştir. Türkiye ile ilgili veriler Türkiye Cumhuriyet Merkez Bankası Elektronik Veri Dağıtım Sistemi (EVDS)'nden, ABD verileri ise Uluslararası Para Fonu (IMF) tarafından sağlanan Uluslararası Finansal İstatistikler (IFS) veri tabanından elde edilmiştir.

Tablo 1: Değişkenlerin Tanımlayıcı İstatistikleri

	MPU	**EMP1**	**EMP2**	**EMP3**
Ortalama	1,866	0,006	-11,87	3,237
Medyan	1,873	-0,005	-8,816	3,403
Maksimum	2,483	0,463	-1,334	9,546
Minimum	1,245	-0,304	-42,72	-1,981
Standart Sapma	0,262	0,083	8,946	1,456
Çarpıklık	0,067	1,063	-1,814	-0,264
Basıklık	2,357	7,708	6,265	5,347
JB	4,637*	286.97***	256,23***	62,25***
ADF	-5,96***	-8,20***	-3.74***	-4,87***
PP	-7,25***	-12,06***	-2,66**	-7,05***

Not: ***, ** ve * sırasıyla %1, %5 ve %10 seviyelerinde istatistiksel anlamlılıkları göstermektedir. Gecikme uzunluğu AIC bilgi kriterine göre belirlenmiştir.
Kaynak: Yazar tarafından hazırlanmıştır.

Çalışmada analiz edilen değişkenlere ilişkin tanımlayıcı istatistikler, bu değişkenlerin dinamikleri hakkında bilgiler sunmaktadır. Öncelikle, MPU değişkeninin ortalamasının pozitif olduğu ve %10 anlamlılık düzeyinde normal dağılım gösterdiği gözlemlenmiştir. Türkiye için hesaplanan döviz piyasası baskısı ölçütlerinden EMP2 değişkeni, diğer ölçütlerden farklı olarak negatif bir ortalamaya sahiptir. Ayrıca, EMP2 değişkeni, diğer değişkenlere kıyasla negatif değerler almakta ve daha volatil bir yapı sergilemektedir. EMP2 değişkeninin negatif değerler almasında, Türkiye ile ABD arasındaki faiz farklarının özellikle son dönemde Türkiye'nin yüksek faiz politikasına bağlı olarak

önemli bir rol oynadığı söylenebilir. Türkiye'nin uyguladığı yüksek faiz oranları, döviz piyasasında değer kaybı baskısı yarattığı ve bu durumun EMP2'nin negatif değerler almasında etkili olduğu ifade edilebilir. Tüm döviz piyasası baskısı ölçütlerinin normal dağılım göstermediği tespit edilmiştir. Analizde kullanılan tüm değişkenler için yapılan ADF (Augmented Dickey-Fuller) ve PP (Phillips-Perron) birim kök testleri, birim kök olduğu boş hipotezinin reddedildiğini göstermektedir. Dolayısıyla, analizde yer alan tüm değişkenlerin düzeyde durağan olduğu tespit edilmiştir.

Shi vd. (2018, 2020) tarafından geliştirilen zamana göre değişen Granger nedensellik testi, geleneksel Granger (1969) nedensellik testinin aksine değişkenler arasındaki nedensel ilişkilerin zaman içinde değişebileceğini göstermektedir. Bu yöntem, ABD para politikası belirsizlik endeksi ile Türkiye için hesaplanan döviz piyasası baskı ölçütleri arasındaki nedensellik ilişkisini, zaman içinde değişen parametrelerin anlamlı olup olmadığını dikkate alarak analiz etmektedir. Ayrıca, bu yöntem, zaman serilerinin uzun dönemde eşbütünleşik olmasına gerek olmadan, değişkenlerin farklı entegrasyon derecelerinde analiz edilmesine olanak tanımaktadır (Shi vd., 2018, 2020). Üç algoritma (Forward Expanding Window, Rolling Window, Recursive Evolving Window), gecikmesi artırılmış VAR (LA-VAR) yaklaşımına dayanmaktadır (Shi vd., 2018, 2020: Baum vd., 2021). MPU'nun Türkiye EMP ölçütleri üzerindeki dinamik etkileri, Toda ve Yamamoto (1995) tarafından önerilen LA-VAR yöntemini $y_t = (MPU_t, EMP_t^p)$ temelinde Denklem 4 ve 5'te analiz etmek mümkündür.

$$EMP_{1t}^{p} = \alpha_{01} + \alpha_{11}t + \sum_{l=1}^{k}\beta_{11,l}\,EMP_{1,t-l}^{p} + \sum_{l=1}^{k}\beta_{12,l}\,MPU_{2,t-1} + \sum_{m=k+1}^{k+d}\beta_{11,m}\,EMP_{1,t-m}^{p} + \sum_{m=k+1}^{k+d}\beta_{12,m}\,MPU_{2,t-m} + \varepsilon_{1t} \quad (4)$$

$$MPU_{2t} = \alpha_{02} + \alpha_{12}t + \sum_{l=1}^{k}\beta_{21,l}\,EMP_{1,t-l}^{p} + \sum_{l=1}^{k}\beta_{22,l}\,MPU_{2,t-1} + \sum_{m=k+1}^{k+d}\beta_{21,m}\,EMP_{2,t-m}^{p} + \sum_{m=k+1}^{k+d}\beta_{22,m}\,MPU_{1,t-m} + \varepsilon_{2t} \quad (5)$$

Denklem (4) ve (5)'te EMP^p, EMP1, EMP2 ve EMP3 değişkenlerini temsil etmektedir. t zamanı, k VAR modelinde gecikme sayısını, ε_{1t} ve ε_{2t} hata terimlerini göstermektedir. Ayrıca, d VAR modelinde değişkenlere ait maksimum entegrasyon derecesini belirtmektedir. Burada $\beta_{12,l}$ ve $\beta_{21,l}$ değişkenler arasındaki nedensellik ilişkisini gösteren parametrelerdir.

VAR modelini zamanla değişen bir tahminciye dönüştürürken, Shi vd., (2018) alt örneklerin tüm örneklemden nasıl ayrıldığı özyinelemeli gelişen pencere (recursive evolving) algoritmasında bir supremum alt örneğine dayanmaktadır. Wald istatistiği şu şekilde ifade edilebilir:

$$SW_f(f_0) = \sup_{f_2 = f, f_1 \in [0, f_2 - f_1]} \{W_{f_1 f_2}\} \quad (6)$$

Burada $W_{f_1 f_2}$ örneklem dönemi itibariyle f_1 ile f_2 arasındaki dönemi temel alan Wald istatistiğini ifade eder ve f, toplam örneklemin bir kesirini temsil etmektedir. Shi vd. (2020) çalışmalarında, özyinelemeli gelişen pencere algoritmasının nedenselliğin başlangıç ve bitiş noktalarını ve örneklemdeki nedenselliğin yönündeki değişimleri, verilerin trendden arındırılmasına gerek olmadan ve değişen varyansı dikkate alarak içsel bir şekilde tespit ettiğini ifade etmişlerdir. Ayrıca, aynı çalışmada gerçekleştirilen simülasyon deneylerinden elde edilen bulgular, özyinelemeli gelişen pencere algoritmasının en güvenilir sonuçları sunduğunu ortaya koymaktadır. Bu bulgular çerçevesinde bu çalışmada yalnızca özyinelemeli gelişen pencere algoritması kullanılarak yapılan bootstrap Granger nedensellik analizi sonuçları sunulmuştur.

4. AMPİRİK BULGULAR

ABD para politikası belirsizlik endeksi ile Türkiye'nin döviz piyasası baskı ölçütleri arasındaki tek yönlü nedensellik ilişkisini belirlemek amacıyla öncellikle Tablo 2'de özyinelemeli gelişen pencere algoritması kullanılarak yapılan Granger nedensellik testi için Wald test istatistiklerinin sonuçları sunulmuştur.

Tablo 2: Wald Test İstatistikleri Sonuçları

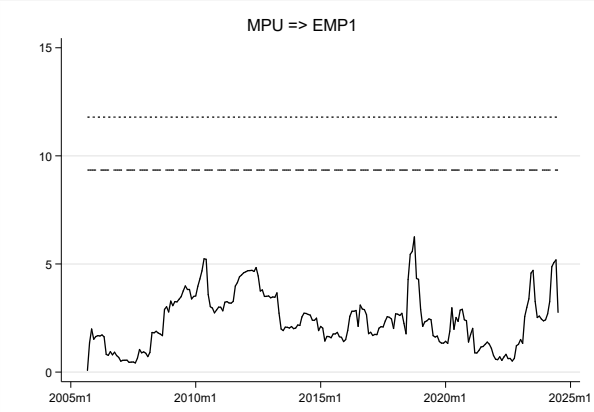
	Özyinelemeli **G**elişen **P**encere **A**lgoritması		
	Wald	95th	99th
MPU => EMP1	6,25	11,79	17,48
MPU => EMP2	45,70***	7,.64	12,19

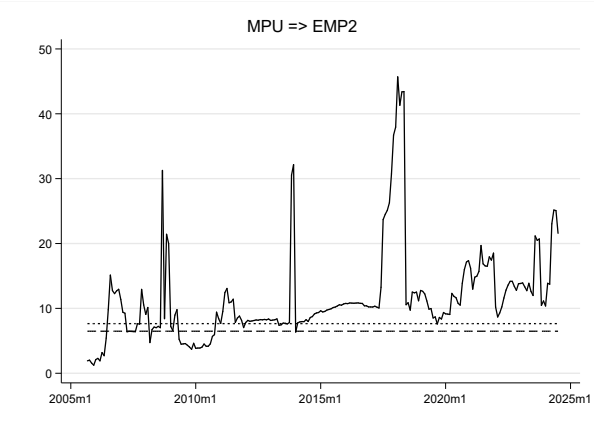
MPU => EMP3	91,90***	8,59	12,34

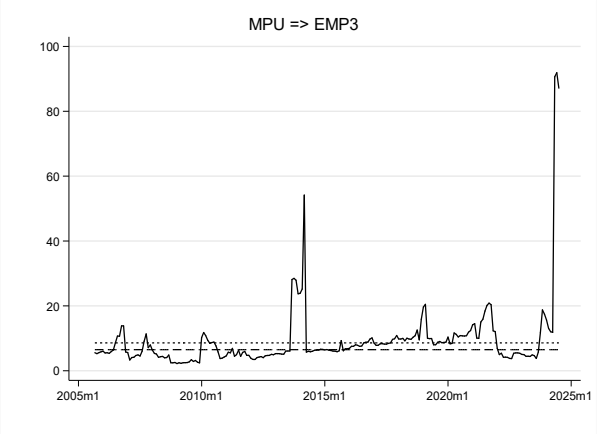
Not: Tablo 2'de, Granger nedensellik testi için Wald test ve bootstrap istatistiklerinin ampirik dağılımlarının %95 ve %99'uncu çeyrek değerlerini raporlanmaktadır. *** ve ** sırasıyla %1 ve %5 seviyelerinde istatistiksel anlamlılık düzeyini göstermektedir. Gecikme uzunlukları AIC bilgi kriterine göre belirlenmiştir. MPU => EMP1, MPU => EMP2 ve MPU => EMP3 modelleri için gecikme uzunlukları sırasıyla 1, 4 ve 3 olarak belirlenmiştir. Alt örneklem boyutu, Phillips vd. (2015) temel alınarak 32 olarak hesaplanmıştır.
Kaynak: Yazar tarafından hazırlanmıştır.

Tablo 2 sonuçlarına göre, MPU ve EMP ölçütleri arasındaki nedensellik ilişkisi için Wald istatistiği, EMP1 hariç %5 ve %1 seviyelerinde anlamlıdır. Shi vd. (2020) çalışmalarında belirttiği gibi, özyinelemeli algoritmalar EMP2 ve EMP3 için güvenilir kabul edilmektedir. MPU'nun Türkiye'de döviz piyasası baskı ölçütleri ile Granger nedensellik ilişkilerini daha ayrıntılı bir şekilde göstermek amacıyla, zamana göre değişen Granger nedensellik grafiklerini çizilmiştir. Bu grafiklerde kesikli (dashed) ve katı (solid) çizgiler, istatistiklerin %90 ve %95 güven seviyelerindeki kritik değerlerini temsil etmektedir. Yatay eksen zamanı, dikey eksen ise Wald test istatistik değerlerini göstermektedir. Granger eğrisinin kesikli çizginin üzerinde olması durumunda anlamlı bir nedensel ilişki tespit edilebilir. Şekil 1, Twitter tabanlı belirsizlik endeksleri için özyinelemeli gelişen pencere algoritması kullanılarak elde edilen zaman göre değişen Granger nedensellik eğrilerini göstermektedir.

Şekil 1: MPU ve EMP Ölçütleri Arasındaki Nedensellik için Özyinelemeli Gelişen Pencere Algoritması Wald Testi Sonuçları







Kaynak: Yazar tarafından hazırlanmıştır.

Şekil 1'de gösterildiği gibi, ABD kaynaklı para politikası belirsizliklerinin, Türkiye'de döviz kuru baskısının nedeni olup olmadığı, literatürde döviz piyasası baskısı olarak tanımlanan standart EMP1 ölçütü üzerinden ele alındığında, analiz edilen örneklem dönemi boyunca bu belirsizliklerin döviz kuru baskısının nedeni olmadığı görülmektedir. Daha önce ifade edildiği gibi, EMP1 ölçütü döviz kuru değişimleri ve rezerv değişimlerini dikkate almaktadır. Bu bağlamda, ABD para politikasında meydana gelen şokların, Türkiye'de TL/USD kuru ve altın hariç döviz rezervlerinin değişimine dayanan döviz piyasası baskı ölçütünün nedeni olmadığı söylenebilir. Ancak Klaassen ve Jager (2011) tarafından standart döviz piyasası baskısı ölçütüne ek olarak, döviz kuru baskısı ölçümünde yerli ve yabancı faiz oranı farklarını kullanan döviz piyasası baskısı ölçütü EMP2, Türkiye için hesaplandığında, özellikle taper tantrum dönemi ve sonrasında döviz kuru baskısının nedeni olarak ortaya çıkmaktadır. Benzer nedensellik ilişkileri, Aizenman ve Binici (2016) tarafından her iki ölçütün standartlaştırılarak oluşturulan ağırlıklı döviz piyasası baskısı ölçütünden hareketle, Türkiye için EMP3 olarak yapılan hesaplamalarda gözlemlenmektedir. Ayrıca, para politikası belirsizliklerinden kaynaklanan etkilerin Türkiye'de döviz piyasasında baskı oluşturduğu, ancak bu baskının iki ülke arasındaki döviz kuru ve rezerv değişimlerinden ziyade politika faiz oranlarındaki farklardan kaynaklandığı ifade edilebilir. Özellikle niceliksel genişleme gibi geleneksel olmayan para politikalarının uygulandığı dönemde ABD para politikasındaki belirsizliklerin arttığı ve bu etkinin belirginleştiği görülmektedir.

Elde edilen bulgular, literatürde yer alan Olanipekun vd. (2019a), Olanipekun vd. (2019b), Olasehinde-Williams ve Olanipekun (2022) ve Aizenman ve Binici (2016) çalışmalarındaki, küresel ve ABD ekonomik ve politika belirsizliklerinin gelişmekte olan ülkelerde döviz piyasası baskısına neden olduğu tespitini desteklemektedir. Aynı zamanda, bu ilişkinin zaman içinde değişen dinamikleri ve özellikle küresel finansal kriz ile taper tantrum dönemleri sonrası etkilerin arttığını gösteren Aftab ve Phylaktis (2022) ve Liu (2022) çalışmaları ile benzerlik göstermektedir. Ayrıca, Poyraz ve İncekara (2021) çalışmalarına katkı olarak, ABD para politikası belirsizliklerinin özellikle küresel finansal kriz sonrası dönemde Türkiye'de döviz kuru baskısının belirleyici bir unsuru olarak dikkate alınması gerektiği ifade edilebilir.

5. SONUÇ

Bu çalışmada, ABD para politikası belirsizliği ile Türkiye'deki döviz piyasası baskısı arasındaki dinamik nedensellik ilişkileri incelenmektedir. Çalışmada, 2003:01-2024:07 dönemi arasındaki veriler kullanılarak, Shi vd. (2018, 2020) tarafından önerilen zamana göre değişen Granger nedensellik yöntemi uygulanmıştır. Bulgular, ABD para politikası belirsizliğinin Türkiye'de standart döviz piyasası baskısı ölçütü (EMP1) üzerinde doğrudan bir etkisi olmadığını, ancak iki ülke arasındaki politika faiz oranları farkını dikkate alan EMP2 ve bu ölçütü standartlaştırarak oluşturulan EMP3 için, özellikle küresel kriz ve taper tantrum dönemleri sonrası zamanla değişen nedensellik ilişkilerinin varlığını ortaya koymaktadır. Bu bağlamda, ABD para politikası belirsizliğinin Türkiye'deki döviz piyasası baskısının (EMP2 ve EMP3) nedeni olduğu ve döviz kuru baskısını belirleyen faktörlerden biri olarak dikkate alınması gerektiği ifade edilebilir.

Bu çalışma Türkiye'ye odaklanmakla birlikte, benzer analizler farklı ülke ve ülke grupları ile genişletilebilir. Ayrıca, son dönemde literatürde yaygınlaşan diğer küresel ve yerel belirsizlik faktörlerinin döviz piyasası baskısı ile ilişkisi detaylı bir şekilde analiz edilebilir. Bununla birlikte, elde edilen bulgulardan hareketle, farklı belirsizlik unsurları

dikkate alınarak Türkiye'de döviz kuru baskısının belirleyicileri ve etkileri, farklı ekonomik analiz teknikleri kullanılarak daha ayrıntılı bir şekilde incelenebilir.

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Yerel Yönetimler ve Bölgesel Ekonomi İlişkisi♣

Fulya ATAK [1] **Prof. Dr. Murat ÇETİN** [2]

[1] Süleymanpaşa Belediyesi, Mali Hizmetler Müdürlüğü, Muhasebe Bölümü, fulya.atak@suleymanpasa.bel.tr, 0009-0000-3003-3557

[2]Tekirdağ Namık Kemal Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İktisat Bölümü, mcetin@nku.edu.tr, 0000-0002-7886-4162

Özet: Bu çalışmanın temel amacı, yerel yönetimlerin sosyal ve ekonomik etkilerini bölgesel ekonomi ile ilişkili olarak ele almaktır. Yerel yönetimler bulundukları bölgenin sosyo-ekonomik yapısını doğrudan etkilemektedir. Şehirler yerel yönetim şekli olarak İl ve İlçe Belediyeleri olarak ifade edilmektedir. Büyükşehir belediyelerinin olduğu yerlerde İlçe Belediyelerinin sınırları dışında tüm alt yapı yatırımları ve belediye hizmetleri Büyükşehir Belediyeleri tarafından hizmet verilmektedir. Ancak Büyükşehir Belediyesinin bulunmadığı illerde İlçe Belediyeleri tarafından alt yapı yatırımları gerçekleştirilmektedir. Yerel Yönetimlerin gelirleri; il ve ilçelerin nüfus sayılarına bağlı olarak merkezi yönetim tarafından İller Bankası aracılığı ile gönderilmektedir. Belediyelerin merkezi gelirleri dışında emlak vergisi, cezalar, pazar yeri tahsisi, su, ilan reklam vergisi, kira v.b. gelirler ile iştirak şirketlerinden sağlanan gelirlerden oluşmaktadır. Belediyeler elde ettikleri gelirler ile kendi giderleri yanında yol su kanalizasyon park bahçeler, spor kompleksi ve sosyo-kültürel aktiviteler v.b. faaliyetleri gerçekleştirmek için harcamalar yapmaktadır. Dolayısı ile belediyeler bulundukları bölgenin gelişmesine etki ederek bölgenin kalkınmasını sağlamaktadır. Yerel yönetimlerin aldığı kararlar doğrudan bulundukları bölgedeki vatandaşların yaşam kalitesini doğrudan etkilemektedir.

Anahtar Kelimeler: Yerel Yönetimler, Sosyo-Ekonomik Gelişme, Bölgesel Kalkınma, Altyapı Yatırımları

1. GİRİŞ

Anayasada yerel yönetimlere özellikle değinilmektedir. Ülkenin idari yapısının temel bir parçası olan yerel yönetimler, demokrasinin gelişmesinde ve kamu hizmetlerinin yaygın ve sağlıklı bir şekilde sunulmasında önemli katkılar sunmaktadırlar. Yerel yönetimler; yerel halkın katılımıyla seçilen belediye meclis üyeleri ve belediye başkanı tarafından bulunduğu lokasyonda yaşayanların sosyo-ekonomik ihtiyaçlarının çözüm süreçlerinin yönetilmesini sağlamaktadır.

Türkiye'de 1930 yılından bu tarafa yapılan yerel seçimler Yüksek Seçim Kurulu tarafından ilgili kanun ve yönetmelikler çerçevesinde yapılmaktadır. Gizli oy açık sayım şeklinde yapılan seçimlerde her siyasi partinin temsilcisi açılan ve sayılan seçim sandıklarından çıkan sonuçları onaylamaktadır. Bu şekilde şeffaf bir şekilde yapılan seçim sonuçları ile yerel yönetimler belirlenmektedir. Halk yönetime temsilcileriyle katılma şansı elde etmektedir. Yerel yönetim seçimleri Türkiye genelinde 5 yılda bir yapılmaktadır. Yapılan yerel seçimlerle Belediye Başkanı, Belediye Meclis Üyeleri, Muhtarlar ve Azalar belirlenmektedir. Ayrıca Büyükşehir sınırları içerisinde ise Büyükşehir Belediye Başkanı seçilmektedir.

Seçilen Belediye Başkanları ve Meclis Üyeleri 5 yıl süreyle görev yapmaktadır. Bu süreçte ilgili yasa ve yönetmelikler çerçevesinde faaliyetlerini sürdürmektedirler. Belediye gelirleri; belediye sınırları içerisinde kayıtlı nüfus sayısına göre, her yıl yeniden belirlenmektedir.

Yerel Yönetimler bulundukları bölgelerin sosyo-ekonomik gelişmesinde anahtar rol üstlenmektedir. Özellikle imar planları şehrin gelişeceği bölgeleri ve ulaşım yollarını belirleyen temel unsurlardan biridir. Şehir planlarında sanayi alanı, turizm alanı, yerleşim alanı ve diğer alanlar haritalarda lokasyon olarak belirlenmektedir. Çevre düzeni planı olarak da ifade edilen bu çalışmalar kentlerin ekonomik gelişmesini ve nüfus hareketlerini etkilemektedir. Burada sanayi alanları Organize Sanayi Bölgeleri (OSB) şeklinde kurulmaktadır. OSB'ler sanayi ve ticaretin merkezi durumuna gelmektedir. İllerin gelişmesinde OSB'lerin sayısı, genişliği ve faaliyet konuları ekonomik gelişmenin düzeyini belirlemektedir.

İller Bankasından Yerel Yönetimlere Büyükşehir Belediyelerine ve Su Kanalizasyon Payı ayrıldıktan sonra gelen pay yerel yönetimlerin merkezi idare geliri payı olarak belediyelerde gelir olarak işlenmektedir. Bu pay üzerinden de her ay genel aydınlatma gideri, dernek birlik payı ve iller bankasından çekilen kredi tutarları düştükten sonra kalan tutar yerel yönetimlerin ihtiyaçlarını karşılamak amacı ile kullanılmaktadır. Belediyelerin harcamaları

♣ Bu bildiri Tekirdağ Namık Kemal Üniversitesi, SBE, Ekonomi Tezsiz Yüksek Lisans Programında sunulan "Yerel Yönetimlerin Bölgesel Ekonomiye Etkisi" isimli yüksek lisans projesinden türetilmiştir.

belediyelerin elde ettikleri gelirleri harcayabilmeleri için yıllık bütçe hazırlanarak belediye meclisinin onayından sonra bu bütçeye bağlı kalarak harcamalar yapılmaktadır. Ancak bazı durumlarda bütçenin yetersiz kaldığı durumlarda ek bütçe hazırlanarak meclise sunulmaktadır. Belediye meclisinin uygun görmesi halinde ilgili harcamalar yapılabilmektedir.

Yerel yönetimlerin çok farklı kaynaklardan gelirleri olmakla birlikte merkezi hükümet tarafından İller Bankası aracılığı ile gelen gelirleri dışında: vergi gelirleri, harç gelirleri ve katkı payları şeklinde ifade edilebilir. Vergi gelirleri arasında emlak vergisi ve çevre ve temizlik vergisi ilk sırada yer almaktadır. Harç gelirleri içerisinde pazarcılardan alınan harçlar, imar ve iskan ile ilgili harçlar ve otopark harçları örnek olarak verilebilir. Bunun yanında su ve toplu taşımalardan alınan ücretler de yerel yönetimlerin gelirleri arasındadır. Ayrıca kira gelirleri ve cezalar da yine belediye gelirleri içerisindedir.

Yerel yönetimlerin giderler için yapmış oldukları harcamalar ise bulundukları lokasyonda ciddi bir ekonomik canlılık sağlamaktadır. Yerel yönetimlerin yapmış oldukları faaliyetler için tahsis edilen kaynaklar istihdam yanında farklı sektörlerde ekonomik hareketlilik yaratarak çarpan etkisi ortaya çıkmaktadır. Bu nedenle diğer sektörleride doğrudan etkileyerek şehirlerin sosyo-ekonomik gelişmesine katkı sağlamaktadır.

Yerel yönetimlerin almış oldukları kararlar bulundukları bölgenin doğal kaynakları üzerinde çevresel baskı yaratabilir. Bu nedenle doğal kaynakların kullanılmasında sürdürülebilir imar planları yapılmalıdır. Planlamalar esnasında toprak, su, orman, mera, tarımsal araziler, bataklıklar, sulak alanlar, tabiatı koruma alanları ve milli parklar gibi endemik flora ve faunayı koruyucu bir yaklaşım olmalıdır. Ayrıca doğal kaynakların koruma kullanma dengesine dikkat edilmelidir.

Yerel yönetimlerde kurumsal yönetişimi artırmak ve bireylerin ulaştığı hizmetlerin çeşitliliğini ve etkinliğini artırabilmek için nitelikli personel ve personel eğitiminin sürekliliği önemlidir. Hizmet içi eğitimlerle personelin yetkinliği sürekli artırılmalıdır. Özellikle çalışkan personelin ödüllendirilmesi ve rol modeller çıkarılması personel motivasyonunu artıracaktır. Özellikle yerel yönetimlerde halkla ilişkiler çok önemlidir. Bunun dışında diğer paydaşlarla yapılacak iletişimde pozitif bir dil kullanılması önemlidir. Personel sorun odaklı değil çözüm odaklı olmalıdır. Yönetmelikler çerçevesinde insiyatif alabilmelidir.

Dijitalleşme tüm kurumlarda olduğu gibi yerel yönetimlerde de önemli hale gelmiştir. Hizmet alanlar ve diğer paydaşlar online olarak tüm işlemlerini yapabilmelidir. Bu nedenle personellerin dijitalleşmeyi benimsemesi ve kullanabilmesi hizmet içi sürekli eğitimle mümkündür. Bu nedenle yerel yönetimlerin bilgi işlem birimlerinde bilgisayar mühendisleri ve teknikerleri mutlaka istihdam edilmelidir. Konusunda uzman olmayan bilgi işlem elemanı bilgi işlem biriminde görev almamalıdır.

Bu çalışma, yerel yönetimlerin sosyal etkileri ve ekonomik etkilerini bölgesel kalkınma ile bağlantılı şekilde araştırmaktadır.

2. YEREL YÖNETİMLERİN SOSYAL ETKİLERİ

Yerel yönetimler; sosyal ve kültürel değerlerinin korunması ve geliştirilmesi için çalışmalar yapmaktadır. Özellikle yaşlı ve hasta bakımı, eğitimler, festivaller, yerel el sanatlarının korunması ve geliştirilmesi için çalışmalar yapmaktadır. Bunun dışında doğal kaynaklar ve tarihi dokuların korunması için gerekli önlemlerin alınmasına katkı sağlamaktadır. Özellikle tarımsal nüfusun yaşadığı kırsal bölgelerde yaşayanların yaşam kalitesinin yükselmesi için kırsal turizm, eko turizm, trekking, dağcılık ve benzeri aktivitelerin geliştirilmesi için altyapı ve eğitimler konusunda destek olmaktadırlar (Basmacı, 2017).

Çevre ve Sağlık açısından yapılan değerlendirmeler dikkate alındığında kişi başına düşen yeşil alanlar bireyin sosyal refahının sağlanması açısından oldukça önemlidir. Ayrıca hayvan hakları açısından hem yaban hayatı hem de ev hayvanları açısından yapılacak çalışmalar önem arz etmektedir. Bu nedenle yapılacak altyapı çalışmalarında bu hususların dikkate alınması önem arz etmektedir.

Bireylerin yaşam kalitesi bulundukları çevrenin kalitesiyle doğru orantılı olmaktadır. Yerel yönetimlerin sağlayacağı park ve bahçeler peyzaj kalitesi ve dinlenme açısından oldukça önemlidir. Bu arada temiz suyun kesintisiz sağlanması atıksuların arıtıldıktan sonra alıcı ortama verilmesi toprak ve su kaynaklarının korunması açısından önemlidir.

Park ve bahçelerin planlanması, kurulması, korunması ve sürekli bakımı park ve bahçeler müdürlükleri tarafından yapılmaktadır. Bunun dışında şehir içinde yol kenarlarının ağaçlandırılması ve mevsime göre çiçek ve diğer peyzaj

bitkilerinin dikimi ve bakımı belediyeler tarafından yapılmaktadır. Her zaman gördüğümüz ve yaşam kalitemizi yükselten peyzaj işlemleri yerel yönetimler tarafından düzenlenmektedir.

Katı atıkların zamanında ve etkin bir şekilde toplanarak geri dönüşüm süreçlerinin çevreyle uyumlu olması yerel yönetimlerin sorumluluğundadır. Bu süreçlerin sürdürülebilirliği belediyelerin ek gelir elde etmelerine ve katı atıkların sürdürülebilir yönetiminin maliyetlerinin azaltılmasına katkı sağlar. Tüm bu süreçler sıfır atık yönetimi ve iklim değişikliğine de önemli katkılar sağlamaktadır. Ayrıca sağlık risklerini azaltarak sağlık harcamalarının azalmasına da yardımcı olmaktadır.

Yerel yönetimler sosyal belediyecilik anlayışını güçlendirerek kentsel gelir dağılımında adaletin ve sosyal gelişmenin temelini atmaktadırlar (Pektaş, 2010).

2.1. Sosyo-Kültürel Katkılar

Kültürel aktiviteler konusunda yerel yönetimlerin önemli bir yeri vardır, her türlü resim, heykel ve diğer el sanatları için yer tahsisi, organizasyonlar ve eğitimler için her türlü katkıyı yapmaktadırlar (Öztaş ve Zengin, 2008).

Özellikle el sanatları konusunda açılan çeşitli kurslar; el dokuması, boyama, resim, vb. etkinlikler düzenlenmektedir. Bu kurslar sayesinde kültürel değerler gelecek kuşaklara aktarılarak korunması ve geliştirilmesi sağlanmaktadır. Meslek edindirme kurslarında gençlerin bilgi ve becerilerinin artırılması hedeflenmektedir.

Yerel yönetimler kültür, sanat, spor ve turizm aktivitelerinin geliştirilmesinde destekleyici düzenlemeler yapmaktadır. Özellikle spor salonları, lokal basketbol ve voleybol sahaları, parklarda vatandaşlar için fiziksel aktivite alanları yaygın olarak yapılmaktadır.

Yerel yönetimler halkın eğlenme ve dinlenme ihtiyaçlarının karşılanması için yapmış oldukları ilave olarak, müzik, tiyatro, sinema, sergi salonları gibi sanatsal aktiviteleri için açık ve kapalı alan ihtiyaçlarının karşılanabilmesi için gerekli altyapı yatırımlarını yapması önemlidir.

Bunun dışında tarihi ve kültürel alanların bakımı, temizliği ve korunması konusunda katkı sağlamaktadır. Kültürel etkinlikler yapılarak bireylerin sahip olduğu tarihi ve kültürel değerlere ilişkin toplantılar, konferanslar ve seminerlerin düzenlenmesine destek sağlanmaktadır.

Kırsal kesimde yaşayan herhangi bir bireyin geliri sanayi sektöründe çalışan ortalama bir çalışanın gelirinden düşük olmamalıdır. Kırsal kesimde istihdama önem veren faaliyet kolları harekete geçirilerek yerinde istihdam sağlanmalıdır. Kırsal kesimden kent merkezine kontrolsüz göçün önlenmesi sağlanmalıdır. Burada yerel yönetimlere önemli görevler düşmektedir. Toplumun tekrar kırsal kesimin önemini kavramasını sağlayacak motivasyon faktörleri oluşturulmalıdır.

2.2. Ulaştırma

Yerel yönetimler; karbon ayak izinin azaltılması ve iklim değişikliğinin etkilerinin azaltılmasına dönük çalışmalar çerçevesinde, toplu taşıma araçlarının artması ve bunların altyapısının hazırlanmasında önemli görevler üstlenmektedir. Özellikle raylı sistemlerle yapılan taşımacılık sayesinde hızlı, güvenli, ekonomik ve daha sürdürülebilir bir şekilde ulaşım sağlanabilmektedir (Şengün ve Kalağan, 2022).

Kent içi ulaşımda otobüs ve metrobüs ve benzeri toplu taşıma araçları yine hatların oluşturulması kamu veya özel halk otobüslerinin konulması, işletilmesi ve denetimleri yerel yönetimlerin ilgili birimleri tarafından idare edilmektedir.

Kent merkezlerinde yol yapımı, tamiratı, sinyalizasyon ve kontrolü yerel yönetimler tarafından sağlanmaktadır. Trafik yoğunluğuna göre güzergah ve akış yönleri ile ilgili düzenlemeler yine yerel yönetimler tarafından yapılmaktadır.

Kent içi ve kırsal bölgelerde yol yapım çalışmaları, bakımı, tamiratı, mevsimsel yıpranmalarla ilgili kontroller yapılarak, ortaya çıkan sorunlar giderilmektedir. Şehirler arası anayollarda ise bu çalışmalar karayolları tarafından izlenmektedir.

Büyük şehirlerde metro, raylı sistemler, otobüs, metrobüs, deniz ulaşımı veya benzeri ulaşım sistemleri ciddi yatırımlar gerektirmektedir. Bu konuda yerel yönetimler merkezi hükümetler tarafından her zaman desteklenmelidir. Gerekli finansman kolaylığı sağlanmalıdır. Bu durum yerel yönetimlerin ulaşım araçları yoluyla gelirlerinin artmasına da katkı sağlayacaktır.

Belediye gelirlerinin artması yerel yönetimlerin altyapı yatırımlarına daha fazla pay ayırmasına katkı sağlayacaktır. Özellikle kırsal bölgelerde kanalizasyon sistemi ülkemiz genelinde tam olarak çözülemeyen konuların başında gelmektedir.

2.3. Sosyal Hizmetler

Türkiye'de yerel yönetimlerin en önemli aktivitelerinden birisi olan evde yaşlı ve hasta bakımı konusunda göstermiş oldukları faaliyetlerdir. Yaşlıların bakımı, temizliği bazı belediyeler tarafından düzenli olarak yapılmakta ve ailelerin yükü paylaşılmaktadır. Bunun yanında aşevleri bulunan belediyeler ihtiyaç sahiplerinin günlük yemek ihtiyaçlarını karşılamaktadır. Bu hizmetler belediyelerin bütçe ve personel durumuna göre bazı il ve ilçelerde yapılmaktadır. Ancak bütün il ve ilçelerde yapılması yoksullukla mücadele açısından önemli faydalar sağlayacaktır.

Yerel yönetimler tarafından dezavantajlı grupların; barınma, beslenme, ısınma ve eğitim ihtiyaçları için bazı destekler ve yardımlar yapılmaktadır. Özellikle yoksul bölgelerde yaşayanlar, engelliler, yaşlı ve hastalar için yapılan bu yardımlar az da olsa ihtiyaç sahipleri açısından oldukça önemlidir. Özellikle yoksulluk döngüsünün kırılması açısından önem arz etmektedir.

Yerel yönetimlerin son yıllarda yaygın olarak verdiği hizmetler arasında özellikle cenaze hizmetleri oldukça önemlidir. Mezarlıklar müdürlüğü tarafından cenazenin alınmasından defin işlemine kadar süreçlerin tamamen belediyeler tarafından yapılmaktadır. Acılı ailelerin bu organizasyon süreçlerinde takip edecekleri işlemler belli olup süreçler ilgili müdürlükler tarafından düzenli bir şekilde yürütülmektedir.

2.4. Afet ve Acil Durumlar

Özellikle yerleşim yerlerinde konut ve işyeri yangınlarında yerel yönetimler tarafından itfaiye hizmeti verilmektedir. Yangınlara ilk müdahele eden ekip ülke sahasında yerel yönetimlere bağlı itfaiye birimleridir. Vatandaşın can ve mal güvenliğinin yangınlardan korunmasına ilişkin tüm faaliyetler afet işlerinden sorumlu müdürlükler tarafından yerine getirilir (Büyükkaracığan, 2016).

Ayrıca su ve sel baskınlarında, çığ, tipi, heyelan gibi afetlerde, arama kurtarma ve önleme çalışmaları ile ilgili olarak ihtiyaç anında acil olarak müdahale etmektedir. Orman yangınlarında yine belediyeler kendi alanları içinde veya dışında yangınlara müdahale ederek ülkemizin sahip olduğu doğal kaynakların korunması ve sürdürülebilir kullanımı için çaba göstermektedir.

İmar planlarının hazırlanması esnasında deprem riski yüksek olan fay hatları üzerinde riskli yapıların oluşmaması için gerekli önlemleri almak yerel yönetimlerin önceliği arasında olmalıdır. Özellikle heyelan ve kayma riski bulunan arazilerin etki alanında yapılaşma ve ulaşım ağının bulunmaması için planlama aşamasında doğabilecek riskler ve can kayıpları önlenmelidir.

Toprak ve su kaynaklarının korunması ve geliştirilmesi olası afet dönemlerinde risklerin minimize edilmesi önemlidir. Ayrıca deprem ve yangın dönemlerinde korunaklı toplanma alanları ve bu döneme ilişkin ilkyardım planlarının oluşturulması ve bu planların uygulanabilir olduğunun önceden test edilmesi gerekir.

Yerel yönetimlerin afet ve acil müdahale birimleri sahip oldukları alet ve ekipmanların bakımı, kullanılması ve geliştirilebilmesi için planlamalar yapmalıdır. Buna ilişkin olarak görev yapacak acil müdahale personelinin eğitimleri olası riskler dikkate alınarak verilmelidir.

3. YEREL YÖNETİMLERİN EKONOMİK ETKİLERİ

Yerel yönetimler bulunduğu bölgelerin sosyo-ekonomik gelişmesini ve refah düzeyinin artmasında önemli rol oynamaktadır. Kentlerin imar planları gelişmeyi olumlu veya olumsuz yönde etkileyen en önemli konuların başında gelmektedir. Örneğin rüzgarın yönü dikkate alınmayan bir imar planında kentlerin nefes alması bile zorlaşmaktadır. Bir başka örnek ise deniz veya göl kenarında bulunan bir yerleşim yerinin tüm sokakları su kaynağına dik olması gerekirken bırakılan yolların su kaynağına paralel olması hava sirkülasyonunu ve peyzaj kalitesini olumsuz yönde etkileyecektir (Gürer ve Demirci, 2020).

Yerleşim yerlerinde bulunan çevre kalitesi gayrimenkullerin fiyatını doğrudan etkilemektedir. Çevre kalitesi yüksek bir bölgede bulunan bir daire veya iş yerinin değeri daha yüksek olurken çevre kalitesi düşük olan bir semtte ise daire veya iş yeri fiyatı daha düşüktür. Aynı durum arsa fiyatları için de geçerlidir.

Çevre kalitesinin düşük veya yüksek olması ise yerel yönetimlerin imar planlarında alacağı kararlar ve uygulamalarına bağlıdır. Bu nedenle yerel yönetimler vermiş oldukları kararlar ile bireylerin yaşam kalitelerini ve gayrimenkul varlıklarının değerini etkilemektedirler.

Kentsel planlama yapılırken doğal kaynakların sürdürülebilir bir şekilde kullanımını sağlayacak şekilde yapılmasına dikkat edilmelidir. Burada orman, su, toprak, sulak alanlar, koruma alanları ve milli parkların alıcı kapasitesi dikkate alınarak koruma ve kullanma dengesi sağlayacak şekilde olmalıdır. Nüfus yerleştirmeleri, turizm bölgeleri, sanayi bölgeleri ve ulaşım aksları ekosistemi dikkate alarak planlamalar yapılmalıdır. Yerel yönetimlerin planlama çalışmaları inter disipliner bir yapıda sağlanmalıdır. Özellikle fiziki planlama çalışmasına teknik bilgi sahibi uzmanlar tarafından destek sağlanması önemlidir.

Yerel yönetimler ve özel idarelerin sahip olduğu personelin niteliği ve niceliği oldukça önemlidir. Ancak belediye başkanları ve meclis üyeleri de bir o kadar önemlidir. Belediye başkanının vereceği kararlar ve buna ilişkin belediye meclislerinin kararları kentlerin kaderini tayin etmektedir. Yerel yönetimler kentleşme ve kent ekonomilerinin yönünü belirlemektedir. Bu nedenle yöneticilerin vizyonu ve bakış açısı kentlerin sosyo ekonomik gelişmesini doğrudan etkilemektedir.

3.1. İnşaat Sektörüne Katkıları

İnşaat sektörünün geleceği açısından yerel yönetimlerin ve merkezi yönetimin sorumluluğu büyüktür. Özellikle Türkiye'nin çeşitli fay hatları üzerinde bulunan yerleşim yerleri önemli riskler oluşturmaktadır. Bu nedenle konut sahibi olmayanlar için konut üretim çalışmalarına hız verilmelidir. Konut stoklarının belli gelir gruplarının elinde tutulması cazip olmaktan çıkarılarak fazla konut sahibi olanlardan vergi alınarak konut fonuna aktarılması sağlanmalıdır. Böylece konut fiyatlarında ve kiralarda yaşanan artış hızı yavaşlatılabilir. Konut cazip bir yatırım aracı olmak yerine, konut sahibi olmayanların TOKİ aracılığı ile konut sahibi olmalarına yardımcı olunmalıdır (Erçetin, 2022).

Yerel yönetimler tarafından imar planları yapılmaktadır. İnşaata açılacak alanlar, kat sayısı, ticari alanlar ve sanayi alanları yerel yönetimlerin İmar İşleri müdürlüğü tarafından uzmanların yaptığı çalışmalarla belirlenmektedir. Ayrıca ruhsatlandırma çalışmaları yine yerel yönetimler tarafından yapılmaktadır.

Türkiye'de ikamet edilen konutun mülkiyet durumuna göre hane halkı sayısı 25 329 833, bunlardan 15 384 812'si ev sahibi ve 6 991 720'si kiracı olup geriye kalan 2 374 972'si diğer ve 578 329'u ise tespit edilemeyenlerden oluşmaktadır (TÜİK, 2024).

İnşaat sektörü konut dışında, işyeri, fabrika, köprü, otoyol ve benzeri faaliyetleri kapsayan ve çarpan etkisiyle yaklaşık 250 farklı sektörü doğrudan etkileyen bir faaliyet koludur. İnşaat sektöründe yaşanacak herhangi bir duraklama doğrudan diğer sektörleri de etkilemektedir. İstihdam açısından da oldukça önemlidir. Son 10 yılda yaşanan uluslararası göçlerde bireylerin en fazla istihdam edildiği sektörlerin başında inşaat sektörü gelmektedir. Yaklaşık 6 milyon civarında kişi inşaat ve etkileşim içerisinde olduğu sektörlerde çalışmaktadır.

Yerel yönetimlerin önemi burada devreye girmektedir. İnşaata açılacak alanlar konusunda karar merci yerel yönetimler olup verdikleri kararlar, başta sanayi, ticaret ve yerleşim yerleri olmak üzere ortaya çıkan rant belli kesimlerin gelir düzeyini artırmaktadır. Bu gelir artışından belediyelerde gerekli payı alabilmeleri için yasal altyapı güçlendirilmelidir. Kentleşme ile ilgili yapılan imar planları bireylerin sosyal ve ekonomik yaşamlarını doğrudan etkilemektedir.

Yerel yönetimlerin verdikleri kararlar belli ölçüler getirilerek yeni açılacak yerleşimlerde kişi başına düşen yeşil alanlar ve altyapı ile ilgili alınan kararlar gelecekte olası risklerin azaltılmasına katkı sağlayacaktır. Örneğin kentlerde bulunan bulvarların sayısı, yolun genişliği ve her bir binanın otopark sahipliği dikkate alınmadığında yakın bir gelecekte yeni yerleşimlerin hızlı bir şekilde trafik sorunuyla karşılaşması muhtemeldir.

3.2. Sanayi Sektörüne Katkıları

Yerel yönetimler tarım, sanayi, turizm ve yerleşim yeri planlarının hazırlanması ve uygulanması konusunda yetkili olup bu süreçler konusunda belediye meclislerinin yetkisi bulunmaktadır. Bu nedenle herhangi bir bölgenin sanayileşmesi veya sektör kümelenmesinin olup olamayacağı ilgili belediyeler tarafından karar verilmektedir (Zengin ve ark, 2014).

Yerel yönetimler ekonomik gelişmenin merkezinde yer almaktadır. Bazen siyasi ve dünyaya bakış açısı illerin veya bölgelerin yöneticileri hızla ekonomik gelişmesine katkı sağlamaktadır. Vizyon sahibi yerel yönetimler ve meclisleri bulundukları bölgelerin sosyo-ekonomik gelişmesini hızlandırabilecek potansiyele sahiptir. Burada önemli olan paydaşlarla iletişim ve pozitif yaklaşımlar başarıyı artıran süreçlerdir.

Sanayinin geliştiği bölgelerde meydana gelen hızlı nüfus artışı altyapı ve konut ihtiyacını artırmaktadır. Bu nedenle yerel yönetimler konut ihtiyacını dikkate alarak yeni imar alanları açmak durumundadır. Bu nedenle yerel

yönetimler aldıkları kararlarla kentleşmenin planlı ve sürdürülebilir bir şekilde gelişmesine önemli katkılar yapabilecektir.

3.3. Tarım Sektörüne Katkıları

Yerel yönetimler yerel tarımsal ürünlere ilişkin olarak destek sağlayabilir. Türkiye'nin farklı coğrafyalarında çeşitli fuarlar, festivaller, kırsal kalkınmayla ilgili eğitim çalışmaları yapılmaktadır. Buna örnek olarak kiraz festivali, karpuz festivali, ayçiçeği festivali gibi ürünlere ilişkin yapılan programlar örnek olarak verilebilir. Son yıllarda Gastronomi ve bitkisel ve hayvansal ürünlere ilişkin olarak coğrafi işaret uygulaması önemli hale gelmiştir. Ayrıca Türkiye'nin birçok bölgesinde Tarım Fuarları düzenlenerek vatandaşların ürünlerini tanıtmasına ve tarımsal girdi, alet ve ekipmanlar ve diğer teknolojik gelişmelere ilişkin olarak fikir sahibi olmalarına katkı sağlanmaktadır (Bitgin ve Aslan, 2023).

Gelir dağılımının artması sadece kentlerde yaşayanların yaşam kalitesi ve gelirlerinin artmasıyla mümkün değildir. Kırsal kesimde yaşayanların gelir düzeyinin kentlerde yaşayanlara yaklaştırılması temel hedeftir. Bu nedenle tarım kesiminde yaşayanların ihtiyaç duydukları alet ekipman, fide, tohum, gübre ve benzeri ihtiyaç arının desteklenmesinde yerel yönetimler de yardımcı olmaktadır.

Tarımsal üretimde verimlilik ve ürün kalitesinin artırılması toplumun besin ihtiyacının karşılanması açısından da önemlidir. Ayrıca içme ve sulama suyu ihtiyacının karşılanması konusunda yerel yönetimler faaliyetlerini sürdürmektedirler.

Özellikle temiz içme ve kullanma suyu yerel yönetimler için önemli bir gelir kaynağıdır. Toplumun ihtiyaçlarını karşılarken belediyenin ihtiyaçlarının karşılanmasına da katkı sağlamaktadır.

Kırsal kalkınma konusunda yerel yönetimler oldukça önemlidir. Özellikle kırsal bölgelerde ekoturizm, trekking, fotoğrafçılık, su kaynaklarına yakın dalış turizmi, dağcılık, gastronomi ve benzeri faaliyetler konusunda eğitim ve altyapı hizmetlerinin oluşturulmasında yerel yönetimler katkı yapmaktadır.

Belediyeler kırsal bölgelerde yaşayanların yaşam kalitesinin yükselmesi için ulaşım ile ilgili stabilize veya asfalt yol çalışmalarını yürütmektedir. Kış aylarından sonra bakım ve onarım çalışmalarını yürütmektedir.

3.4. Hizmet Sektörüne Katkıları

Yerel yönetimler hizmet sektörü ile ilgili ruhsatlandırma çalışmalarında yetkili oldukları için oldukça etkilidir. Hizmet sektörünün gelişmesi için imar planından başlayarak inşaat, iskan ve işletmenin kurulmasına kadar geçen süreçlerde yerel yönetimler her türlü kararlarda yetkilidir. İşletmenin faaliyete geçmesinden sonrada işleyişle veya çevresel konularla ilgili olarak yetkili olduğu için müdahale etme yetkisi bulunmaktadır. Hizmet üreten işletmelerle ilgili olarak, ortaya çıkan olumsuz bir durum olduğunda yerel yönetimler cezai müeyyide uygulanabilmektedir.

Yerel yönetimler yol, köprü, raylı sistemler ve deniz ulaşımı gibi ulaşım altyapısı ile bulundukları bölgede mal ve hizmet akışını hızlandırarak istihdam ve ekonomik canlılığın artmasına yardımcı olmaktadır. Bu gelişmeler hizmet sektöründe başta ticaret olmak üzere ekonomik hareketliliği artırmaktadır.

Hizmet sektöründe faaliyet gösteren işletmeler arasında restoranlar, cafeler, sinemalar, perakendeciler, bankalar, dil okulları ve benzeri kuruluşlar sayılabilir. Kentleşmenin olduğu yerlerde hizmet sektörü de gelişmektedir. Bu nedenle hizmet sektörünün denetlenmesi görevi farklı kurumlarla birlikte yerel yönetimlerin de sorumluluğundadır.

Hizmet sektörünün gelişmesi makro ekonomi açısından değerlendirildiğinde gelişmiş ülke ekonomilerinin toplam ekonomi içerisinde ağırlığının artması olarak görülmektedir. Özellikle tarım toplumundan sanayi toplumuna geçen ülkelerin ekonomisi geliştikçe hizmet sektörünün ağırlığı artmaktadır. Buna en güzel örnek İngiltere olarak verilebilir.

Güçlü bir yerel yönetim bulunduğu bölgelerde yaşayanların gereksinimlerini de dikkate alarak: başta bankacılık, sigorta, gastronomi, turizm, ticaret gibi sektörlerin gelişmesi için ulaşım ve altyapı yatırımları ile hizmet sektörünün hızla gelişmesine yardımcı olabilir. Özellikle eğitim kurumları ve uluslararası turizm organizasyonları bu sektörün gelişmesi açısından önemli fırsatlar yaratmaktadır. Bu konuda Antalya ve Edirne ili örnek olarak verilebilir.

Bir ilde turizmin gelişmesi diğer tüm sektörleri pozitif yönde etkilemektedir. Tarım ve sanayi mallarına olan talebin artmasına da katkı sağlamaktadır.

4. SONUÇ

Yerel yönetimler aldıkları rasyonel kararlarla bulundukları bölgelerin sosyo-ekonomik gelişmesini doğrudan etkilemektedir. Özellikle imar planlarının ulaşım aksları, coğrafi ve meteorolojik durumu ve peyzaj kalitesini dikkate alarak yapılması durumunda gayrimenkul fiyatları değer kazanmaktadır. Bu arada kişi başı yeşil alan ve hane başı otopark alanlarının bırakılması ve gelecekteki nüfus projeksiyonlarının dikkate alınarak yol genişliğinin ve bulvarların geniş bırakılması uzun vade de trafik problemini ortadan kaldıracaktır. Kentlerin ekonomik gelişmesinde en önemli problemlerin başında otopark yetersizliği ve trafik sorunları gelmektedir.

Alışveriş merkezleri ve kent meydanlarında park sorununun etkin bir şekilde çözülmesi otopark sayısı ve her bir konut alanının zemininde daire başı otoparkların yapılması ile mümkün olacaktır. Otomobillerden kaynaklanan yoğunluk kent merkezlerinde bireylerin, engellilerin, yaşlıların, bisikletlilerin ulaşımını engellemekte ve bu durumda esnaf ve sanatkarların işlerini olumsuz yönde etkilemektedir.

Her mahallede vatandaşların dinlenme ihtiyaçlarını giderebilmek için çay bahçeleri yeşil ağaçlandırılmış park alanları ve otoparklar bulunmalıdır. Ayrıca engellilerin ve yaşlıların bu park ve bahçelerden yararlanabilmeleri için gerekli altyapı yerel yönetimler tarafından oluşturulmalıdır.

Mümkün olduğunca bankalar caddesi, oteller ve pansiyonlar caddesi, kuyumcular çarşısı, okullar caddesi, restoranlar caddesi, eğlence mekanları caddesi gibi ana arterler oluşturulmalıdır. Bu durum hem güvenlik açısından hem de hizmet sektörünün gelişmesi açısından önemlidir. Alışveriş merkezleri şehir merkezine en az beş km şehir dışında bulunması küçük esnaf ve sanatkarların korunması açısından önemlidir.

Yerel yönetimler ideolojik olmayan çözüm odaklı geniş katılımlı toplantılar ile kentlerin yönünü belirleyebilir. Burada farklı meslek grupları ve uzmanların olması önemlidir. Uzmanlar doğal kaynaklarla ilgili tüm paydaşları kapsamalıdır. Örneğin: şehir plancısı, mimar, orman mühendisi, toprak ve su uzmanı, ekonomist, ziraat mühendisi, peyzaj mimarı, inşaat mühendisi ve benzeri meslek kuruluşlarından uzmanlar olabilir. Ayrıca illerde bulunan meslek örgütlerinin ve merkezi yönetimin temsilcilerinin de görüşleri alınmalıdır. Özetle katılımcı yerel yönetimler sosyal ve ekonomik gelişmelerle ilgili toplumsal uzlaşıyla daha rasyonel kararlar verebilirler.

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Ineffective Rule of Law by Informal Rules, Norms and Networks: The Role of Political Parties in Hindering Democratization in Western Balkan Countries

Assoc. Prof. Dr. Gerti Sqapi[1] **PhD (cand) Evis Shurdha**[2]

[1]Head of Center for Economic and Legal Research and Studies, Tirana Business University, Tirana, Albania. gerti.sqapi@tbu.edu.al https://orcid.org/0000-0002-0128-8275

[2]European University of Tirana, Tirana, Albania. evis.shurdha@uet.edu.al

Abstract: The aim of this paper is to examine the role played by political parties in the penetration/maintenance of informal rules, norms, and networks within state structures, rendering the operation of the rule of law ineffective and undermining democratization processes. Here, we argue that the malfunction of the rule of law from persistent phenomena such as the dominance of informal institutions/rules, state capture, political clientelism, and patronage networks by political parties in Western Balkans countries has made their democratic institutions, or what Guillermo O'Donnell (1996) calls the "full institutional package" of polyarchy, to function with serious deficits. By conceiving the rule of law as a crucial dimension of the democratic system, and by maintaining that democratic rights and freedoms are effectively ensured only to the extent that state institutions/structures are bound by the rule of law, we here advance the argument that political parties have managed to exploit the structural weakness of the state in their environments to subjugate them for partisan gain and advantages. The cases from the Western Balkan countries considered in this study are Albania, Serbia, and North Macedonia.

Keywords: Rule of Law, Democratization, State institutions, Informal rules/networks, Particularism, Clientelism, Patronage, Western Balkan countries.

I. Introduction

More than three decades after the overthrow of totalitarian regimes in post-communist countries, as well as in those that were involved in the third wave of democratization (Huntington, 1991), many of the Western Balkan Countries – Albania, Serbia, North Macedonia taken as cases in this study – continue to face serious democratic deficits in their settings. It is worth noting that in the current literature on democracy, scholars have increasingly moved away from the telos (and the consolidation concept with a fully-fledged democracy as a final output) that characterized this literature in the 1990s-2000s - *as an progress oriented process linked inherently with the presuppositions of the transitology paradigm* (O'Donnell, 1996; Carothers, 2002; Sqapi, 2017), and have increasingly focused on countries' specific problems and the different outcomes of their transitions from previous totalitarian/authoritarian rule. One of these "typical" outcomes that characterizes the political regimes of the Western Balkan countries under study here is the weak institutionalization of formal structures and rules of democracy, with the dominance of informal rules, norms and networks within their state institutions. This has caused the rule of law to function with serious deficits in their environments, as the dominance of rules, practices, or informal networks within state institutions/agencies erodes/creates obstacles to the rule of law, which is a critical component of the democratic political system. This is because civil and political freedoms (what Robert A. Dahl defines as seven attributes of *polyarchy*), or the rules of the game of democracy, can only be effective if state institutions take action to their effectuation and operate within the boundaries set by law (legal system) within a given territory. As Andersen, Møller, and Skaaning best paraphrase this idea: "the great dilemma of democracy revolves around the state. Political liberty can only be effective, and stable, when it is backed by the power of the officialdom" (2014: 1203). In this way, it is the state and its institutions/agencies that enact and back the legal rules referred to the existence and persistence of a democratic regime... Many democratic rights are positive in their very nature as they involve the expectation that some state agents will undertake, if legally appropriate, actions oriented towards the effectuation of the above-mentioned rights (O'Donnell, 2001: 46; Fabre, 1998).

However, in conditions where the state's infrastructural capacities are weak, or where within its institutions/agencies, particularistic informality (rules, norms, networks) prevails over the universalistic rules (its laws, formal procedures), democracy and the rule of law as one of its main components cannot function besides that with serious deficits and we will have the emergence of phenomena such as privatization of power (by incumbent political actors), pervasive corruption, party patronage, unfair elections by skewing the playing field

in electoral contests to the detriment of their opponents etc. The lack of effective state agencies[1], their underdeveloped infrastructural capacities, or the failing by these agencies to follow and enforce universalistic rules which are oriented towards the public good undermine the rules of the game of democracy and the enforcement of rule of law in a given territory. This way of functioning of these state agencies (in the Balkan countries, which are taken as case studies here) often wipes away the distinction that must exist between the private and public spheres, between informal and formal (universalistic) rules, thus sanctioning ineffective lawfulness throughout the territory and undermining the institutionalization of democracy (See in Sqapi, 2019). As O'Donnell has stressed in this regard, states with "weaker bureaucracies then create (or reinforce) systems of local power which tend to reach extremes of violent, personalistic rule – patrimonial, even sultanistic – open to all sorts of violent and arbitrary practices. In many emerging democracies, the effectiveness of a national order embodied in the law and the authority of the state fades off as soon as we leave the national urban centers" (O'Donnell, 1993: 1358). O'Donnell introduces in his seminal article *"On the State, Democratization and Some Conceptual Problems: A Latin American View with Glances at Some Post-communist Countries"* the concept of *low-intensity citizenship*, to describe how weak legal systems and selective enforcement of laws in certain countries undermine their democratic consolidation and the effective functioning of the rule of law in their settings. As we will argue in this paper, this is the case of the Western Balkan countries studied here (Albania, Serbia, and North Macedonia), where the dominance [penetration] of informal rules, norms, and networks by the political parties in their state structures has undermined the functioning of democracy, making the operating of the rule of law in their settings ineffective. Before analyzing the three cases of the countries studied, we provide a working definition of democracy as a political system in the following section, including the rule of law as one of its most important components.

II. A definition of democracy as a political system

A good starting point for having a normative definition, as well as an operational concept of democracy (as a political system) that would allow us to make it measurable, is the definition given by Robert A. Dahl of *Polyarchy*. This is perhaps one of the classic concepts and one that has generated the most consensus among scholars about this highly controversial term. Dahl (1971) in his definition of *polyarchy* identifies two dimensions, namely – the right to participate for the citizens in political processes and public contestation (which is expressed in the competition between political groups) – and provides a list of seven attributes / institutional guarantees that serve as fundamental indicators of democracy. Thus, according to Robert A. Dahl, polyarchy consists of these attributes: *1. Control over government decisions about policy is constitutionally vested in elected officials; 2. Elected officials are chosen in frequent and fairly conducted elections in which coercion is comparatively uncommon; 3. Practically all adults have the right to vote in the election of officials; 4. Practically all adults have the right to run for elective offices in the government ; 5. Citizens have a right to express themselves without the danger of severe punishment on political matters broadly defined. 6. Citizens have a right to seek out alternative sources of information (alternative sources of information exist and are protected by law); and 7. Citizens have the right to form relatively independent associations or organizations, including independent political parties and interest groups* (Dahl, 1982: 11). "This definition stipulates some attributes of elections (clauses 1 to 4) and lists certain freedoms deemed necessary for elections to be democratic that are dubbed as "primary political rights … integral to the democratic process" (clauses 5 to 7) (Cited in O'Donnell, 2001: 11). These political rights make the democratic process more meaningful, as they empower and expand the range of choices citizens can make according to their will or interests. In this perspective, democracy (or *polyarchy* in Dahl's terminology) contains two dimensions and multiple indicators. This makes it more acceptable from a normative point of view and more attractive to scholars who want to study democracy in procedural terms. However, as Guillermo O'Donnell has noted, "the definition of polyarchy is silent about important but elusive themes such as if, how, and to what degree governments are responsive or accountable to citizens between elections, and the degree to which the rule of law extends over the country's geographic and social terrain" (O'Donnell, 1996: 36). Likewise, the concept of polyarchy is silent on an important aspect: accountability, not only in its vertical dimension (represented by the elections) but also in its horizontal one, with various state institutions that are limited by law in their functioning and that can be "judged" if they exceed the limits set by law.

The indicators package that Dahl offers in his definition of polyarchy constitutes a good basis for our definition of democracy as a political system. However, to his package that defines the dimension of attributes of elections

[1] "Capable of discharging their duties with reasonable efficacy, establish lawfulness efficiently and with state agencies' decisions normally oriented in terms of some conception of the public good" (O'Donnell, 1993: 1357).

(clauses 1 to 4) and the dimension of political rights (clauses 5 to 7), we add a third dimension, namely that of the rule of law. This is a critical dimension for democracy as a political system as it carries within itself both the institutionalization of civil rights and the principle of the rule by law, which protects individuals from violations or acts of various state agencies against their freedom. The principle of the rule of law can be understood as the containment and limitation of the exercise of state power; or a system (a democratic one) that is characterized by the fact that no power within the state or regime (certainly, nor in society for that matter) is *de legibus solutus* (Merkel, 2004: 39; O'Donnell, 2001: 47). This principle is essential for the existence and guarantee of individuals' civil rights, as no person, institution, or state agency can infringe or violate them. As Alexis de Tocqueville had pointed out two centuries ago, in a constitutional democracy, decisions concerning these (civil) rights have to be put out of reach of any majority of citizens or parliament… Otherwise, majoritarian democracies could turn into the 'tyranny of the majority'." (Cited in Merkel, 2004: 40). The principle of the rule of law, on the other hand, also enables the horizontal dimension of accountability in a democratic system, which effectively fulfills and ensures the package of conditions for the elections and democratic participation defined above by Dahl.

Having clarified the conceptual issues so far, we offer a practical definition of what will constitute the meaning of democracy here. In this paper, democracy will be defined as a system of government characterized by broad and meaningful competition among individuals and organized groups for all effective positions of governing power, which is carried out fairly, at regular intervals, and excludes the use of force; where a "high" level of inclusive political participation (such that no "major" social group is excluded) in the selection of leaders, and the political freedoms of citizens are ensured; and where through the principle of the rule of law, the civil freedoms of citizens and the horizontal dimension of accountability within the powers of the regime are ensured[2]. Such a definition is based on three dimensions and 11 indicators that could be used to measure the desired object, democracy as a system in our case. This indicators/attributes are: 1. Control over government decisions about policy is constitutionally vested in elected officials; 2. Elected officials are chosen in frequent and fairly conducted elections in which coercion is comparatively uncommon; 3. Practically all adults have the right to vote in the election of officials; 4. Practically all adults have the right to run for elective offices in the government; (*clauses 1-4: the vertical dimension of legitimacy*); 5. Citizens have a right to express themselves without the danger of severe punishment on political matters broadly defined. 6. Citizens have a right to seek out alternative sources of information (alternative sources of information exist and are protected by law); and 7. Citizens have the right to form relatively independent associations or organizations, including independent political parties and interest groups *(clauses 5-7: the dimension of political rights);* 8. Individual freedoms from violation of rights by state / private agents; 9. Equality before the law; 10. Horizontal separation of powers; 11. Independence of the judiciary (clauses 8-11: *the dimension of rule of law*). This definition would satisfy the demand/consensus of various authors that democracy is a multifaceted concept, and it would be undesirable, if not impossible, for us to grasp its analytical meaning through a single dimension. Being a complete definition of the package of conditions offered by Dahl, including the dimension of the rule of law, the definition of democracy offered here allows for a clearer differentiation between liberal and well-functioning democracies on the one hand and other defective subtypes of democracy (those often categorized as hybrid regimes, or as democracies with problems in the "gray area" (O'Donnell, 1996).

3. Democracy with Problems: Ineffective Rule of Law by Penetrating/maintaining Informal rules, norms and networks in the State Structures. The Cases of Albania, Serbia and North Macedonia

The path to democratization in post-communist (Western Balkan) countries has been shaped by a complex interplay of institutional reform, political culture, and elite strategies. The overthrow of authoritarian/totalitarian regimes in these countries was assumed to be accompanied by a reform/reduction of the state's role and the establishment of formal institutions that would ensure the rules of games of democracy. As Wedel has emphasized in this regard: "the study of 'transition' in Central and Eastern Europe... has been dominated by a formalistic view of institutions, in which the role of informal systems has been undervalued or

[2] A somewhat similar definition of democracy, which we have relied on, was given by Diamond, Linz and Lipset (1990: 6-7) when they state that democracy "denotes a system of government that meets three essential conditions: Meaningful and extensive competition among individuals and organized groups (especially political parties) for all effective positions of government power through regular, free, and fair elections that exclude the use of force; A highly inclusive level of political participation in the selection of leaders and policies, such that no major (adult) social group is prevented from exercising the rights of citizenship; and a level of civil and political freedoms – freedom of expression, freedom of the press, freedom to form and join organizations – sufficient to ensure the integrity of political competition and participation".

even underlooked (Wedel, 2003: 427). However, after the advent of democratic transitions (by holding founding elections in their settings), it became clear that structural reform of the state and its institutions - to reduce the "colonizing" role that political actors could have over them - would not be successful. State institutions and agencies, structurally weak after the overthrow of totalitarian communist regimes, continued to be exploited or subordinated[3] by the incumbent parties, which managed to make this possible by penetrating/expanding informal mechanisms, practices and networks to gain partisan advantages. The new political parties that were created immediately after the onset of democratization - enjoying a great advantage in the face of structural weaknesses of the infrastructural capacities of their respective states[4] - exploited their dominant position to "capture" them and develop informal systems and mechanisms within them for direct advantage over their political opponents. Grzymala-Busse (2003) expresses this argument when she points out that the enormous role that the new parliament parties enjoyed in many post-communist states was used to slow down or prevent legal formalization of mutual constraints and to continue to seek private benefits from the public domain of the state, by relying increasingly on informal mechanisms and constraints in their competition for power. Janine Wedel also emphasizes in the same vein that the political parties created in the aftermath of the post-communist period, through "informal groups and networks "have shaped – and continue to help shape – many of the crucial economic, political and societal developments in Central and Eastern Europe... including the distribution and the management of resources, the structure of influence and perhaps the very nature of governance and the state" (2003: 428).

In the Western Balkan countries analyzed here (Albania, Serbia, and North Macedonia), features that have characterized political developments (as well as their social and economic relations) in their settings have been the phenomena of particularism and state capture. Guillermo O'Donnell would warn and theorize on the phenomenon of particularism (as\ coexisting with the formal rules and institutions) in the new democratic systems that emerged during the 1990s, with a particular focus on post-communist countries (See O'Donnell 1996; 1999). "Particularism is a mode of competing interaction between the formal and informal institutions, in which there is an evident discrepancy between formal, written rules and the informal ways of 'how things work in practice" (Cited in Cvetičanin & Popovikj & Jovanović, 2019: 2). According to Alina Mungiu-Pippidi, Balkan countries typically operate on the basis of particularism, which generates parallel informal institutions, where informal rules, practices, and networks dominate (2005: 49-52). In its most extreme form, this parallel institutional "setup" (particularism, as O'Donnell and Mungiu-Pippidi have defined it) has taken the form of state capture by key political actors, for the purposes of reproduction or solidification of their grip in power. "Elements of state capture are to be found throughout the six Western Balkans countries (WB6), in differing degrees and different contexts" (Keil, 2018: 71). If in its original formulation, the *state capture* concept was coined by a group of economic experts in reference to oligarchs "who shape the policymaking, regulatory and legal environments… to advance and protect their own enterprises at the expense of the social interest" (Hellman & Jones & Kauffman, 2000), in the actual context of the Western Balkan countries it has to do with the colonization and appropriation that incumbent political parties/actors make of state institutions/agencies to extract their resources, use them for partisan purposes and private gains, and ultimately as a mean to solidify (and reproduce) their political power. Lemstra states that "these political elites can exploit their control over state resources and powers for private or party-political gain. In its most extreme form, state capture entrenches itself into every part and level of society and state, leading to the monopolization of power in the hands of one political party and its leadership" (2000: 2).

The phenomenon of state capture has been attained by political parties primarily through the widespread practice of party patronage, the politicization of the state's bureaucratic and administrative apparatus, and also by clientelistic means in interactions with various actors in society. Gelman (2004) has highlighted the role of these informal institutions in subverting legal frameworks and formal (universalistic) rules, by arguing that the domination of informal political structures over formal institutions creates significant obstacles to democratic consolidation and for the functioning of the rule of law. We put forth the argument that without an effective state apparatus (the set of bureaucracies) capable of discharging their duties with reasonable efficacy,

[3] If during the communist regime, the (communist) party and the state were one [manifested through the concept of the "party-state"], since everything was in function and controlled (or planned) by the regime, after the advent of democratic transitions in the Western Balkan countries, the political parties continued to maintain their privileged position within the state by exploiting state institutions and resources for partisan gain and to consolidate their power further.

[4] The infrastructural capacity of the state, in reference Guillermo O'Donnell, is defined as the existence of an effective state apparatus capable of discharging their duties with reasonable efficacy, establish lawfulness efficiently and with state agencies' decisions normally oriented in terms of some conception of the public good (1993, p. 1357).

establishing lawfulness efficiently, and with state agencies' decisions normally oriented in terms of some conception of the public good (O'Donnell, 1993: 1357), far from their exploitation by political parties for partisan purposes or to gain advantage, democracy and the rule of law as one of its main components cannot function besides that with serious deficits. In countries where informal rules, practices, and networks (such as clientelism, political patronage, and corruption) dominate within their state institutions/agencies, the effectiveness of sanctioning lawfulness is compromised, and so are the norms, dimensions of political rights, as well as the effective operation of the rule of law, which in itself is essential for the existence and the guarantee of civil rights and horizontal accountability within the democratic system. Mungiu-Pippidi has also stressed this point by arguing that "widespread informal or particularistic behaviour, deviant from the formal, universal and legally established norms of conduct does affect the modernization and bureaucratization of a society, as it subverts the rule of law... Rule of law cannot coexist with particularism and informal behaviour. If we design a continuum with universalism and formal rule of law at one end, at the other end, we find arbitrary rule and particularistic norms and behaviour" (2005: 51).

Referring to the three Balkan countries that we take as case studies here, the pervasive particularism within their state institutions, which manifests itself with elements of state capture by political actors such as endemic party patronage, the politicization of the administrative/bureaucratic apparatus of the state and the political use of state resources for partisan advantages, has been empirically evidenced by numerous authors (Mungiu-Pippidi, 2005; Pesic, 2007; Kraske, 2017; Pavićević, 2017; Bliznakovski & Gjuzelov & Popovikj, 2017; Dzankic, 2018; Lemstra, 2020; Sqapi, 2019; Kmezic, 2020; Pavlović, 2022; Cvetičanin & Bliznakovski & Krstić, 2023). By the same token, in its 2018 Communication on the enlargement perspective for the Western Balkans countries, the European Commission (2018) departed from its usual technocratic account of the state of the rule of law and straightforwardly declared that the countries show 'clear elements of state capture, including links with organized crime and corruption at all levels of government and administration, as well as a strong entanglement of public and private interests.' (Cited in Kmezic, 2020). These elements of state capture by political parties, manifested by the infiltration/maintenance of rules, norms, and informal networks within state institutions, have been one of the main obstacles to democratization and the functioning of the rule of law in Albania, Serbia and North Macedonia. In these countries, weak state institutions and elite-driven legal frameworks have undermined the efforts of establishing a functional rule of law, allowing political actors (incumbents) to selectively enforce legal norms, to gain partisan advantages and to secure their grip in power. The political dominance over the state institutions (by informal practices and networks within them) has undermined democracy and rule of law as one of its main components, producing phenomena such as unfair elections by hyper-incumbency advantages, lack of judicial independence, lack of political accountability, pervasive clientelism, control of the media etc. As Kmezic puts it, "the apparent absence of the democratic rule of law profoundly impacts politics in the Western Balkans by acting as a break to democratic impulses, and by creating the regime-centred legal setting allowing for utter arbitrariness and violence of the ruling elites". (2020: 184). Given that civil freedoms and the horizontal dimension of accountability within the democratic system are ensured and are effective only to the extent that political actors within it are bound by the rule of law, the failure to implement the latter causes democracy in the settings of these Western Balkan countries to function with significant deficits and undermines the checks and balances within it.

Referring to the Rule of Law Index of the World Justice Project, which measures and assesses how countries adhere to the rule of law in practice in their settings, we see that the indicators for the following countries (Albania, Serbia, and North Macedonia) have deteriorated from 2016 to 2024, and these countries have fallen further down in the global ranking of countries in this Index[5]. Thus, the overall score for Albania in the World Justice Project's Rule of Law Index comprising eight indicators (factors) is **0.48** [ranking 89th out of 142 countries and showing an overall deterioration since 2016 when its score was 0.51); the overall score for Serbia is **0.47** [ranking 91th out of 142 countries and also showing an overall deterioration since 2016 when its score was 0.50]; while North Macedonia ranks 67th out of 142 countries with an overall score of **0.53**, which although slightly better than the other two Balkan countries, has still shown a slight deterioration since its ranking in 2016 (World Justice Project, 2025). Albania, Serbia, and North Macedonia, although in a region that is part of Europe and classified as upper-middle income countries, are still classified in the lower half of the overall global classification of countries, indicating the weak (ineffective) degree of implementation of the rule of law in their settings.

[5] The World Justice Project (WJP) relies on household surveys, legal practitioner and expert surveys to measure how the rule of law is experienced in each country and to provide a comprehensive picture of their adherence to the rule of law.

IV. Conclusions

This paper noted that the rule of law, as one of the most crucial components of the democratic system as it ensures the protection of civil rights and the horizontal dimension of accountability within it, functions with serious deficits in the cases of Albania, Serbia and North Macedonia. The ineffective rule of law constitutes one of the main problems on the path of democratization of these countries, showing also signs of deterioration in the past few years, and indicating that their democracies still operate in a *gray area.* We argued here that this has come as a consequence of the role that political parties have played in these countries (also benefiting from the legacy and institutional vacuum after the overthrow of communist regimes) by penetrating/maintaining informal rules, norms, and networks that have internally weakened state structures/institutions and have diverted their capabilities for discharging their duties with reasonable efficacy, establishing lawfulness efficiently and with state agencies' decisions normally oriented in terms of some conception of the public good (O'Donnell, 1993). The dominance of rules, norms and informal networks within their state structures has undermined the functioning of democracy by rendering the operating of rule of law in their settings ineffective, leading to what O'Donnell (1999) defines as *'the unrule of law'*. That is because the phenomenon of capturing state structures (by pervasive particularism), or the use of public administration as a patronage source in favour of pursuing particularistic goals by incumbent parties, undermines inherently the legitimacy of these institutions, prevents the standardization and implementation of the rules of democracy and renders the functioning of the rule of law ineffective by not limiting the violations of political actors in exercising state power. The cases analyzed in this paper for the Western Balkan countries represent those where political parties typically exploit the state's structural weakness in their settings to subordinate them for partisan gain and advantages in order to reproduce or solidify their grip on power.

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Çanakkale Belediyesi Yerel Kalkınma Planları ve Kadın Kooperatifleri

Gökay Şahiner[1] **Prof. Dr. Sibel TAN[2]**

[1]Çanakkale Onsekiz Mart Ün. Lisans Üstü Eğitim Enstitüsü, Tarım Ekonomisi Anabilim Dalı

sahinergokay@gmail.com, ORCID: 0009-0004-0979-8415

[2]Çanakkale Onsekiz Mart Üniversitesi, Ziraat Fakültesi, Tarım Ekonomisi Bölümü,

sibeltan@comu.edu.tr, ORCID: 0009-0004-0979-8415

Özet: Günümüzde hızlı nüfus artışı yaşayan, büyükşehirlere yakın noktalardaki kent merkezleri özellikle de göçün etkisi ile hızlı bir şekilde büyümeye ve gelişmeye başlamıştır. Çanakkale İlinin kent merkezi de en yoğun nüfusun ve nüfus artışının yaşandığı merkez ilçedir. İlçenin özellikle Kepez beldesi ve Karacaören köyü siteler mevkiindeki hızlı yapılaşmalar da bu bölgeye olan göçü artıran unsurlardır. Bu kapsamda Çanakkale kent merkezi, Güzelyalı köyü, Çınarlı köyü Dardanos Mevkii ve Karacaören köyünü de mücavir alanına katarak giderek büyümektedir. Çanakkale Belediyesi; hızla gelişen ve değişen kent merkezindeki vatandaşların sadece altyapı, üstyapı, ulaşım, kültür-sanat faaliyetleri değil, aynı zamanda sağlıklı gıdaya erişim, doğal ve ekolojik beslenme, sürdürülebilir gıda, bilinçli tarım vb. gibi konularda kenti ve kırsalı bir araya getirerek bütüncül bir kalkınmayı hedeflemiştir. Bu bağlamda 2017 yılında ülkemizde bir belediye tarafından ikinci Tohum Bankası Çanakkale Belediyesi tarafından kurulmuştur. Sonrasında da 2019 yılında Yerel Kalkınma birimini kurarak, kent ve kırsalın yeniden yapılandırılacağı ve birbiri ile dayanışma içinde olacağı bir programa geçilmesine karar verilmiştir.

Ayrıca daha kapsamlı ve planlı bir şekilde; 2020-2024 Stratejik Planı içerisinde yer alan kenti ve kırsalı bir bütün olarak ele alıp tüm paydaşların bir arada çalıştığı bir yapı oluşturarak sürdürülebilir yerel kalkınma ve gelişmeyi sağlamak hedefiyle, Park ve Bahçeler Müdürlüğü bünyesinde "Yerel Kalkınma Birimi" kurulmuş (Anonim ,2023) ve bu birim aracılığıyla Çanakkale Belediyesinin Yerel Kalkınma Stratejisi şekillendirilmiştir.

Bu çalışma kapsamında; şu anda da 2025-2029 Çanakkale Belediyesi Stratejik Planında da yer alan Yerel Kalkınma hedefini, 2017 yılından bugüne kadar üreticiye destek, markalaşma ve kooperatifleşme alanlarındaki faaliyetlerini ve özellikle kadınların üretime katılımı, sosyo-ekonomik açıdan gelişimlerini destekleyici faaliyetler sonucunda çıkan sonuçları incelenecektir. Bu kapsamda bölgede bulunan yaklaşık 15 kadın kooperatifinin ortaklarıyla yapılacak anketler ile bu kooperatiflere farklı alanlarda, farklı açılardan sağlanan destekler, yapılan ziyaretleri, geliştirilen pazarlama ağları ve eğitim çalışmalarını incelenerek değerlendirmeler yapılacaktır.

Anahtar Kelimeler: Yerel Kalkınma, Belediye, Kadın Kooperatifi, Sürdürülebilir Gıda, Çanakkale.

1. GİRİŞ

Ülkelerin gelişmişlik düzeyleri incelenirken ekonomik kalkınma büyüme kavramları ön plana çıkmaktadır. Ekonomik kalkınma bir ülke nüfusunun refah düzeyinde zaman içerisinde meydana gelen iyileşmeleri kapsamaktadır. Bu iyileşmeler sadece ekonomik seviyenin yükselmesi değil insan yaşamının yoksulluk, eğitim, sağlık, demokrasi ve diğer sosyal gereksinimlerin tümünü kapsar. Bu bağlamda ekonomik kalkınma düzeyinin belirlenmesinde toplam GSMH, kişi başına GSMH, İnsani Gelişmişlik İndeksi ve Satın Alma Gücü Paritesi kullanılmaktadır. Diğer taraftan ülkelerin doğal kaynaklar bakımından zenginliği, yatırım düzeyleri, sermaye birikimleri, dış ticaret hacimleri, Ar-Ge ve teknoloji potansiyelleri, finansal gelişme durumları ve alt yapıları ekonomik kalkınmayı etkileyen temel faktörlerdir (Şaşmaz ve Yayla, 2018).

Ekonomik büyüme ise ekonomik hayatın temel verilerinde reel gelir miktarında yıllar itibariyle artışları ifade eder. Nicelik bakımında değerlendirilebilen bir göstergedir. Reel Gayri Safi Yurt İçi Hasılanın olumlu yönde değişmesinin sebeplerinden biri fiziki kaynakların ve beşeri kaynakların değişmesidir. Aynı girdi miktarıyla daha fazla üretimi gerçekleştirmek veya bilgi düzeyine bağlı üretim artışları büyümeyi pozitif yönde etkiler (Cinemre, 2008). Dolayısıyla uzun dönemde büyüme tek başına verimlilik arışına bağlı gibi görünse de verimlilikle birlikte fiziksel sermaye, beşeri sermaye ve teknoloji büyümeyi etkileyen diğer faktörlerdir (Krugman ve Wells, 2011).

Kalkınma büyüme kavramını da içine alan daha geniş bir kavram olup, kırsal kalkınma, yerel kalkınma gibi unsurları da bünyesinde barındırır. Kırsal kalkınma; kırsal alanda yaşayan ve geçimini tarım sektöründen sağlayanların insanca yaşam koşullarına kavuşturulması için gönüllü ve devlet desteği ile gerçekleştirilen kalkınma politikalarıdır. Kırsal kalkınmanın amacı 12. Kalkınma Planında kırsal kesimde üretken işgücü oluşturularak ekonominin canlandırılması, sürdürülebilir doğal kaynak yönetiminin sağlanması ve yaşam kalitesinin artırılması suretiyle nüfusun kırsalda tutundurulması şeklinde açıklanmıştır (Anonim, 2024).

Kavramsal olarak Yerel Kalkınma; Bütüncül bir yaklaşımla yerelde kır ve kent ayrımı olmadan tüm paydaş ve dinamiklerin kültürel, sosyal, ekonomik ve siyasal platformlarda sürdürülebilir kalkınma ekseninde bir araya gelmesidir. Bu bağlamda yerel aktörlerin sahip olduğu işgücü potansiyeli, bilgi, teknoloji düzeyleri, yenilikçilik potansiyelleri iş birliği isteğiyle oluşturdukları sinerji yerel ve ulusal kalkınmada çok öneli bir başarı göstergesidir (Aksakoğlu, 2007).

Bu kapsamda tüm kalkınma hamlelerinde girişimcilik faaliyetlerinin etkisi çok önemlidir. Girişimcilik faaliyetlerinin teşvik edilmesi ekonomik kalkınma ve büyümeyi pozitif yönde etkilerken işsizliği azaltıcı rol oynamaktadır. Kırsal ve yerel kalkınma boyutunda bakıldığında sürdürülebilir kalkınmayı gerçekleştirebilmek için ekonomik değer yaratan kadın girişimcilerin sayısını artırmak ve kadın girişimcileri güçlendirecek politikalar önemlidir. Bu nedenle, kadınların özellikle kırsal kesimde ekonomik öncelikleri temelinde örgütlenebilmelerini ve aktif olabilmelerini kolaylaştıracak yaklaşımların geliştirilmesine ve bu doğrultuda çabalar sergilenmesine ihtiyaç vardır (Ergin ve Sayın, 2018).

Çanakkale hem coğrafik hem de tarihi açıdan Türkiye'nin önemli şehirlerinden biri olarak, yerel kalkınma süreçlerinde farklı dinamikleri bir arada barındırmaktadır. Kentin sürdürülebilir kalkınma hedeflerine ulaşabilmesi için yerel yönetimlerin geliştirdiği planlar, sadece ekonomik büyümeyi değil, sosyal eşitlik ve toplumsal dayanışmayı da esas almaktadır. Özellikle kadınların ekonomik, sosyal ve kültürel alanda daha güçlü bir konum elde edebilmesi, bu süreçte önemli bir yer tutmaktadır. Son yıllarda, kadın kooperatiflerinin yaygınlaşması, bu alandaki en umut verici gelişmelerden biri olarak öne çıkmaktadır. Kadınların ortaklaşa çalışarak üretim yapmalarını sağlayan kooperatifler hem ekonomik bağımsızlıklarını güçlendirmekte hem de toplumsal cinsiyet eşitliği noktasında somut adımlar atılmasına olanak tanımaktadır.

Çanakkale Belediyesi, yerel kalkınma planlarında kadın kooperatiflerinin gelişimine özel bir önem vererek, bu kooperatiflerin büyümesi için çeşitli projeler ve destek mekanizmaları geliştirmektedir. Kadın kooperatiflerinin, yerel kalkınmaya katkı sağlarken, aynı zamanda kadınların toplumsal yaşamda daha görünür hale gelmesine olanak tanıdığı düşünülmektedir. Bu bağlamda, bu makale, Çanakkale Belediyesi'nin yerel kalkınma planlarında kadın kooperatiflerine yönelik uyguladığı stratejileri incelemeyi ve bu stratejilerin bölgedeki sosyal ve ekonomik gelişmelere nasıl katkı sağladığını analiz etmeyi amaçlamaktadır.

2. YEREL KALKINMA

Yerel kalkınma, bir bölgenin veya yerel yönetim biriminin ekonomik, sosyal ve kültürel gelişimini artırmak amacıyla gerçekleştirilen faaliyetler ve stratejiler bütünüdür. Bu kavram, yerel halkın yaşam kalitesini yükseltmek ve bölgesel potansiyeli en verimli şekilde kullanmak için yapılan çalışmalarla ilgilidir. Yerel kalkınma, genellikle yerel yönetimlerin, sivil toplum kuruluşlarının, özel sektörün ve halkın işbirliği içinde yürüttüğü projelerle şekillenir.

Yerel kalkınmanın temel amacı, yerel kaynakları en etkin şekilde kullanarak bölgedeki ekonomik kalkınmayı teşvik etmek, işsizliği azaltmak, gelir dağılımını iyileştirmek ve sosyal altyapıyı güçlendirmektir. Bu süreç, bölgedeki farklı paydaşların ortak hedeflere ulaşmak için birlikte çalışmasını gerektirir.

2.1. Belediyeler ve Yerel Kalkınma Kavramı

Belediyeler, yerel kalkınmanın sağlanmasında önemli bir rol üstlenir ve yalnızca temel kamu hizmetleri sağlamakla kalmaz, aynı zamanda ekonomik gelişim ve sürdürülebilir kalkınma hedeflerine ulaşmak için stratejik adımlar atar. Altyapı projeleri, çevre düzenlemeleri, yeşil alanların oluşturulması ve imar çalışmaları gibi klasik belediye hizmetlerinin yanı sıra, belediyeler ekonomik kalkınma, yerel girişimciliğin teşvik edilmesi, istihdam yaratılması ve sosyal refahın artırılması gibi çok daha geniş bir sorumluluk yelpazesiyle de ilgilenmektedir. Bu çerçevede, belediyelerin yerel kalkınma süreçlerine etkin bir şekilde katkı sağlayabilmesi için sadece fiziksel altyapıyı iyileştiren projelerle sınırlı kalmayıp, ekonomik, sosyal ve kültürel kalkınmayı destekleyecek stratejik bir yaklaşım benimsemesi gereklidir. Belediye yönetimlerinin bu çok yönlü görevleri etkin bir şekilde yerine getirmesi, yerel halkın yaşam kalitesini artırmak ve sürdürülebilir kalkınma hedeflerine ulaşmak için elzemdir.

2.2. Belediyelerin Yerel Kalkınma Stratejileri

a. Ekonomik Kalkınma ve İstihdam Yaratma: Belediyeler, bölgesel ekonomiyi canlandırmak amacıyla küçük işletmeleri destekler, yerel girişimciliği teşvik eder, yeni iş alanları yaratır ve istihdam olanaklarını artırır. Bu kapsamda, çeşitli eğitim ve iş gücü geliştirme programları da düzenlenir.

b. Altyapı ve Hizmet İyileştirmeleri: Belediye, yerel kalkınmanın temelini oluşturan altyapı projelerine büyük yatırım yapar. Ulaşım, su ve kanalizasyon sistemleri, enerji altyapısı gibi temel hizmetlerin iyileştirilmesi, yerel yaşamı doğrudan etkileyen unsurlardır. Bu, ekonomik faaliyetlerin gelişmesine de zemin hazırlar.

c. Sosyal ve Kültürel Kalkınma: Belediye, toplumun farklı kesimlerinin kalkınmasını sağlamak için eğitim, sağlık ve kültürel faaliyetlere yatırım yapar. Toplumsal cinsiyet eşitliği, gençler, kadınlar ve engelli bireyler gibi gruplara yönelik sosyal projeler düzenler. Sosyal altyapı projeleriyle de daha adil ve eşitlikçi bir toplum inşa edilmesi hedeflenir.

ç. Sürdürülebilir Kalkınma ve Çevre Duyarlılığı: Yerel yönetimler, çevreyi koruma ve sürdürülebilir kalkınma prensipleri doğrultusunda projeler geliştirir. Doğal kaynakların korunması, enerji verimliliği, yeşil alanların artırılması gibi çevre dostu uygulamalar hayata geçirilir. Bu sayede, geleceğe dönük çevresel sürdürülebilirlik sağlanmaya çalışılır.

d. Katılımcı Yönetim ve Yerel Demokrasi: Belediyeler, yerel halkın karar süreçlerine katılımını teşvik eder. Vatandaşların görüş ve önerilerinin alınması, şeffaflık ve hesap verebilirlik ilkesine dayalı olarak yönetim sağlanır. Bu, kalkınma süreçlerine halkın dahil edilmesini ve ihtiyaçlarının doğru şekilde anlaşılmasını sağlar.

e. Kadın Kooperatifleri ve Toplumsal Cinsiyet Eşitliği: Belediyeler, özellikle kadınların ekonomik ve sosyal yaşamda daha fazla söz sahibi olabilmesi için kadın kooperatiflerini destekler, girişimcilik fırsatları yaratır. Kadınların iş gücüne katılımını artırmaya yönelik projeler geliştirir.

Bu stratejiler, belediyelerin yerel kalkınma çalışmalarındaki temel unsurlar olup, her biri toplumun farklı ihtiyaçlarına yönelik uygulamalar geliştirilmesine olanak tanır. Bu sayede, sadece ekonomik kalkınma sağlanmakla kalmaz, sosyal, kültürel ve çevresel iyileşmeler de gerçekleştirilir.

3. ÇANAKKALE BELEDİYESİ YEREL KALKINMA PLANLARI VE ÇALIŞMALARI

Çanakkale Belediyesi 2020-2024 Stratejik Planı 4.Amacı olan “Kenti kırsalıyla bir bütün gören, tüm aktörlerin bir arada olduğu bir yapı ile sürdürülebilir yerel kalkınma ve gelişmeyi sağlamak.’’ (Anonim ,2020) amacı ile ve 4.1. Hedefi olan “Kent genelinde kadın ve gençlerin yerel ihtiyaçlar doğrultusunda bir araya gelerek girişimcilik ve yaratıcılık düzeyi yükseltilecek, yerel ekonomik kalkınma modeli oluşturulacaktır.” (Anonim ,2020) Hedefi ile oluşturulan Çanakkale Belediyesi Yerel Kalkınma Planı aynı zamanda ulusal ve uluslararası plan ve hedeflere göre de hareket etmektedir (Anonim ,2023) .Çanakkale Belediyesi 2020-2024 ve 2025-2029 stratejik planları 11. ve 12. Kalkınma Planları ve Ayrıca Birleşmiş Milletler Sürdürülebilir Kalkınma Amaçları ve Hedeflerini (Anonim, 2015) de dikkate almaktadır.

Çanakkale Belediyesi 2020-2024 Stratejik Planında (Anonim ,2020) Yerel Kalkınma ile ilgili yer alan 11. Kalkınma Planı ve Birleşmiş Milletler Sürdürülebilir Kalkınma Hedeflerine(Anonim, 2015) ait ifadelere aşağıda yer verilmiştir.

11. Kalkınma Planında yer alan politikalar

Toplumun tüm kesimlerine insana yaraşır iş fırsatlarının sunulması ile başta kadın ve gençler olmak üzere özel politika gerektiren grupların istihdamının artırılması temel amaçtır. Kırsal toplumun beşerî sermayesinin geliştirilmesi ve yoksulluğun azaltılması kapsamında köylerde yoksullukla mücadele çalışmaları üretim ve istihdam odaklı sürdürülecektir. Kırsaldaki üretim ve yaşam biçimlerinin sürdürülebilirliğinin sağlanmasına yönelik kırsal mirasın yaşatılması, tabiat ve kültür varlıklarının korunması sağlanacaktır (Anonim, 2019) .

Sürdürülebilir Kalkınma Hedeflerinde yer alan politikalar

Çanakkale Belediyesi Yerel Kalkınma Planı ile Birleşmiş Milletler Sürdürülebilir Kalkınma Hedefleri arasındaki ilişki maddeler itibariyle aşağıda özetlenmiştir:

1. SKH 2. Açlığın sona erdirilmesi, gıda güvenliği ve daha iyi beslenme güvencesinin sağlanması; sürdürülebilir tarımın desteklenmesi (Anonim, 2015) ,
2. SKH 5. Toplumsal cinsiyet eşitliğinin sağlanması ve tüm kadınların ve kız çocuklarının güçlenmesi (Anonim, 2015) ,
3. SKH 8. Kesintisiz, kapsayıcı ve sürdürülebilir ekonomik büyümenin, tam ve üretken istihdamın ve herkes için insana yakışır işlerin desteklenmesi (Anonim, 2015),
4. SKH 12. Sürdürülebilir tüketim ve üretim kalıplarının güvence altına alınması (Anonim, 2015).

12. Kalkınma Planında yer alan politikalar

Çanakkale Belediyesi'nin 2025-2029 Stratejik Planında (Anonim, 2025) yerel Kalkınma ile ilgili yer alan 12. Kalkınma Planı (Anonim ,2024) ve Birleşmiş Milletler Sürdürülebilir Kalkınma Amaçlarına ait ifadelere aşağıda yer verilmiş olup, yerel yönetimlerin üretim ve pazarlamaya yönelik kuracağı yapıların desteklenmesi amaçlanmıştır.

Sürdürülebilir Kalkınma Amaçlarında yer alan politikalar

1. SKA 2. Açlığı bitirmek, gıda güvenliğine ve iyi beslenmeye ulaşmak ve sürdürülebilir tarımı desteklemek (Anonim, 2015) ,
2. SKA 3. Sağlıklı ve kaliteli yaşamı her yaşta güvence altına almak (Anonim, 2015),
3. SKA 12. Sürdürülebilir üretim ve tüketim kalıplarını sağlamak (Anonim, 2015).

3.1. Üretimi Destekleme Çalışmaları

Çanakkale Belediyesi, çevre ve doğa koruma alanında önemli projelere imza atmaktadır. Bu projelerden biri olan **Tohum Sandığı Projesi**, 2017 yılında hayata geçirilmiş ve özellikle yerli tohumların korunması ve gelecek nesillere aktarılması amacını gütmektedir. Proje, binlerce yıllık tarım bilgisine sahip olan yerel çiftçilerin ata tohumlarının korunması ve bu birikimlerin gelecek kuşaklara aktarılması amacıyla tarihi bir yapıyı restore ederek oluşturulmuştur. Çanakkale'nin ilk su deposu olarak kullanılan bu bina, bugün Tohum Sandığı olarak hizmet vermekte olup, içerisinde bir sunum odası, toplantı odası ve tohumların sergilendiği bir alan barındırmaktadır.

Tohum Sandığı, bölgedeki biyolojik çeşitliliği koruyarak, yöreye uyumlu yerel tohumları kaybolmadan muhafaza etmeyi hedeflemektedir. Bahçede yerel sebze çeşitleri ve tahıllar, 1900'lü yıllardan kalma tarihi su kuyusu ile sulanmakta ve damla sulama sistemi ile verimli bir şekilde büyütülmektedir. Tohum Sandığı Projesi'nin temel amacı, yerel tohum çeşitlerinin korunması ve çoğaltılmasıdır. Çanakkale'deki 155 dekar alanda ekilen mevsimlik sebzeler ve tahıllar, iyi tarım uygulamalarıyla üretilmekte ve bu sayede sağlıklı tohumlar elde edilmektedir.

Proje, aynı zamanda eğitim çalışmalarına da büyük önem vermektedir. Tohum Sandığı'nda düzenlenen uygulamalı eğitimlerle, gençler ve çocuklar yerel tohumlar ve tarım konusunda bilgilendirilmektedir. Bu sayede, yerel üreticiler için kapasite geliştirme ve bilgi edinme fırsatları sunulmakta, örgütlü ya da örgütsüz yerel üreticiler bir çatı altında toplanarak, yerel tarım politikalarının oluşturulmasına katkı sağlanmaktadır. 2017 yılından itibaren projeye olan ilgi büyük artış göstermiş, bu süreçte çeşit sayısı yaklaşık 15'ten 150'ye çıkmıştır.

Ayrıca, Tohum Sandığı'nın organizasyonuyla yerel tohum takas şenlikleri düzenlenmiş ve bu şenliklere ülke çapında katılım sağlanmıştır. Yerel tohumların çoğaltılması ve korunması adına bu tür etkinlikler büyük önem taşımaktadır. Çanakkale Belediyesi, Karakılçık Buğdayı üretimi konusunda da önemli adımlar atmış, 2020 yılı itibariyle Karakılçık Buğdayı ekimi yapılarak hasat etkinlikleri düzenlenmiştir. Üretilen buğdaylar, yerel çiftçilere dağıtılarak yetiştiricilik süreçleri ziraat mühendisleri tarafından denetlenmiştir.

Tohum ve fide dağıtım etkinlikleri de 2020 yılında başlamış olup, 2024 yılı itibariyle 25 bin paket tohum ve 50 bin fide dağıtılmıştır. Ayrıca, Hatay'ın Samandağ ilçesinde depremden etkilenen çiftçilere tohum ve fide desteği sağlanmış, bölgedeki 150 haneye bu yardımlar ulaştırılmıştır. 2023 yılında başlatılan Ücretsiz Domates Fidesi Dağıtımı projesi ise, Çanakkale'nin köylerinde yürütülen saha çalışmalarıyla geniş bir üretici kitlesine ulaşmıştır.

Bunlara ek olarak, 2024 yılında gerçekleştirilen "Temel Petek Desteği" projesi, orman yangınları sonrası zarar gören arıcılara yönelik bir yardım süreci olarak hayata geçirilmiştir. Bu proje kapsamında, 81 arıcıya destek sağlanmış ve yerel arıcılık faaliyetlerinin devamlılığına katkı sunulmuştur. Ayrıca, 2024 Eylül ayında orman yangınlarından etkilenen üreticilere atalık buğday ve yemlik arpa dağıtımı yapılmıştır. Bu projeler, Çanakkale Belediyesi'nin yerel kalkınmayı desteklemek için sürdürdüğü çok yönlü faaliyetlerin örneklerindendir.

3.2. Kooperatiflere Destek Çalışmaları

Çanakkale Belediyesi Yerel Kalkınma Birimi, şehirdeki üretim ve pazarlama, kadın girişimi ve tarımsal kalkınma kooperatiflerine, çeşitli konularda destek sunarak yerel kalkınmayı teşvik etmektedir. Bu destekler arasında markalaşma çalışmaları, proje geliştirme, pazar alanı oluşturma ve çeşitli eğitim faaliyetleri yer almaktadır. 2020 yılının Şubat ayında, S.S. Çanakkale Üretim ve Pazarlama Kooperatifi'nin kuruluş sürecine teknik destek verilmiş, kooperatifin faaliyetlerini daha etkin bir şekilde sürdürebilmesi için gereken adımlar atılmıştır.

Kooperatif, 2020 yılı Temmuz ayında, Çanakkale Belediyesine ait Halk Bahçesi içerisinde, ülke çapında üretici ve kooperatiflerin ürünlerini satışa sundukları "Halkın Bakkalı**"** adlı projesini hayata geçirmiştir. Bu proje, üreticilerin ürünlerini doğrudan tüketicilere sunabilmesini sağlarken, 2021 Eylül ayında Halkın Bakkalı'nın ikinci şubesinin Esenler Mahallesi'nde açılması ile daha geniş bir kitleye ulaşmayı hedeflemiştir.

S.S. Çanakkale Üretim ve Pazarlama Kooperatifi, Halkın Bakkalı'nda satışa sunduğu ürünleri, ÇAKOOP markası adı altında tescil ettirmiştir. Bu markayla; tarımsal ürünler, ekmek ve diğer temel gıda ürünlerini, kooperatifin üreticilerinden temin edilerek doğrudan vatandaşlara sunulmaktadır. Bu süreç, yerel üreticilerin ürünlerinin daha geniş pazarlara açılmasını sağlayarak, tüketicilerin güvenilir ve yerel gıda ürünlerine ulaşmasına olanak tanımaktadır.

Ayrıca, kooperatifin gerçekleştirdiği önemli bir işbirliği de İstanbul Büyükşehir Belediyesi ile yapılan protokolle gerçekleştirilmiştir. Çanakkale Belediyesi aracılığıyla, S.S. Çanakkale Üretim ve Pazarlama Kooperatifi, üreticilerden temin ettiği 20 bin paket fasulye ve 20 bin paket pirinç ürününü İstanbul Büyükşehir Belediyesi'ne tedarik etmiştir. Bu çalışma, yerel ürünlerin aracısız olarak son tüketiciye ulaşmasını sağlarken, bölgedeki üreticilerin ekonomik olarak desteklenmesine de katkı sağlamıştır. Aynı zamanda, bu süreç sayesinde tüm ekonomik kaynağın yerel ekonomiye geri kazandırılması ve bölge kalkınmasına önemli bir katkı sağlanmıştır.

2022 yılı Nisan ayında gerçekleştirilen kooperatifin genel kurulunda, Yerel Kalkınma Birimi tarafından hazırlanan "Durum Analizi ve Pazarlama Planı" sunulmuştur. Bu plan, güncel pazarlama trendleri ve sektörel gelişmeleri içererek, kooperatif ortaklarına yol gösterici bir rehber olmuştur. Bu tür çalışmalara, il genelindeki diğer kooperatifler için de devam edilerek, yerel girişimlerin desteklenmesine katkı sağlanmaktadır.

Aynı dönemde, Yerel Kalkınma Birimi koordinasyonuyla, "Halkın Ekmeği" ve "Askıda Ekmek" projeleri de Halkın Bakkalı şubelerinde hayata geçirilmiştir. Bu projeler, toplumda dayanışma ve yardımlaşma kültürünü güçlendirirken, daha düşük gelirli vatandaşların ekmeğe erişimini sağlamayı amaçlamaktadır. Projeyle ilgili tanıtım, tasarım ve duyuru çalışmaları, Yerel Kalkınma Birimi koordinasyonunda yürütülmüş ve büyük bir ilgiyle karşılanmıştır.

3.3. Aromatik ve Tıbbi Bitkiler Projesi

Çanakkale'nin merkez ilçesi Esenler Mahallesi'nde, 13.982 m² alan üzerinde inşa edilen Aromatik ve Tıbbi Bitkiler Parkı, Haziran 2021'de hizmete sunulmuştur. Bu park, başta aromatik ve tıbbi bitkiler olmak üzere çeşitli bitki türlerinin yetiştirilmesi amacıyla bir anaçlık üretim alanı olarak tasarlanmıştır. Ayrıca, alanda 45 farklı bitki türünün yetiştirilmesi planlanmış olup, bu türler bölgedeki biyolojik çeşitliliği artırmayı ve tıbbi bitki üretim kapasitesini geliştirmeyi hedeflemektedir.

Aromatik ve tıbbi bitkiler üretim sahasının kurulmasında planlanan amaçların başında bu bitkilerin araştırılması, üretimi ve tanıtımı bulunmaktadır. Genellikle doğadan bilinçsizce yapılan toplamalar bitki türlerinde ciddi anlamda kayıplar yaşanmasına sebep olmaktadır. Bu durumu en aza indirgeyebilmek adına toplumun bilinçlendirilmesi ve tehlike altında bulunan türlerin kültüre alınıp çoğaltılması hedeflenmektedir.

Üretimi yapılan bitkilerin kurutularak, distile ederek, çeşitli yollarla işlenerek ve bu bitkilerin sürekliliği sağlanarak halka arzı planlanmaktadır. Aromatik ve tıbbi bitki yetiştiriciliğine teşvikte bulunmak ve üretim yapmayı planlayan çiftçiye ve üreticiye destek olarak kırsal kalkınmanın da temeli hedeflenmektedir. Bu kapsamda Bayramiç ilçesinde 12 farklı köyde 28 üretici ile aromatik ve tıbbi bitki fideleri paylaşılmıştır.

Aynı zamanda belediye internet sitesinde Aromatik ve Tıbbi Bitkiler Kitapçığı yayınlanmıştır.

2022 yılı Haziran ayı Belediye Meclis Kararı ve 12 Ağustos 2022 tarihinde düzenlenen tören ile TEMA Vakfı Kurucusu Hayrettin Karaca'nın ismi Aromatik ve Tıbbi Bitkiler Parkı'na verilmiştir.

3.4. Harmanlık Üretici ve Kooperatifler Pazarı

Çanakkale Belediyesi Yerel Kalkınma projeleri kapsamında 4 Eylül 2021 tarihinde hizmete başlayan, Barbaros Mahallesinde bulunan pazar faaliyete devam etmektedir.

Bu çalışma ile Barbaros Mahallesine hem yeni bir pazar alanı kazandırılmış hem de Çanakkale Merkez başta olmak üzere diğer ilçelerdeki üretici ve kooperatiflerin ürünleri aracısız bir şekilde kentlilerimiz ile buluşturulmaya başlanmıştır.

Çanakkale İl genelindeki tüm kooperatiflere ve mevcutta Harmanlık Üretici ve Kooperatifler Pazarındaki üreticilere duyurular yapılmıştır. Tüm sosyal medya duyuru kanalları, afiş, billboard, raket vb. gibi görseller hazırlanarak pazarın duyuru ve tanıtımı yapılmıştır.

3.5. Çanakkale Yöresel Ürünleri Coğrafi İşaret Ve Markalaşma Projesi

Çanakkale ilinde, zengin tarımsal ve kültürel mirası yansıtan 15 adet Coğrafi İşaret bulunmaktadır. Bu işaretler, Çanakkale'nin yöresel ürünlerinin kalitesini ve özgünlüğünü korumak amacıyla tescillenmiştir. Bu coğrafi işaretli ürünler arasında Çanakkale El Halısı, Ezine Peyniri, Bayramiç Beyazı, Bayramiç Elması, Bozcaada Çavuş Üzümü, Yenice Kırmızı Biberi, Geyikli Zeytinyağı, Bayramiç Tahin Helvası, Bayramiç Zeytinyağı, Lapseki Şeftalisi, Çanakkale Domatesi, Biga Işıkeli Nohut Kahvesi, Biga Peynir Tatlısı, Biga Pirinci, ve Gelibolu Peynir Helvası yer almaktadır. Bunlardan özellikle Bayramiç Beyazı ve Ezine Peyniri, Avrupa Coğrafi İşareti'ni alarak uluslararası alanda tescillenmiştir.

Çanakkale El Halısı, 2019 yılında Çanakkale Belediyesine devredilerek, belediye destekleriyle kooperatifler aracılığıyla üretimi ve pazarlaması yapılmaya başlanmıştır. Bu projeyle, Çanakkale'ye ait coğrafi işaretli ürünlerin üretimi ve satış noktalarında yoğun şekilde kullanılarak, bu ürünler tüm Türkiye'ye pazarlanmaktadır.

2023 yılı Mayıs ayında, Çanakkale'nin marka değeri taşıyan Sakız Baklası ve Eceabat Sarı Susamı için coğrafi işaret başvuruları başarıyla tamamlanmış ve bu ürünlerin tanıtımı için 3 Mayıs 2023 tarihinde geniş katılımlı bir toplantı düzenlenmiştir. Bu toplantıya, Çanakkale Ticaret Borsası, Çanakkale Ziraat Mühendisleri Odası, Akademisyenler, Ziraat Odaları, Muhtarlar, Çiftçiler, Tüccarlar, İşletmeciler ve Üreticiler katılmıştır. Bu toplantı, ürünlerin tanıtımının yanı sıra, coğrafi işaret tescilinin bölgedeki üreticiler ve paydaşlar için ne denli önemli olduğunu vurgulamıştır.

2023 yılı Haziran ayında, Yerel Kalkınma Birimi ve Çanakkale Kent Müzesi ve Arşivi ortaklığında düzenlenen Kentte Coğrafi İşaretli Ürünler Sergisi, 7 Haziran 2023 tarihinde ziyaretçilerine açılmıştır. Bu sergi, Çanakkale'nin ve bölgenin değerlerini daha da ön plana çıkararak coğrafi işaretlerin bölgeye kattığı değeri vurgulamıştır. Sergiye, Çanakkale El Halısına özel bir alan ayrılmış ve Ayvacık Süleymanköy'den gelen halı üreticisi kadınlar, ürünleri hakkında ziyaretçilere bilgi vermiştir. Sergi, Ağustos ayı başına kadar devam etmiştir. Ayrıca, 14 Haziran'da Prof. Dr. Kenan Kaynaş tarafından "Çanakkale'nin Coğrafi İşaretli Ürünleri" konulu bir söyleşi düzenlenmiştir.

2023 yılının Ağustos ayında, Cuma Pazarı'nda, coğrafi işaretli ürünlere yönelik etiket dağıtımı etkinliği düzenlenmiştir. Bu etkinlik, ürünlerin tanıtımına katkı sağlamış ve halkın bu ürünlere olan ilgisini artırmıştır.

Çanakkale Belediyesi, 2022 yılının sonunda başladığı çalışmalarla Çanakkale Sakız Baklası ve Eceabat Susamı için coğrafi işaretleme süreçlerini başlatmıştır. Bu iki ürünün 2024 yılı Mayıs ayında Coğrafi İşaret tescil işlemlerinin tamamlanması beklenmektedir. Bu ürünlerin üretim miktarını artırmayı, marka değerini yükseltmeyi ve yeni pazar alanları oluşturmayı amaçlayan çalışmalar hızla devam etmektedir. Bu süreçte, coğrafi işaretli ürünlerin korunması ve üretim standartlarının geliştirilmesi için stratejik adımlar atılmaktadır.

3.6. Ücretsiz Toprak Ve Zeytinyağı Analizi Projesi

Müsilaj Eylem Planı çerçevesinde, Çanakkale kent merkezinde yaşayan vatandaşların temiz tarım ürünlerine erişimini desteklemek ve üreticilerin tarımsal üretim öncesinde doğru gübre kullanımı konusunda teşvik sağlamak amacıyla başlatılan Ücretsiz Toprak Analizi Projesi, üreticilerin gübre maliyetlerini düşürerek verimliliklerini artırmayı hedeflemektedir. Bu proje, 2022 yılı Mayıs ayında hayata geçirilmiştir.

Aynı zamanda Toprak Analizi başvurusu yapan üreticilerin bilgileri alınarak ilimize ait kırsal alan veri tabanı oluşturulmasına yönelik çalışmalar başlatılmıştır. Toprak Analiz Projesi kapsamında Çanakkale Ziraat Odası, Çanakkale Muhtarlar Derneği, Kepez Belediyesi ile Çanakkale Merkez'de bulunan 48 köy ziyaret edilmiş ve Merkez İlçe köy muhtarlarına, Merkez İlçede yer alan kooperatiflere, Harmanlık Üretici ve Kooperatifler

Pazarındaki üreticilere duyurular yapılmıştır. Tüm sosyal medya duyuru kanalları, afiş, pazar yerlerine branda, billboard, raket vb. gibi görseller hazırlanarak projenin duyuru ve tanıtımı yapılmıştır.

2023 yılı Mayıs ayında Çanakkale Belediyesi öncülüğünde imzalanan, Bayramiç Belediyesi, Balya Belediyesi, Yenice Belediyesi ve Çanakkale Ziraat Odası'nın proje ortağı olduğu "Üretimi Uçuruyoruz" Projesi kapsamında Dijital Toprak Analiz Cihazı alınmıştır.

2024 yılı itibari ile de projeye ortak olan ilçeler ve kent merkezimizde Ücretsiz Dijital Toprak Analizi hizmeti başlamıştır. Hizmet kapsamında Yerel Kalkınma ve Tohum Sandığı birimlerine toprağı ile başvuran üreticilerimize yaklaşık 5 dakika içerisinde ''Ph Değeri, Organik Madde, Fosfor, Toplam Azot, Alınabilir Potasyum, Alınabilir Kalsiyum, Alınabilir Magnezyum, Organik Karbon, Potansiyel Mineralize Azot, Katyon Değişim Kapasitesi, Total Alüminyum, Total Demir, Kil ve Toprak Nemi ile ilgili analiz sonucu verilmektedir.

2023 hasat sezonu sonrasında Ücretsiz Zeytinyağı Analizi Projesi başlatılmıştır. Ücretsiz Zeytinyağı Analizi Hizmeti kapsamında; Yağ Asitliği, Toplam Fenolik Bileşenler ve Peroksit Sayısı ölçülmektedir. Hizmet şu anda da devam etmektedir.

3.7 Eğitim ve Tanıtım Çalışmaları

Çanakkale Belediyesi Yerel Kalkınma Planı çerçevesinde özellikle kırsal kesimdeki eğitim ve farkındalık düzeyini artırma amaçlı faaliyetleri aşağıda sıralanmıştır.

1. Çanakkale Merkez İlçesi köylerinde bulunan üreticilerin sorunları dinlenerek hazırlanan "Üretici Sorunları" videosu yayınlanmıştır.
2. Yerel Kalkınma Birimi, 7-10 Eylül 2022 tarihleri arasında 5. Çanakkale Tarım Fuarına katılım sağlamış ve projeler tanıtılmıştır.
3. Kepez Kent Konseyi tarafından düzenlenen Girişimci Kadınlar ve Kadın Kooperatifleri Paneline katılım sağlanarak panelde Yerel Kalkınma çalışmaları anlatılmıştır.
4. Balıkesir Büyükşehir Belediyesi Çiftçi Eğitim Merkezinde (BAÇEM) gerçekleşen Tıbbi ve Aromatik Bitkiler Yetiştiriciliği Kursuna Yerel Kalkınma Birimi personeli katılım sağlamıştır.
5. Yerel Kalkınma Birimi koordinasyonu ve desteğinde bulunduğu 2023 Eylül ayında 15. Ulusal Tarım Ekonomisi Kongresi'ne Yerel Kalkınma Birimi katılım sağlamıştır.
6. Bayramiç ve Çan ilçelerinde 2023 Eylül ayında gerçekleşen tarım ve hayvancılık konulu fuarlara katılım sağlanarak projeler tanıtılmıştır.
7. Yerel Kalkınma Birimi, 2023 Kasım ayında Yurttaşlık Derneğinin koordinasyonunda gerçekleşen ''Kazdağları ve Edremit Körfezinde Pestisit Ambalajı ve Plastik Atık Sorununun Katılımcılık Esaslı Yönetimi için Kalıcı İşbirliklerine Doğru'' programına katılarak, başta Doğal Kaynakların Korunmasında Belediyelerin Sorumlulukları olmak üzere Yerel Kalkınma çalışmaları ile ilgili bilgiler verilmiştir.
8. "Agrohomeopati Eğitimi" 2023 Kasım ayında gerçekleştirilmiştir. Bitki hastalıklarının tedavisi ve bitki zararlılarıyla mücadelenin homeopati prensiplerine uygun ve homeopatik olarak hazırlanmış ilaçlarla yapılmasına dayalı temiz tarım uygulamalarına dayanan eğitim düzenlenmiştir.

3.8. Diğer Çalışmalar

1. Marmara Belediyeler Birliği tarafından 2022 ve 2024 yıllarında, birliğe üye belediyelerin iyi uygulamalarının ödüllendirilmesi amacı ile düzenlenen Altın Karınca'da Çanakkale Belediyesi Yerel Kalkınma Birimi tarafından hayata geçirilen projeler ödüle layık görülmüştür.
2. Merkez Mareşal Fevzi Çakmak, Işıklar, Kurşunlu, Kemel, Kızılkeçili, Musaköy ve Yapıldak köyleri 2023 Temmuz ayı orman yangını sonrası ziyaret edilmiş ve sorun tespitinde bulunulmuştur.
3. Ulupınar, Kayadere, Yağcılar, Mareşal Fevzi Çakmak ve Belen köylerindeki 2023 Ağustos ayı orman yangını sonrasında mağdur çiftçilere Yerel Kalkınma Birimi koordinasyonunda saman, hayvan yemi, arpa vb. destekler iletilmiştir.
4. Güney Marmara Kalkınma Ajansı tarafından 2023 Ekim ayında açılan "Kırsal Ekonominin Geliştirilmesi Mali Destek Programı" doğrultusunda daha önce sözleşmesi imzalanmış olan "Üretimi Uçuruyoruz" adlı

projenin uygulama aşaması kapsamında 300 kişinin başvuruda bulunduğu ‘’Web Tabanlı Çiftçi Akademisi ‘’ eğitim programı başlamıştır.

5. Çevre, Şehircilik ve İklim Değişikliği Müdürlüğü ve Çanakkale Onsekiz Mart Üniversitesi tarafından 2023 Kasım ayında düzenlenen, "Depremle Yaşamak, Riskleri Azaltmak, Farkındalığı Arttırmak: Çanakkale Örneği" konulu çalıştaya ‘’Kırsal Dönüşüm Odak Grubu’’ kapsamında Yerel Kalkınma Birimi katılım sağlamıştır.
6. Yerel Kalkınma Birimi tarafından 2024 Şubat ayında “Çanakkale Mutfak Kültürü” başlıklı bir söyleşi gerçekleştirmiştir.

4. KADIN KOOPERATİFLERİ KAVRAMI

4.1. Kadın Kooperatifleri

Yüzyıllardır, kadınlar üretimin her aşamasında emek harcayarak üretime destek vermelerine rağmen, sosyo-ekonomik kalkınmadan payına düşeni alamamış, hatta dünyada yoksulluktan en fazla etkilenen kesimi oluşturmuştur (Kocacık ve Gökkaya, 2005: 196). Nüfusunun yarısı kadın olan ülkemizde de benzer şekilde kadınlar kalkınmanın getirilerinden yeterince faydalanamamışlardır. Bu nedenle, kadınların işgücüne daha fazla katılımını sağlamak hem Türkiye’nin daha hızlı kalkınmasını hem de kadınların sosyo-ekonomik durumlarında iyileşmeyi beraberinde getireceği için önem arz etmektedir.

Ancak mevcut veriler, Türkiye’de kadınların yasa önünde eşitlik sağlanmış olsa da, pratikte hâlâ çeşitli ayrımcılıklarla karşılaştıklarını göstermektedir. Türkiye’de kadınların çalışma hayatına katılımı, ilk kez 1950’li yıllarda başlamış ve zamanla toplumdaki değişim ve gelişimlerle birlikte kadınlar, eğitim almayı, bilinçlenmeyi ve çeşitli sektörlerde çalışma talepleri ortaya koymayı sürdürmüşlerdir. Ancak, toplumsal yapıya derinlemesine yerleşmiş geleneksel kültürel değerler, kadınların ev dışında çalışmasını sınırlandırmıştır. "Kadının yeri evidir" anlayışı, kadını yalnızca ev içindeki rollerine hapsederken, dışarıda çalışmaya başlayan kadınların ise ev içi sorumlulukları ile iş yaşamındaki görevleri arasında sıkışıp kalmalarına neden olmuştur. Kadının iş hayatına atılmasının ardından karşılaştığı zorluklar bununla da sınırlı kalmamaktadır; kadınlar, taciz, şiddet ve ayrımcılığa maruz kalmaya devam etmektedir (Kocacık ve Gökkaya, 2005: 196).

Kadınların formel sektörde iş bulma ve bu işe devam etme konusunda yaşadıkları zorluklar, girişimcilik gibi alternatif istihdam biçimlerine olan ilgilerini artırmaktadır. Kendi işini kurmak ve girişimci olmak, kadınların iş gücü piyasasına aktif katılımlarını sağlamak ve iş yaşamındaki zorlukları aşmak adına olumlu bir gelişme olarak öne çıkmaktadır. Kadınların iş yaşamında girişimci olarak yer alması, onların daha bağımsız hissetmelerine, özgürce hareket edebilmelerine, insanlar arası ilişkilerini güçlendirerek sosyal alanda daha görünür olmalarına olanak tanımaktadır (Ecevit, 1993: 18). Literatürde kadınları girişimcilik yoluna iten nedenler, genellikle "itme" ve "çekme" faktörleri olarak sınıflandırılmaktadır. Kadınları iş kurmaya "iten" faktörler arasında, genel işsizlik, kadınlara uygun olmayan çalışma koşulları ve cinsiyet ayrımcılığı gibi nedenler sayılabilirken, kendi işinin patronu olarak bağımsızlık kazanmak ve kendini gerçekleştirmek ise "çekme" faktörleri arasında yer almaktadır (Yetim, 2012).

Dünya bankasının bir raporunda cinsiyet ayrımcılığının olduğu ülkelerde yoksulluğun daha derin, ekonomik büyümenin daha yavaş olduğunun belirtilmesi bu durumu açıkça ifade etmektedir (Dünya Bankası, 2012). Kadın istihdamı ve kadın girişimciliğinin geliştirilmesi sosyo-ekonomik kalkınma açısından da önemlidir. Yapılan çeşitli anket çalışmaları kadınların gelirlerinin çoğunu aileleri için harcadığını göstermektedir. Yani kadınların geliri arttıkça bu geliri kişisel tüketimden ziyade ailenin geçimine harcadığı söylenebilir. Dolayısıyla kadınların geliri arttıkça tüm ailenin refahı düzeyi artmaktadır (Baltacı, 2011: 62). Bu bağlamda düşünüldüğünde çalışan kadın sayısının artması genç kuşakların daha iyi koşullarda eğitim almaları ve daha sağlıklı yetişmeleri konusunda olumlu katkılar sağlayacaktır (İnciroğlu, 2012).

4.2. Türkiye’de Kadın Kooperatifleri

Türkiye’de kadın kooperatifleri, özellikle son yıllarda önemli bir gelişim göstermiştir. Kadınların ekonomik bağımsızlıklarını kazanmalarına, iş gücüne katılmalarına ve kendi girişimciliklerini geliştirmelerine olanak tanıyan bu kooperatifler, aynı zamanda yerel kalkınmaya da katkı sağlamaktadır. Kadın kooperatiflerinin sayısı, son yıllarda hızla artmakta olup, özellikle kırsal bölgelerde, kadınların üretim süreçlerine katılımını artırmak amacıyla çeşitli alanlarda faaliyet gösterilmektedir.

Türkiye'deki kadın kooperatiflerinin temel özellikleri şunlardır:

a. Kadınların Üretime Katılımı: Kadın kooperatifleri, kırsal alandaki kadınların tarım, el sanatları, gıda üretimi gibi alanlarda kolektif şekilde üretim yapmalarını sağlamaktadır. Bu sayede kadınlar, ailelerinin geçimlerine katkı sağlamakta ve ekonomik olarak daha bağımsız hale gelmektedirler.

b. Eğitim ve Kapasite Geliştirme: Kadın kooperatifleri, kadınların hem teknik bilgi hem de işletme becerilerini geliştirmelerine yönelik çeşitli eğitimler düzenler. Bu eğitimler, üretimden pazarlamaya kadar geniş bir yelpazede kadınların yetkinliklerini artırmayı amaçlamaktadır.

c. Pazar Erişimi: Kadın kooperatifleri, kadın üreticilerin ürünlerini pazarlama konusunda önemli bir platform sağlar. Kadınların ürettikleri yerel ürünler, kooperatifler aracılığıyla daha geniş pazarlara ulaştırılmaktadır. Ayrıca, kooperatifler sayesinde kadınlar, toptancı ve aracılar olmadan doğrudan tüketiciye ürünlerini sunabilirler.

ç. Sosyal ve Kültürel Değişim**:** Kadın kooperatifleri, toplumsal cinsiyet eşitsizliğini azaltmayı hedefler. Kadınlar, kooperatiflerde çalışma fırsatı buldukça, toplumsal saygınlıklarını artırır ve daha özgür bir şekilde toplumda söz sahibi olabilirler. Kooperatiflerin kadınların bir arada çalıştığı, sosyal olarak güçlü bir dayanışma ağı oluşturdukları yerler olmaları da bu değişimi pekiştirir.

d. Yerel Kalkınma: Kadın kooperatifleri, aynı zamanda yerel kalkınmayı destekleyici bir rol oynamaktadır. Kadınların üretime katılmaları, özellikle kırsal alanlarda ekonominin güçlenmesine ve işsizlik oranlarının düşmesine yardımcı olmaktadır.

Türkiye'de kadın kooperatifleri genellikle kırsal kesimlerde kurulmuş olup, birçok farklı sektörde faaliyet göstermektedir. Kadın Emeği Derneği, Kadın Kooperatifleri Birliği, Kadın Kooperatifleri ve Kooperatifçilik Araştırma Derneği gibi kuruluşlar, kadın kooperatiflerinin güçlenmesine ve yaygınlaşmasına katkı sağlamaktadır.

Kadın kooperatiflerinin en yaygın olduğu alanlar arasında:

a. Tarım ve Hayvancılık: Kadınlar, kooperatifler aracılığıyla organik tarım, sebze ve meyve üretimi, süt ve süt ürünleri üretimi gibi faaliyetlerde bulunabilmektedirler.

b. El Sanatları ve Geleneksel Ürünler: Türkiye'nin farklı bölgelerinde, kadın kooperatifleri geleneksel el sanatları (halı dokuma, iğne oyası, tekstil ürünleri yapımı) alanında üretim yaparak, bu kültürel mirası yaşatmakta ve gelir elde etmektedirler.

c. Gıda Üretimi ve İşleme: Kadınlar, kendi ürettikleri yerel gıda ürünlerini kooperatifler aracılığıyla pazarlamaktadırlar. Örneğin, reçel, zeytinyağı, şarap üretimi, organik gıda üretimi gibi.

Ancak, Türkiye'deki kadın kooperatiflerinin karşılaştığı bazı zorluklar da bulunmaktadır. Bunlar arasında finansman yetersizliği, pazar erişimi güçlükleri, eğitim eksiklikleri ve toplumsal cinsiyet eşitsizliği gibi sorunlar yer almaktadır. Buna rağmen, kadın kooperatiflerinin artan bir şekilde desteklendiği ve kooperatiflerin başarılı örneklerinin çoğaldığı söylenebilir.

4.3. Çanakkale Belediyesinin Kadın Kooperatifleri ile İlgili Yaptığı Faaliyetler

Çanakkale ilinde 15 adet Kadın Kooperatifi bulunmaktadır. Bu kooperatiflerden aktif olarak üretim ve pazarlama çalışması yapanları ile Çanakkale Belediyesi 2020 yılından itibaren ortaklaşa çalışmalarını sürdürmüştür. Bu kapsamda, S.S. Çanakkale Troida Kadın Girişimi Üretim ve İşletme Kooperatifi'nin kuruluş çalışmalarına teknik destek vermiştir.

Çanakkale Beldiyesi Yerel Kalkınma Birimi; Biga, Lapseki ve Gelibolu ilçelerinde yer alan, S.S. Gelibolu Öncü Kadın Girişimi Üretim ve İşletme Kooperatifi, S.S. Biga Kadın Çevre Kültür ve İşletme Kooperatifi ve S.S. Güneşin Kadınları Kadın Girişimi Üretim ve İşletme Kooperatifi'ni ziyaret ederek iş birliği ile ilgili görüşmeler yapılmıştır. Çanakkale Belediyesi tarafından yürütülen yerel kalkınma faaliyetleri, ziyaret edilen kooperatif yetkilileri ile paylaşılmıştır. Markalaşma, e- ticaret ve kooperatiflerin kurumsallaşması ile bilgi alışverişinin gerçekleştirildiği ziyaretlerde ayrıca kooperatiflerin üretim tesisleri ve satış noktaları gezilerek incelemelerde bulunulmuştur.

İstanbul Büyükşehir Belediyesi Mahalli İdareler Koordinasyon Merkezi, Yerel Yönetimler Akademisi ve Enstitü İstanbul İSMEK iş birliğinde Yerel Yönetimleri Destekleme ve Geliştirme Programları kapsamında "Kooperatifçilik Eğitimi" ne katılım sağlanmış ve eğitimin tanıtım ve duyurusu kooperatiflere yapılmıştır.

İstanbul Büyükşehir Belediyesi tarafından kurulan www.halkmarket.istanbul e-ticaret platformuna katılımları için Çanakkale genelinde bulunan tüm aktif kooperatifler ile iletişime geçilerek yeni bir satış ağı olan platformu

duyuru çalışmaları yapılmıştır. Duyuru çalışmaları neticesinde İlimizdeki kooperatiflerin satış ağına katılımları sağlanmasında aracı olunmuştur.

15 Ekim Dünya Kadın Çiftçiler Günü kapsamında 2022 ve 2023 yıllarında Tekirdağ Büyükşehir Belediyesi tarafından düzenlenen etkinliğe kadın kooperatiflerinin katılımı için lojistik ve organizasyon desteği sağlanmıştır.

Saha çalışmaları kapsamında; Ayvacık Belediyesi, S.S. Ümmühan Hatun Kadın Girişimi ve İşletme Kooperatifi ve S.S. Ayvacık Şapköy Kadın Girişimi Üretim ve İşletme Kooperatifi ziyaret edilerek, çalışmaları hakkında bilgiler alınmıştır. Ziyaretlerde, Yerel Kalkınma Biriminin de faaliyetleri anlatılarak, ortak projeler geliştirilmesi konusunda görüşmeler yapılmıştır.

2023 Mayıs ayında Çanakkale Belediyesi öncülüğünde imzalanan, Bayramiç Belediyesi, Balya Belediyesi, Yenice Belediyesi ve Çanakkale Ziraat Odası'nın proje ortağı olduğu "Üretimi Uçuruyoruz" Projesi kapsamında bahsi geçen ilçelerde yaşayan kadın kooperatifi ortaklarına web tabanlı olarak Pazarlama ve Bütünleşik Pazarlama İletişimi Markalaşma ve Marka Yönetimi Dijital Pazarlama Girişimcilik E-Ticaret eğitimleri verilmiştir.

Yerel Tohum Takas Şenliği'ne ilimizde bulunan tüm aktif kooperatifler ve ziraat odaları, Yerel Kalkınma Birimi koordinasyonunda davet edilerek katılımları sağlanmıştır.

4. SONUÇ

Çanakkale Belediyesi 2020 yılından itibaren Yerel ve Kırsal Kalkınma alanlarında birçok projeye imza atmıştır. Üretimi destekleyerek piyasada arzı arttırmayı amaçlamış ve bu kapsamda birçok farklı alanda tahıldan, temel peteğe kadar ücretsiz olarak desteklemelerde bulunmuş, markalaşma çalışmaları yaparak hem kendi bünyesine çeşitli yöresel ürünler için coğrafi işaret başvurusu yaparak coğrafi işarete verdiği önemi göstermiş hem de mevcuttaki coğrafi işaretli ürünlerin tanıtımlarını yaparak o ürünlerin pazarlanması ve tanınırlığının artması için çalışmalarda bulunmuştur. Aynı zamanda kooperatifleri destekleme modelinde ise, sadece kooperatiflerin kurulmasına destek olmamış kurulduktan sonra da çeşitli konularda karşılıksız desteklerde bulunmuş ve diğer kooperatiflere de markalaşma, pazarlama, tanıtım ve eğitim konularında desteklerde bulunmuştur.

Çanakkale Belediyesi bu projeleri hayata geçirmeden önce gerekli strateji ve planlarını ortaya koymuştur. Bölgenin çok zengin ürün deseni, farklı iklim koşulları, üretim potansiyeli ve giderek artan göçün etkisi de bu çalışmalara katkı sağlamıştır.

Çanakkale Belediyesi 5393 sayılı Belediye Kanunu'nda yer alan görev ve sorumluluklarına dayanmak dışında; kentlilerin sağlıklı gıdaya erişim, ekonomik açıdan yerel kalkınma, yöresel ürünlerin tanınırlığının arttırılması ve müsilaj gibi nedenlerden dolayı da kırsal ile bağlantılı hizmetlerde bulunmuştur. Bu çalışmaların önemli bir ayağını da "Kadın Kooperatifleri" kapsamaktadır. Kadın kooperatiflerine; hammadde, lojistik, eğitim, pazarlama vb. alanlarda birçok destekte bulunmuştur.

Bu kapsamda yapılan çalışmaların sürdürülebilir olmasının gerekliliğini vurgulamak isteriz. Çünkü ülkemizde kırsal alan ile ilgili yapılan tüm çalışmaların dönemlik ya da ihtiyaca göre şekillendiğini görmekteyiz. Ancak sağlıklı gıdaya erişim politikası tek başına değerlendirilmemelidir. Çanakkale Belediyesinin kadın kooperatiflerini desteklemesinin aslında kırsal turizm, istihdama destek, halkın sağlıklı gıdaya erişimi gibi konuları içerdiğini görmekteyiz. Başta kooperatiflerin yaptığı üretimi desteklemek olmak üzere Çanakkale Belediyesi'nin ortaya koymuş olduğu "Yerel Kalkınma Modeli" Büyükşehir olmayan birçok İl Belediyesine örnek teşkil edecek çalışmalardır.

Günümüzde ülkemizde neredeyse her köy ve kırsal mahallede kurulmuş olan "Tarımsal Kalkınma Kooperatifleri" nin ekonomik ve işlevsellik açısından çok büyük zorluklar çektiğini söylememiz kaçınılmazdır. Bu kooperatiflerde zamanında bir heves ve çeşitli destekleme modelleri sayesinde kurulmuştur. Sonrasında bu kuruluş sebepleri ya demode oldu ya da destekleme modelleri değiştiği için çoğu kooperatif işlevsiz kaldı. Aynı zamanda 1163 Sayılı Kooperatifler Kanunu'nda yer alan yükümlülükle, zaten bir köyde zor şartlarda geçinen ve bu konularda gerekli bilgilendirme çalışmalarına katılımdan çok uzakta olan çiftçilerimizi çok zorladı. Bu nedenle zamanla ülkemizdeki çoğu tarımsal kalkınma kooperatifi şu an sadece bir tabeladan ibarettir.

Kooperatifçilik anlayışını ülkemizde bu açıdan değerlendirecek olursak, "Kadın Kooperatifleri" ülkemiz için bir şanstır. Çünkü, geçmişteki kötü deneyimlerimiz önümüzde ışık tutabilir. Bu nedenle tarımsal kalkınma kooperatifleri sürecinde yaşadığımız tüm olumsuzlukları toplumun tüm kesimleri ve sivil toplum kuruluşları ile birlikte değerlendirerek kadın kooperatiflerinin kuruluşlarına ve kurulmuş olanların da işlevlerine destek vermeliyiz. Özellikle belediyeler ve bakanlıklar dönemlik değil sürdürülebilir bir şekilde destek vermelidir. Bu

destekler ise bir süre sonra hibe niteliğinden ortaklık ve alım garantili üretim modellerine, pazar ağı yaratma, uluslararası ticarete açılma gibi konulara evrilmelidir.

Sonuç olarak, Dijitalleşen dünyada birçok bilgiye çok kısa sürede eriştiğimiz bu günlerde deneyim paylaşımlarının artarak diğer belediyelerin ve kadın kooperatiflerinin yerel kalkınma alanındaki çalışmalarının hızlanması gerektiğini savunmaktayız.

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Bireysel Başvuru Süresinin UYAP'tan Öğrenme Tarihinde Başlatılmasına İlişkin Anayasa Mahkemesi Kararları Üzerine Bir Not

Dr. Öğr. Üys. Hakan Sabri Çelikyay[1]

[1]Trakya Üniversitesi / İktisadi ve İdari Bilimler Fakültesi, Siyaset Bilimi ve Kamu Yönetimi Bölümü, hcelikyay@trakya.edu.tr, ORCID: 000-0003-3055-3805

Özet: Türkiye Cumhuriyeti Anayasasında 2010 yılında yapılan ve 2012 yılında yürürlüğe giren değişiklik ile bireylere Anayasa Mahkemesine başvuru hakkı tanınmış, bireysel başvuru hakkının usul ve esasları da 6216 sayılı *Anayasa Mahkemesinin Kuruluş ve Yargılama Usulleri Hakkında Kanun* ile düzenlemiştir. Söz konusu Kanuna göre, bireysel başvuruların Anayasa Mahkemesi tarafından incelenmesi öncelikle kabul edilebilirlik ölçütlerine göre yapılmakta, kabul edilebilirlik aşamasını geçen başvuruların esası hakkında, diğer bir ifadeyle başvuruya konu olan olayda başvurucunun hakkının ihlal edilip edilmediği hususunda, karar verilmektedir. Anayasa Mahkemesi, kabul edilebilirlik aşamasında bireysel başvuruları 6216 sayılı Kanunun 47/5. maddesinde yer alan "**Bireysel başvurunun, başvuru yollarının tüketildiği tarihten; başvuru yolu öngörülmemişse ihlalin öğrenildiği tarihten itibaren otuz gün içinde yapılması gerekir***" hükmü açısından da değerlendirmekte ve bahsi geçen süre içinde yapılmayan başvuruların "süre aşımı nedeniyle" kabul edilmez olduğuna karar vermektedir. Uygulamada Anayasa Mahkemesi, bireysel başvuruya esas olan nihai mahkeme kararının elektronik ortamda UYAP (Ulusal Yargı Ağı Projesi) üzerinden görüntülenmesini "öğrenme tarihi" olarak kabul etmekte, 30 günlük başvurusu süresini de bu tarihten itibaren başlatmakta ve bu tarihten itibaren 30 gün içinde yapılmayan başvurular hakkında "süre aşımı" nedeniyle kabul edilmezlik kararı vermektedir. Anayasa Mahkemesinin bu yaklaşımı uygulamada aşırı katı ve şekilci olarak nitelendirtmekte, başvuruculara* orantısız bir külfet yükleyerek başvurucuların mahkemeye erişim hakkını engellendiği ve anayasal güvence altında olan "hak arama hürriyetini" ihlal ettiği yönünde haklı görüş ve eleştirileri de beraberinde getirmektedir.

Anahtar Kelimeler: Anayasa Mahkemesi, Bireysel Başvuru Süresi, UYAP'tan Öğrenme.

1. GİRİŞ

Türkiye Cumhuriyeti Anayasası (AY)'nda 2010 yılında yapılan değişikliklerden biri de Anayasa Mahkemesi (AYM)'nin görev ve yetkilerini düzenleyen 148. maddede (md) olmuştur. Söz konusu değişiklikle AYM'nin görev ve yetkileri arasına bireysel başvuruları incelemek de eklenmiştir. Aynı anayasal düzenleme bireysel başvuruya ilişkin usul ve esasların kanunla düzenlenmesini de emretmiş ve bu çerçevede hazırlanan 6216 sayılı *Anayasa Mahkemesinin Kuruluş ve Yargılama Usulleri Hakkında Kanun*'un bireysel başvuruya ilişkin hükümleri 23.09.2012 tarihinde yürürlüğe girmiştir. 6216 sayılı Kanun, AYM'nin bireysel başvuru incelemesini iki aşamada gerçekleştirmesini öngörmektedir. Bunlardan ilki kabul edilebilirlik incelemesi olup, bu aşama için 6216 sayılı Kanunda öngörülen ölçütleri sağlayan başvuruların esas hakkında incelemesi yapılmakta ve bu ikinci aşamada başvurucunun bireysel başvuruyu konu olabilecek bir ya da birden çok anayasal hakkının ihlal edilip edilmediği sonucuna varılmaktadır. Anlaşılacağı üzere, bireysel başvuruya konu olabilecek bir hak ihlal edilmiş olsa bile, kabul edilmez bulunan başvuruların esas hakkında incelemesi yapılmamaktadır.

2. BİREYSEL BAŞVURU SÜRESİNE İLİŞKİN MEVZUAT HÜKÜMLERİ VE DEĞERLENDİRİLMESİ

6216 sayılı Kanunun 48. maddesine göre bireysel başvuru hakkında kabul edilebilirlik kararı verilebilmesi için 45-47. maddelerde öngörülen şartların taşınması gerekir. Söz konusu şartlardan biri de md.47/5'de düzenlenen süre koşulu olup, anılan düzenleme şu şekildedir*: "Bireysel başvurunun, başvuru yollarının tüketildiği tarihten; başvuru yolu öngörülmemişse ihlalin öğrenildiği tarihten itibaren otuz gün içinde yapılması gerekir".* Otuz günlük bireysel başvuru süresi kamu düzenine ilişkin olup, hak düşürücü süre niteliğini taşımaktadır (Karaarslan, 2020: 275). Bireysel başvurunun bu süre içinde yapılıp yapılmadığını AYM re'sen dikkate almakta ve otuz günlük süre içinde yapılmayan başvurular hakkında *"süre aşımı nedeniyle"* kabul edilmezlik kararı vermektedir. Bireysel başvurunun yasal süre içinde yapılıp yapılmadığı AYM tarafından yargılamanın her aşamasında dikkate alınmaktadır (Özbudak, 2014: 35; Kanadoğlu, 2015: 94).

Bireysel başvuru süresi ile ilgili mevzuatta yer alan bir diğer düzenleme de *Anayasa Mahkemesi İçtüzüğü*'nün md.64/1 hükmünde yer almakta olup, söz konusu hüküm anayasal düzenlemenin tekrarı niteliğindedir: "*Bireysel başvurunun, başvuru yollarının tüketildiği tarihten, başvuru yolu öngörülmemişse ihlalin öğrenildiği tarihten itibaren otuz gün içinde yapılması gerekir*". Görüldüğü gibi, İçtüzük hükmünde herhangi bir somutlaştırıcı düzenleme yer almamaktadır.

Her iki düzenleme de dikkate alındığında, kanun koyucunun bireysel başvuru süresinin başlangıcı ile ilgili ikili bir ayrıma gittiği sonucuna varılabilir. Bunlardan ilkine göre ve genel kural olarak bireysel başvurunun başvuru yollarının tüketildiği tarihten itibaren 30 gün içinde yapılması gerekir. Uygulamada, tüketilmesi gereken başvuru yolları genel olarak yargısal yollar olduğundan, yargısal yolların tüketilerek hükmün kesinleşmesi ile birlikte 30 günlük süre işlemeye başlayacaktır. Daha açık bir şekilde ifade etmek gerekirse, hükmün kesinleşmesine yol açan nihai yargı kararının başvurucuya tebliğ edilmesi ya da yargısal yolların tüketilmesi aşamasında başvurucunun vekili varsa vekiline tebliğ edilmesi ile birlikte 30 günlük sürenin işlemesi söz konusu olacaktır.

İkinci durumda ise hak ihlaline ilişin kanuni başvuru yollarının öngörülmemiş olması hali düzenlenmektedir. Bu durumda başvurucunun yargısal ya da başka bir kanuni başvuru yoluna gitmesi mümkün olmadığından, başvurucunun ihlali öğrendiği tarihten itibaren 30 gün içinde doğrudan AYM'ye başvurması gerekmektedir (Şirin, 2015: 133). Bu açıklamalara göre 30 günlük başvuru süresinin "ihlalin öğrenildiği tarihten itibaren" başlatılabilmesi, başvuru için kanunlarda herhangi bir başvuru yolunun öngörülmemiş olması şartına bağlıdır. Başvuru için kanuni yolların bulunması halinde, bu yollar ve özellikle yargısal yollar tüketilecek ve 30 günlük süre de tüketme tarihinden, daha doğrusu bu durumun başvurucuya ya da varsa vekiline tebliğinden itibaren başlayacaktır. Buna göre, başvuru yollarının bulunduğu durumlarda 30 günlük süreyi "ihlalin öğrenildiği tarihten itibaren" başlatmak isabetli bir yorum olmayacaktır. Nitekim 6216 sayılı Kanunun 47. maddesinin gerekçesinde *"…başvurunun, kanun yollarını tüketen nihai işlemin başvurucuya tebliğ edildiği tarihten veya kanun yolu öngörülmemişse ihlalin öğrenildiği tarihten başlayarak otuz gün içinde yapılması öngörülmüştür"* şeklinde bir açıklama yer almaktadır. 6216 sayılı Kanunun 47. maddesinin gerekçesinde yer alan bu ifade dikkatle incelendiğinde anılan hükümde *"veya"* bağlacı ile iki farklı durumun düzenlendiği anlaşılmakta olup, yukarıda ifade edildiği üzere, başvuru yollarının öngörüldüğü durumlarda, kural olarak, 30 günlük başvuru süresinin öğrenme tarihinden itibaren başlatılmasının mümkün olmadığı sonucuna varılmalıdır.

3. ANAYASA MAHKEMESİNİN BİREYSEL BAŞVURU SÜRESİNİ UYAP'TAN ÖĞRENME TARİHİNDE BAŞLATMASINA İLİŞKİN KARARLARI

AYM ise bireysel başvurulara ilişkin kararlarında başvuru süresini genel olarak herhangi bir şekilde öğrenme tarihinden başlatmaktadır. AYM'nin bu yaklaşımı sadece UYAP üzerinden öğrenme durumlarında değil, başvuruya konu nihai yargı kararının herhangi bir şekilde öğrenildiği durumlarda da söz konusu olmaktadır. Bu nedenle aşağıda önce AYM'nin önce genel yaklaşıma kısaca yer verilecek, ardından da UYAP'tan öğrenmeye ilişkin kararları üzerinde durulacaktır.

3.1. Başvuru Süresinin Herhangi Bir Şekilde Öğrenme Tarihinde Başlatmasına İlişkin Kararlar

AYM, uygulamada bireysel başvuru süresini nihai yargı kararının herhangi bir şekilde öğrenildiği tarihten itibaren başlatma yönünde bir içtihat oluşturmuştur. Mahkemeye göre; ***"****Somut olayda 9/4/2013 tarihinde Mahkemeye ulaşan dava dosyasındaki Yargıtay ilamı, başvurucu vekiline Mahkeme Kaleminde 16/10/2014 tarihinde tebliğ edilmiş olmakla birlikte başvurucu vekilinin bu tarihten çok önce UYAP üzerinden Mahkemeye gönderdiği 9/7/2014 ve 11/7/2014 tarihli dilekçelerle Yargıtay kararının ve kesinleşmiş gerekçeli kararın tebliğe çıkarılmasını, kesinleştirme işlemi yapılarak bakiye kalan gider avansının kendisine iadesini talep ettiği, 18/7/2014 tarihli reddiyat makbuzuyla başvurucu vekiline gider avansı iadesi yapıldığı göz önüne alındığında yukarıda belirtilen ilkeler uyarınca başvurucu ve vekilinin, nihai kararın sonucunu en geç 9/7/2014 tarihinde öğrendikleri ve bu tarihte karar içeriğine erişme imkânını elde ettikleri sonucuna ulaşılmıştır. Başvurucunun 9/7/2014 tarihinde öğrendiği nihai karara karşı bireysel başvurular için öngörülen otuz günlük süreden sonra 23/10/2014 tarihinde bireysel başvuruda bulunduğu anlaşıldığından başvuruda süre aşımı olduğu sonucuna varılmıştır."* (AYM Genel Kurulu, *Suat Bircan Başvurusu*, Başvuru Numarası 2014/16800, Karar Tarihi, 01.12.2016, paragraf 27, 28). AYM sonuç olarak başvurunun süre aşımı nedeniyle kabul edilmez olduğuna karar vermiştir.

Bu karar AYM Genel Kurulu tarafından ve oybirliği ile verilmiş olup, mahkemenin bu konudaki genel içtihadi yaklaşımını ortaya koyması açısından önemlidir. Oysa yukarıda ifade edildiği üzere, bireysel başvuruya ilişkin mevzuat hükümleri, başvuru yolları öngörülen durumlarda, başvuru süresinin nihai kararın öğrenilme tarihinden itibaren başlatılması şeklinde bir sonuca ulaşmaya müsait değildir. AYM kararında ulaşılan sonuç ise başvuruculların mahkemeye erişim hakkını ortadan kaldıran hatalı bir yorumdur. Zira hukukumuzda, kural olarak, mahkemelerin nihai kararların taraflara tebliğ edilmesi gerekmekte olup, usul kanunlarında *(Hukuk Muhakemeleri Kanunu, Ceza Muhakemesi Kanunu, İdari Yargılama Usulü Kanunu)* bu yönde hükümler bulunmaktadır ve söz konusu tebliğ işlemi de 7201 sayılı *Tebligat Kanunu* hükümlerine göre yapılmaktadır. Bu durumda, başvurucu ya da vekiline tebligat yapılmadan, başvurucunun ya da vekilinin nihai kararı herhangi bir şekilde öğreniş olması kararın içeriğinden tam anlamıyla bilgi sahibi olduğu anlamına gelmez ve usul kanunlarına

göre yapılması gereken tebliğ işlemi zorunluluğunu ortadan kaldırmaz. Ancak tebliğ işlemi ile artık başvurucunun resmi olarak karardan bilgi sahibi olduğu sonucuna varılabilir. Bu nedenlerle, AYM'nin bireysel başvuru süresini nihai kararı "herhangi bir şekilde öğrenme" tarihinden itibaren başlatmasına ilişkin genel yaklaşımının hatalı olduğu sonucuna ulaşmak gerekmektedir.

3.2. Başvuru Süresinin UYAP'tan Öğrenme Tarihinde Başlatılmasına İlişkin Kararlar

AYM yukarıdaki başlıkta değinilen genel yaklaşımını, daha özel durumlarda da tekrarlamakta, bu bağlamda kararın UYAP üzerinden öğrenilmesi halinde başvuru süresini bu tarihten itibaren başlatmaktadır. Kısaca UYAP olarak ifade edilen Ulusal Yargı Ağı Projesi ya da Ulusal Yargı Ağı Bilişim Sistemi, yargı mercileri yanında yargısal süreçlerde yer alan diğer bazı aktörlere (avukatlar, arabulucular, bilirkişiler gibi) de açık bir sistemdir. UYAP sayesinde vatandaşlar da UYAP vatandaş portal aracılığı ile tarafı oldukları dava dosyalarını elektronik ortamda inceleme imkânına sahip olmaktadırlar. Bu bağlamda, bir davanın taraflarının vekilliğini yapan avukatların da UYAP avukat portal aracılığıyla yargılamayı sonuçlandıran nihai karara, karar kendisine tebliğ edilmeden önce UYAP'tan ulaşması mümkün olduğu gibi, vatandaşlar da aynı şekilde UYAP vatandaş portal vasıtasıyla e-devlet şifrelerini kullanarak nihai karardan haberdar olabilmektedirler. Gerek avukatlar, gerekse vatandaşlar açısından birçok kolaylığı beraberinde getiren UYAP sistemi, AYM'ne yapılan bireysel başvuruların süresinin başlangıç tarihinin belirlenmesi aşamasında başvurucular açısından bazı sürpriz olumsuz sonuçların ortaya çıkmasına da neden olabilmektedir. Nitekim AYM, web sayfasında yer alan bireysel başvurunun kabul edilebilirlik kriterlerine ilişkin emsal karalara dair bilgi notunda *"Bilgi ve belgelerin son hâli, UYAP evrak işlem kütüğünde kayıt altına alınmaktadır. Evrak işlem kütüğü, evrak üzerinde yapılan işlemleri (doküman oluşturma, düzenleme, imzalama, açma, okuma ve yazdırma gibi) kayıt altına almaktadır. Kayıt altına alınan evrak üzerindeki işlemleri yapan şahsın adı soyadı, sıfatı, birimi, yapılan işlemin niteliği, tarih ve saati sistemde saklanmaktadır. Bu işlemleri yapan ilgililerden işlem sırasında nihai kararın sonucunu öğrenmeleri beklenir. Bu nedenle bireysel başvuru süresi bu tarihten itibaren işlemeye başlamaktadır"* şeklinde bir açıklamaya yer vermektedir. Mahkemenin bu konu ile ilgili olarak web sayfasında atıf yaptığı kararın ilgili bölümü de şu şekildedir: *"Somut olayda başvurucunun Yargıtay ilamının avukatı tarafından UYAP üzerinden okunduğu 21/12/2016 tarihinde bireysel başvuruya ilişkin nihai karardan haberdar olduğunun ve bu doğrultuda bireysel başvuru süresinin 21/12/2016 tarihinden itibaren işlemeye başladığının kabul edilmesi gerekir. Nitekim ilgili usul kuralları uyarınca sürenin münhasıran tebliğden itibaren işlemeye başlayacağının kabul edildiği uygulamaların aksine bireysel başvuru yolunda başvuru süresi, ihlalin öğrenilmesi esasına bağlanmıştır (Mehmet Özcan, B. No: 2019/6266, 15/1/2020, § 27). Sonuç olarak bireysel başvuru konusu yargılama sürecine ilişkin nihai karardan 21/12/2016 tarihinde haberdar olduğu anlaşılan başvurucunun otuz günlük bireysel başvurusu süresinden sonra, 27/1/2017 tarihinde gerçekleştirdiği bireysel başvurusunun süre aşımı nedeniyle kabul edilemez olduğuna karar verilmesi gerekir"* (AYM İkinci Bölüm, *Hüseyin Aşkan Başvurusu*, Başvuru Numarası 2017/15649, Karar Tarihi, 21.07.2020, paragraf 30, 31).

AYM konu ile ilgili yaklaşımını sonraki kararlarında da sürdürmüş, bu kez AYM Genel Kurulu tarafından 2023 yılında verilen bir kararda şu sonuca ulaşılmıştır: *"Somut olayda yargılama sürecinde nihai karar olan Bölge İdare Mahkemesi ilamına ilişkin olarak UYAP evrak işlem kütüğü üzerinde yapılan incelemede ilgili kararın başvurucu tarafından 27/3/2019 günü saat 18.09'da açılarak okunduğu tespit edilmiştir. Bir başka deyişle başvurucunun vekiline 6/4/2019 tarihinde tebliğ yapılmışsa da daha önce başvurucu asilin UYAP üzerinden 27/3/2019 tarihinde başvuruya konu karara erişim sağlayarak kararı öğrendiği görülmüştür. Bölge İdare Mahkemesi ilamını başvurucunun UYAP üzerinden okuduğunun, bu kapsamda 27/3/2019 tarihinde bireysel başvuruya ilişkin nihai karardan haberdar olduğunun ve bu doğrultuda bireysel başvuru süresinin 27/3/2019 tarihinden itibaren işlemeye başladığının kabul edilmesi gerekir. Sonuç olarak bireysel başvuru konusu yargılama sürecine ilişkin nihai karardan 27/3/2019 tarihinde haberdar olduğu anlaşılan başvurucunun otuz günlük bireysel başvuru süresinin son günü olan 26/4/2019 tarihinden sonra 30/4/2019 tarihinde gerçekleştirdiği ve herhangi bir mazeret de sunmadığı bireysel başvurunun süre aşımı nedeniyle kabul edilemez olduğuna karar verilmesi gerekir"* (AYM Genel Kurulu, *Ümran Özkan Başvurusu,* Başvuru Numarası 2019/13338, Karar tarihi 08.03.2023, paragraf 44-46).

Bu kararında AYM, bireysel başvuruya konu olan yargılama aşamasında verilen nihai kararın yargılamada başvurucunun vekilliğini yapan avukata tebliğ tarihini değil, başvurucu tarafından UYAP'tan açıldığı tarihi öğrenme tarihi olarak kabul etmekte ve bireysel başvuru süresini de başvurucunun öğrendiği tarihte başlatmaktadır. Bu karar AYM Genel Kurulu tarafından verildiğinden, Mahkemenin yukarıda değinilen ve İkinci Bölüm tarafından verilen *Hüseyin Aşkan* kararından daha fazla önem taşımaktadır. Zira AYM'nin bu konudaki içtihadının Genel Kurul tarafından da benimsendiğini ve süreklilik kazandığını göstermektedir. Kararın dikkat çeken diğer bir yönü ise oybirliğiyle değil, oyçokluğuyla verilmiş olmasıdır ve kanaatimizce Mahkemenin karara

muhalif kalan üyeleri tarafından yazılan karşı oy gerekçelerinde yapılan değerlendirmeler daha isabetlidir. Bu karşı görüş yazılarına önemine binaen aşağıda kapsamlı biçimde yer verilmektedir.

Karşı oy yazılarından ilki olan ve Zühtü Arslan tarafından yazılan gerekçede "*vekille takip edilen davalarda başvuru süresi, nihai kararın müvekkil değil vekil tarafından -tebliğ veya diğer yöntemlerle- öğrenildiği tarih esas alınmak suretiyle değerlendirilmelidir. Bu sebeple, somut olayda başvurucunun UYAP üzerinden nihai kararı öğrendiği gerekçesiyle sürenin bu tarihten başlatılması, başvurucuya öngörülemez ve orantısız bir külfet yüklemektedir*" (Aynı karar, Zühtü Arlsan'ın karşı görüşü, paragraf 10) şeklinde bir sonuca varmıştır.

Keza, Hasan Tahsin Gökcan tarafından yazılan karşı oy gerekçesinde şu hususlar üzerinde durulmaktadır: "*Öncelikle 6216 sayılı Kanunun 47. maddesinde başvuru süresinin 'başvuru yollarının tüketildiği tarihten' itibaren başlatılacağının düzenlendiği hatırlanmalıdır. Başvuru yollarının tüketildiği tarih ise ilgili mevzuata bakarak belirlenebilir. Hukuk sistemimize göre bir davanın tarafı hukuki yardım almaktaysa, kanun yollarına başvuru konusundaki tebliğ işlemlerinin avukat-müdafi'ye yönelik olması gerekmektedir. Bu zorunluluk daha önce mevzuatın genel olarak yorumlanması suretiyle Yargıtay'ın 10.7.1940 tarihli ve E. 1940/7 – K. 1940/75 sayılı İçtihadı Birleştirme Kararı ile ifade edilmiştir. Anılan kararda vekil ile takip edilen davalarda asile yapılan tebliğin kanun yoluna başvuru için dikkate alınamayacağı belirtilmiştir. Bu değerlendirme daha sonra 6.6.1985 tarihli ve 3320 sayılı Kanunun 5. maddesi ile değişik 7201 sayılı Tebligat Kanununun 11. maddesine de yansımış ve 'Vekil vasıtasıyla takip edilen işlerde tebligat vekile yapılır' kuralı kabul edilmiştir. Dolayısıyla avukatın-müdafiin hukuki yardımından yararlanan tarafların veya şüpheli-sanığın kendisiyle ilgili kararı daha önce öğrenmesi durumunda dahi kanun hükmü gereği avukata tebliğ yapılacağını öngörerek hareket etmesi doğaldır. Hukuk devleti ve hukuki öngörülebilirlik ilkesi kanundaki bu hükmün bireysel başvuru süresiyle ilgili sorunun çözümlenmesinde de dikkate alınmasını gerektirir. AYM'nin kararına yansıyan yorum ise başvurucular için öngörülebilir olmayan bir sonuca yol açmaktadır*" (Aynı karar, Hasan Tahsin Gökcan'ın karşı görüş yazısı).

Kadir Özkaya, Basri Bağcı ve Kenan Yaşar tarafından birlikte yazılan karşı görüş yazısında ise konu ile ilgili olarak daha ayrıntılı bir değerlendirmeye yer verilmektedir: *"Türk yargısında tarafların vekille temsil edilmesi durumunda davaya ilişkin tebligatların vekile yapılması ana kuraldır. Kendisini avukat marifetiyle temsil ettiren kişi davanın ilgili süreçlerinde her türlü işlemin avukatı tarafından yapılacağını öngörmektedir. Hal böyle olunca, Anayasa Mahkemesi'ne yapılacak bireysel başvurularda farklı bir uygulamaya gidilerek, başvurucuya (müvekkile) yapılacak tebligat (yahut başvurucunun/müvekkilin UYAP tan öğrenme) tarihinin esas alınması bireysel başvuru hakkının ihlali sonucunu doğuracaktır. Zira böyle bir uygulama vekil ya da başvurucudan hangisine önce tebliğ edilmişse bireysel başvuru süresini o tarihten başlatmak anlamına gelir ki bu hukuki açıdan öngörülebilir bir durum değildir. Dolayısıyla 6216 Sayılı Kanun'un öğrenmeye ilişkin hükmünü, avukat açısından UYAP'tan öğrenme ile müvekkil (vatandaş) açısından UYAP'tan öğrenme bakımından aynı sonuçlara bağlamak hakkaniyete uygun olmayacaktır. Ülkemizde halen kullanılmakta olan e-devlet uygulamasını dikkate aldığımızda Vatandaş Portal'ın kullanımının zaman zaman birey tarafından değil de bireyin yakınları tarafından kullanılmakta olduğunu söylemek yanlış olmayacaktır. Bu herkesçe bilinen bir olgudur. Tarafların davalarının hangi aşamada olduğunu öğrenmek için UYAP'ı kontrol etmeleri oldukça yaygındır. Bununla birlikte bireylerin olaya ilişkin bir avukata vekâletname çıkarmaları durumunda sürece ilişkin gerekli tüm işlemlerin vekil tarafından yapılacağı öngörüsü/kabulü de yaygın bir durumdur. Öte yandan bireysel başvuru süresinin avukata mı, asile mi tebligatla başlayacağı konusunda 6216 Sayılı Kanun'da açık bir hüküm yoktur. Bununla birlikte vekile yapılan tebliğin esas alınması gerektiği sonucuna ise atıflarla ulaşılabilmektedir. Hukukçuların dahi net olarak açıkça öngöremediği böyle bir konuda hukuki belirsizlik söz konusudur. Kişinin avukata teslim ettiği davasına ilişkin UYAP'a bakmasının böyle bir sonuç doğuracağını öngörmesi mümkün değildir. Müvekkil konumundaki başvurucuya yapılacak tebliğin esas alınması anayasal anlamda ölçülü değildir. Zira vekil ile takip edilen işlerde başvurucular açısından öğrenme kuralının UYAP sistemini açmak gibi dar ve katı yorumlanması, hak kaybına yol açacak ve bireysel başvuru hakkının ihlaline neden olacaktır. AİHM'in 31 Ağustos 2021 tarihli Üçdağ/Türkiye (B.No:23314/19) kararında başvuru süresinin başvurucunun nihai kararı gerçekten öğrenebileceği andan itibaren başlaması gerektiğini vurgulamış, bireysel başvuruda 30 günlük sürenin aşırı şekilci ve katı yorumlanmasıyla başvurucunun bireysel başvuru hakkının ihlal edileceğini belirtmiştir. Hal böyle olunca, Anayasa Mahkemesine yapılacak bireysel başvurularda başvuru süresinin, başvurucunun avukatı varsa avukata yapılan tebliğ tarihinden; dolayısıyla somut olayda da bireysel başvuru süresinin başvurucu vekiline yapılan tebligata ilişkin 6/4/2019 tarihinden itibaren başlatılması gerekir. Bu tarih dikkate alındığında 30/04/2019 tarihinde yapılan başvuruda süre aşımı bulunmamaktadır"* (Aynı karar, Kadir Özkaya, Basri Bağcı ve Kenan Yaşar'ın karşı görüş yazısı, paragraf 16-22).

Engin Yıldırım'ın karşı görüş yazısında ise kabul edilebilirlik incelemesi açısından şu hususlara vurgu yapılmaktadır: *"Somut başvuruda başvurucu bir vekil tarafından temsil edilmektedir. Vekil ile temsil olunan davalarda 7201 sayılı Kanun gereği vekile tebligat yapılması esas alınmaktadır. Her durumda, hukuk davalarında yargı kararlarının*

tebliğ edilmesi yasal olarak gereklidir. 6216 sayılı Kanun'un 47. Maddesinin (5) numaralı fıkrasında 'bireysel başvurunun, başvuru yollarının tüketildiği tarihten; başvuru yolu öngörülmemişse ihlalin öğrenildiği tarihten itibaren otuz gün içinde yapılması gerekir' düzenlemesi bulunmaktadır. Vekil ile temsil edilen başvurular bakımından ayrı bir düzenleme bulunmamaktadır. Mahkememizin yerleşik uygulamasında nihai kararın öğrenildiği tarih, ki bu UYAP üzerinden dosyanın açıldığı veya okunduğunun varsayıldığı tarih olarak kabul edilmektedir, bireysel başvuru yapılması için gerekli sürenin hesaplanmasında başlangıç tarihi olarak kabul edilmektedir (Hüseyin Aşkan, B. No: 2017/15649, 21/7/2020). Usul kurallarının gerektiği gibi uygulanmasının her durumda 'aşırı şekilcilikle' itham edilmesi ne kadar yanlışsa, bu kuralların somut başvurunun taşıdığı özelliklere göre gerektiğinde belli ölçülerde esnek yorumlanmaması da hatalı olacaktır. Böyle bir yaklaşım ülkemizde en önemli hak arama yolu olduğunu rahatlıkla iddia edebileceğimiz bireysel başvuru yolu kullanılırken mahkemeye erişim hakkı açısından sorunlar doğmasına neden olabilme potansiyeline sahiptir. Somut başvuruya baktığımızda başvurucunun bir avukatla temsil edildiğini görmekteyiz. Her ne kadar başvurucu nihai kararı vekilden önce öğreniyorsa da başvurusunun vekiliyle takip edildiği yönünde haklı bir beklentisi bulunmaktadır. Burada başvurunun etkin olarak vekil tarafından takip edildiğini düşünürsek bu başvuru için sürenin vekile tebligatın yapıldığı tarihten itibaren başlatılmasının daha doğru olacağının kabulü gerekir. Hukuk davaları yönünden tebligat zorunluluğu bulunduğundan bireysel başvuru rejimi kapsamında bireysel başvuru süresinin hesaplanmasında avukatlarda tebligat beklentisinin oluşması ve bunun esas alınması gayet doğaldır. Mahkememizin 6216 sayılı Kanun'un ilgili fıkrasındaki 'öğrenme'yi UYAP kütüğünde yapılan işlemle özdeşleştirmesi en azından vekille temsil edilen hukuk davalarında esnekleştirilebilir. Sonuç olarak bireysel başvuru süresinin nihai kararın vekile yapılan tebliğ tarihi olan 6/4/2019'da başladığını ve başvurunun 30/4/2019 tarihinde yapıldığını düşünürsek başvurunun süresi içinde gerçekleştirildiğinin kabulü gerekmektedir" (Aynı karar, Engin Yıldırım'ın kabul edilebilirlik incelemesine ilişkin karşı oy yazısı, paragraf 2-5).

Son olarak Yusuf Şevki Hakyemez tarafından yazılan karşı görüş gerekçesinde de şu hususların altı çizilmektedir: ***"****Bu dosyada da Mahkememiz çoğunluğunca yukarıda zikredilen kararlardaki yaklaşıma uygun biçimde UYAP üzerinden öğrenmelerde de ilk öğrenen kişinin müvekkil olması durumunda bireysel başvurudaki otuz günlük sürenin bu tarihten itibaren başlatılması gerektiği sonucuna ulaşılmıştır. Ancak bu nitelikteki bireysel başvuru incelemelerinde bu yaklaşımın yerine vekille temsil edilen davalarda sürenin başlatılmasında vekilin öğrenme tarihinin esas alınmasının başvurucuların haklarının korunması bakımından daha isabetli ve hak arama özgürlüğünün amacıyla daha uyumlu olacağı ifade edilmelidir. Zira kişiler kendi hukuk bilgilerinin yetersizliğini göz önünde tutarak tarafı oldukları uyuşmazlıklarla ilgili yargısal süreçlerde hak ihlallerine uğramamak ve mağduriyetler yaşamamak amacıyla profesyonel hukuki yardım alarak mahkemeler önünde kendilerini avukatla temsil ettirme seçeneğini kullanabilmektedirler. Uzmanlaşmanın her alanda çok yoğun biçimde kendisini gösterdiği günümüzün modern toplumlarında kişilerin karşılaşabilecekleri hukuki sorunlar oldukça karmaşık hukuki boyutlara sahip olabilmektedir. Dolayısıyla karşı karşıya kalacakları uyuşmazlıkların hem usulü hem de esası ile ilgili konularda kişiler profesyonel hukuki yardım alarak artık kendilerini avukatlarla temsil ettirme yolunu çok daha yoğun biçimde tercih etmektedirler. Esasında vekille temsil ve bunun hukuki boyutları ile ilgili ortaya çıkabilecek çok farklı durumlara ilişkin ülkemiz mevzuatında da oldukça fazla düzenlemeler mevcuttur. Konumuz bağlamında bir hüküm olarak 11/2/1959 tarihli ve 7201 sayılı Tebligat Kanunu'nun 'Vekile ve kanuni mümesile tebligat' başlıklı 11. maddesinin birinci fıkrasında 'Vekil vasıtasıyla takip edilen işlerde tebligat vekile yapılır.' hükmü yer almaktadır. Bunun bir sonucu olarak vekille temsil edilen işlerde artık müvekkile vekalet verilen hukuki uyuşmazlıklarda müvekkilin vekilden önce öğrenmesi gerekçesiyle bireysel başvuru yapma sürecinde, çoğunluk kararındaki gibi bir külfet yüklenmemesi gerekir. Somut olayda olduğu gibi baştan itibaren kendilerini vekille temsil ettiren kişilerin derece mahkemelerinin kendileri aleyhine verdiği nihai kararları bireysel başvuru gibi teknik bir hak arama yoluna başvuru sürecinde vekilden önce öğrenmelerini gerekçe göstererek bireysel başvuru sürecini bu tarihten itibaren başlatmak başvuruculların vekille temsilinin bir anlamda anlamsız kalmasına sebebiyet verecektir. Böyle bir durumda ise zaten kendi yetersiz hukuk bilgileri olduğu için yargılama sürecinde kendilerini avukatla temsil ettirmesine rağmen onu görmezden gelerek bireysel başvuru yolundaki önemli bir usuli aşamayı gerçekleştirme yükümlülüğünü müvekkile yüklemek aşırı bir külfet olacaktır. Bu nedenle bireysel başvurudaki süre aşımı ile ilgili kabul edilebilirlik kriterinin incelenmesi sürecinde Anayasa Mahkemesinin kendisini avukatla temsil ettiren başvurucularla ilgili UYAP işlem kütüğünden öğrenme ile ilgili olarak otuz günlük bireysel başvuru süresini somut bireysel başvuruya konu olayda olduğu gibi kişilerin daha önceki bir tarihte öğrenmesi durumu söz konusu olsa dahi bu tarihten değil müvekkilin öğrendiği tarihten itibaren başlatan bir yaklaşımı benimsemesi gerekir. Bu biçimdeki bir yaklaşım kişilerin bu alandaki mağduriyetlerini azaltmaya ve bireysel başvuruda hukuk bilgisi yetersiz olduğu için hak mağduriyetlerine uğrayacağını bilerek kendisini derece mahkemelerindeki süreçlerde hukuki yardım alarak avukatla temsil seçeneğini benimseyen kişilerin hak arama hürriyetini daha etkili biçimde korumaya katkı sağlayacaktır. Anayasa Mahkemesinin bu konudaki yaklaşımının bu şekilde olması bireysel*

başvurunun daha etkili bir hak arama yolu olmasına da katkı sağlayacaktır" (Aynı karar, Yusuf Şevki Hakyemiz'in karşı görüş yazısı, paragraf 10-14).

Yukarıda ifade edildiği üzere, karşı görüş yazılarında yer alan açıklamalar kanaatimizce daha isabetlidir. Ancak, karşı görüş yazılarında genel olarak ulaşılan ve vekil ile temsil edilen davalarda, UYAP üzerinden öğrenmelerde ilk öğrenen kişinin müvekkil olması durumunda bireysel başvurudaki 30 günlük sürenin müvekkilin öğrenme tarihinden değil, vekilin öğrenme tarihinden başlatılmasına ilişkin sonuç, kararı oluşturan çoğunluk görüşüne göre nispeten daha olumlu ise de kanaatimize başvurucular açısından yeterli bir güvence sağlamamaktadır. Zira karşı görüş yazılarında da vekilin öğrenme tarihinin esas alınmasına vurgu yapılmakta, vekile yapılacak tebligat ile sürenin başlaması gerektiği yönünde bir sonuca ulaşılmamaktadır. Karşı görüş yazıların bazılarında hukukumuzda mahkeme kararlarının vekile tebliğ edilmesi yönündeki düzenlemeler dikkat çekildikten sonra, bu kuralı dikkate almadan başvuru süresini öğrenme tarihi ile başlatmak şeklinde bir sonuca ulaşılması hatalıdır. Zira yukarıda değerlendirme konusu yaptığımız 6216 sayılı yasanın 47/5. maddesi bu şekilde yorumlanmaya müsait değildir. Ayrıca, usul kanunlarında da yargı mercilerinin kararlarının tebliğ edilmesine ilişkin emredici hükümler bulunmaktadır. Örneğin Hukuk Muhakemeleri Kanunu (HMK) md.359/4 hükmünde istinaf incelemesinden geçen kararlar hakkında *"Temyizi kabil olmayan kararlar, ilk derece mahkemesi tarafından; temyizi kabil olan kararlar ise bölge adliye mahkemesi tarafından resen tebliğe çıkarılır"* şeklinde bir düzenleme bulunmaktadır. Söz konusu hüküm istinaf kararının tebliğini tarafların talebine bağlı kılmamış, re'sen tebliğe çıkarılmasını emretmiştir. HMK.md.361/1 hükmünde de "*Bölge adliye mahkemesi hukuk dairelerinden verilen temyizi kabil nihai kararlar ile hakem kararlarının iptali talebi üzerine verilen kararlara karşı tebliğ tarihinden itibaren iki hafta içinde temyiz yoluna başvurulabilir"* şeklinde bir düzenleme olup, bu hüküm dahi istinaf incelemesinden geçen kararların tebliğini öngörmektedir. Aynı şekilde HMK.md.372/1 hükmünde de *"Yargıtayın bozma kararları ile onama kararları mahkeme yazı işleri müdürü tarafından derhâl taraflara tebliğ edilir"* şeklinde bir düzenleme bulunmaktadır. Keza, İdari Yargılama Usulü Kanunu (İYUK) md.50 hükmünde de temyiz incelemesinden geçen kararların ilgili idari yargı organına gönderileceği ve 7 gün içinde taraflara tebliğe çıkarılacağına ilişkin hüküm bulunmaktadır İYUK.md.60 hükmünde de idari yargı merci kararlarının tebliğ işlerinin Tebligat Kanunu hükümlerine göre yapılacağı vurgulanmaktadır. Ancak, ceza yargılaması açısından konuya yaklaştığımızda Ceza Muhakemesi Kanunu (CMK)'nda Yargıtay'ın temyiz incelemesinden geçen onama kararların tebliğine ilişkin bir hüküm bulunmamaktadır. Bu durumda, istisnai olarak, ceza yargılamasında nihai kararın tebliğinin söz konusu olmadığı hallerde ilgilinin kararı öğrendiği tarih bireysel başvurusu süresinin başlangıcı olarak kabul edilebilir. Ancak bu halde de karardan genel olarak haberdar olma şeklinde bir bilgilenme yeterli olmamalı, her somut olayda ilgilinin kararın içeriğini tam olarak öğrenebileceği haller dikkate alınmalıdır (Kararslan, 2020: 579-582; Baykan, 2020: 88-91; Karan, 2015: 99-100; Fırat, 2020: 107). Sonuç olarak, yargı kararlarının tebliğine ilişkin bütün bu hukuksal düzenlemeler dikkate alındığında, kural olarak, yargı kararlarının tebliğinden önce UYAP sistemi üzerinden görüntülenmesine hukuki sonuç bağlanması ve bireysel başvuru süresinin UYAP'tan öğrenme ile başlatılması hatalı bir yaklaşım olacaktır.

3.2. İnsan Hakları Avrupa Mahkemesinin Yaklaşımı

Bilindiği üzere, İnsan Hakları Avrupa Sözleşmesi (İHAS) ve Türkiye'nin taraf oldu Sözleşmeye ek protokollerde yer alan haklarının ihlal edildiğini ileri süren bireyler, iç hukuk yolarını tükettikten sonra İnsan Hakları Avrupa Mahkemesi (İHAM)'ne bireysel başvuruda bulunabilmektedirler (İHAS.md.34, md.35). Hukukumuza göre de iç hukukta tüketilmesi gereken nihai başvuru yolu, kural olarak, AYM'ne yapılacak bireysel başvurdur. AYM'ne yapılacak bireysel başvuru ile iç hukuk yollarının tüketilmesinden bahsedebilmek için de, başvurunun yasal süre olan 30 gün içinde yapılması gerekmektedir. Eğer başvurucunun bu süre içinde başvuruda bulunmadığı AYM tarafından benimsenirse, iç hukuktaki başvuru yolları süre sınırına uyulmadığı için tüketilmemiş olmakta ve İHAM'ne yapılacak bireysel başvuru da iç hukuk yolları usulüne göre tüketilmemiş olduğundan İHAM tarafından kabul edilmezlik bulunmaktadır.

Bu konu ile ilgili olarak İHAM, *Üçdağ v. Türkiye Kararında* (2. Daire, Başvuru No 23314/19, Karar Tarihi 31.08.2021, paragraf 48-50) başvurucunun AYM'ye yaptığı bireysel başvurunun süre aşımı nedeniyle kabul edilmez bulunmasına ilişin süreci değerlendirirken şu tespitlerde bulunmaktadır: *"Mahkeme somut olayda, gecikme nedeniyle, başvuranın bireysel başvurusunu reddederek, Anayasa Mahkemesinin bu davanın özel koşullarını dikkate almaksızın, başvurana özellikle ağır bir özen yükümlülüğü yüklemekle ve başvuranı, her halükarda, nihai kararı veren mahkeme tarafından verilen bu kararı, adli makamların ihmalinin sonuçlarına maruz bırakmakla sonuçlanan aşırı biçimcilik sergilediğini değerlendirmektedir (Gajtani/İsviçre, No.43730/07, § 75, 9 Eylül 2014). 5. Ağır Ceza Mahkemesi tarafından kabul edilmeyen, bu Ağır Ceza Mahkemesi tarafından kesinleşme şerhinin oluşturulduğu tarihten itibaren üç aylık bir süre olmak üzere, otuz gün içinde başvurandan bireysel başvuruda*

bulunmasının istenmesi, bu sürenin sona ermesinin, ilgilinin tamamen yetkisi dışında olan bir unsura bağımlı kılmak anlamına gelmektedir (Ivanova ve Ivashova/Rusya, No. 797/14 ve 67755/14, § 57, 26 Ocak 2017). Mahkeme dolayısıyla, başvuru hakkının, başvuranın nihai kararı etkin bir şekilde bilebildiği andan itibaren kullanılması gerektiğini değerlendirmektedir (Aepi S.A./Yunanistan, No.48679/99, § 26, 11 Nisan 2002 ve yukarıda belirtilen Georgiy Nikolayevich Mikhaylov § 55). Mahkeme, yukarıda belirtilenleri dikkate alarak, Anayasa Mahkemesi tarafından bireysel başvuru süresinin özellikle katı yorumunun, başvuranın bireysel başvurusunun esasa ilişkin olarak incelenmesi hakkını orantısız bir şekilde kısıtladığı kanaatine varmaktadır. Mahkeme dolayısıyla, iç hukuk yollarının tüketilmediğine ilişkin Hükümetin itirazını reddetmekte ve Sözleşme'nin 6. Maddesinin 1. fıkrasının ihlal edildiği sonucuna varmıştır" (https://hudoc.echr.coe.int/tur#{%22itemid%22:[%22001-215696%22]).

İHAM'nın bahsi geçen kararına konu olan olayda AYM, iç hukukta verilen ceza mahkemesi kararının kesinleştirilmesine ilişkin şerhin yazıldığı tarihten en geç 3 ay sonra başvurucunun nihai kararı öğrendiğini varsaymakta ve bireysel başvurunun bu tarihten itibaren 30 gün içinde yapılması gerektiği sonucuna ulaşmaktadır. AYM'nin bahsi geçen İHAM kararına konu yaklaşımı, AYM'nin web sayfasında yer alan açıklamada şu şekilde ifade edilmektedir: *"Ceza yargılamasında nihai kararın tebliğ edilmediği durumlarda kararın derece mahkemesine ulaşmasından ve böylece gerekçesinin erişilebilir olmasından sonra, özen yükümlülüğü kapsamında makul bir süre içinde bireysel başvuru yapmak isteyen ilgililerden karara erişmeleri ve karar gerekçesini öğrenmeleri beklenir. Bu kapsamda erişilebilir olan nihai kararın en geç üç ay içinde ilgilileri tarafından bilindiği ve gerekçesinin öğrenildiği kabul edilir. Aksi tespit edilmediği sürece bireysel başvuru için Kanun'da öngörülen otuz günlük başvuru süresi, en geç anılan üç aylık sürenin sona ermesinden itibaren başlar".* AYM, bu konu ile ilgili olarak da *A.C. ve Diğerleri Başvurusuna* atıf yapmaktadır (AYM Genel Kurul Kararı, *A.C. ve Diğerleri Başvurusu*, Başvuru Numarası 2013/1827, Karar Tarihi 25.02.2016).

İHAM'ın yukarıda yer verilen kararına konu olan olayda Türkiye'deki yargılama sürecinde AYM tarafından verilen karar, "UYAP üzerinden öğrenme" ile ilgili olmamakla beraber, İHAM kararında yer verilen ve AYM'ne yapılacak bireysel başvuruda süre sınırının katı biçimde yorumlanmasının, başvurunun esasının incelenmesi hakkını orantısız biçimde sınırladığı yönündeki tespitinin, AYM'nin bireysel başvurusu süresini "UYAP'tan öğrenme" tarihinde başlatmasına yönelik içtihadında da uygulanacağı öngörülebilir.

4. ANAYASA MAHKEMESİNİN KARARLARININ DEĞERLENDİRİLMESİ

AYM'nin yukarıda yer verilen kararlarından çıkan sonuca göre, bireysel başvuruya konu olacak nihai yargı kararının ilgiliye tebliğine ilişkin yasal düzenleme bulunan hallerde dahi, tebliğden önce kararın UYAP'tan öğrenilmesine hukuki sonuç bağlanmakta ve bireysel başvuru süresi UYAP'tan öğrenme tarihinde başlatılmaktadır. Bu durumda da kendisine tebligat yapılan asıl ya da vekil kararı daha önce UYAP'tan öğrenmiş ise başvurusu süresini kaçırabilmektedir. Neticede, bireysel başvurunun esas hakkında inceleme yapılmadan kabul edilmezlik kararı verilmekte ve bireylerin AYM'den beklediği hak ihlalini giderme görevi yerine getirilememektedir.

AYM'nin yukarıda değinilen *Hüseyin Aşkan Kararı* bir Bölüm kararı iken, daha sonra verilen *Ümran Özkan Kararı* Genel Kurul kararıdır. Bu gelişim süreci, AYM'nin yaklaşımının istikrar kazandığı yönünde yorumlanabilir ise de, Genel Kurul kararının oybirliğiyle değil oy çokluğuyla alınmış olması ve karşı görüş yazılarındaki açıklamalar dikkate alındığında, ileride AYM'nin üye kompozisyonu değiştiğinde bu içtihadından dönülmesinin mümkün olduğunu düşünülebilir. AYM'nin içtihadı değişmediği müddetçe üzerindeki tartışmaların da devam edeceği öngörülebilir. Bu bağlamda AYM'nin içtihadına karşı yukarıda yer verilen değerlendirmeler ilaveten şu argümanların da ileri sürülmesi mümkündür (Şen ve Duymaz, 2023: 3-6).

Öncelikle, bir yargılamada vekil ile temsil edilen bir kişinin yargılamanın önceki aşamalarında tüm tebligatların vekiline yapıldığını düşünerek bireysel başvurusu süresinin de vekile yapılacak tebligat ile başlayacağını düşünmesi doğaldır. Bu durumda vekil ile temsil edilen bireyin nihai yargı kararını UYAP'tan görüntülemiş olmasına sonuç bağlanarak bireysel başvuru süresinin o tarihte başlatılması isabetli olmayacaktır. Bireysel başvuru süresinin 30 gün gibi nispeten kısa bir süre olması, bu durumda yaşanan mağduriyetleri daha da arttırmaktadır. Zira 30 gün içinde başvurucunun başvuru için gerekli hukuki yardımı alması, başvuru belgelerini hazırlaması, başvuru formunu doldurması, başvurucu harcını temin etmesi, aksi yönde düşünceler olsa (Çelik, 2016: 104-106) da kanaatimizce çok da kolay değildir.

Diğer taraftan, nihai kararın UYAP'tan görüntülenmesine bireyler ve avukatlar açısından aynı sonucu bağlamak da daha ağır bir eleştiriyi gerektirmektedir. Zira avukatların bir kararı UYAP'tan görüntülemenin sonuçlarını

bilebilecek durumda oldukları düşünülse bile, hukuki ve özellikle de bireysel başvurusu konusundaki bilgileri sınırlı olan bireylerin de aynı sonuçla karşılaşmaları onlar açısından ciddi bir külfeti beraberinde getirmektedir. Kaldı ki ülkemizde avukatların önemli bir kısmının AYM'nin bahsi geçen içtihadını da tam olarak bildiklerini ileri sürmek güçtür. Zira AYM'nin yaklaşımı, yargısal süreçlerde genel olarak kullanılan tebligat işlemini dikkate almamakta, avukatlar ise kanun yollarına başvuru tarihinin tebliğ ile başladığına ilişin mevzuat hükümlerinin bireysel başvuru için de geçerli olduğunu düşünmektedirler.

AYM'nin yaklaşımı, bireysel başvuru hakkının ve bu bağlamda mahkemeye erişim hakkının kullanılmasını ciddi ölçüde güçleştirmektedir. Zira UYAP'tan nihai kararın görüntülenmiş olması mutlaka kararın içeriğinin tam olarak öğrenildiği anlamına gelmez. UYAP'tan kararı görüntüleyen kişi kararın sadece sonucuna bakıp içeriği hakkında tam bir bilgi edinmemiş olabilir. Özellikle, bireyler tarafından kararın UYAP'tan görüntülenmesi halinde teknik hukuki bilgisi sınırlı olan bireylerin kararın sadece sonucuna bakması ve içeriği hakkında bilgi sahibi olmaması mümkündür. Bir varsayıma dayanarak UYAP'tan görüntülenen kararın mutlaka tam olarak öğrenildiği sonucuna varmak çok önemli bir hak arama yolu olan bireysel başvuru yolunu etkisizleştirmektedir. Üstelik uygulama bireyler, yaşlılık, hastalık, bilgisayar kullanımı bilgisinin olmaması gibi nedenlerle, UYAP'tan kararların görüntülenmesini sağlayacak e-devlet şifrelerini yakınlarına verebilmektedirler. Bu durumda UYAP'tan kararı görüntüleyen şahsın davanın tarafı olmaması dahi mümkün iken, UYAP'tan öğrenme haline ağır bir sonuç bağlanması da hatalı bir yorumdur. Oysa bu şahıslara yargı organları aracılığıyla gönderilecek tebliğ evrakı onlar açısından daha anlaşılabilir olacak ve kendilerine resmi tebligatın yapıldığı tarihte kararı kesin olarak öğrendikleri sonucuna varılabilecektir.

Avukatların kararı UYAP'tan öğrenmeleri hali ile ilgili olarak da bazı tartışmalı durumların yaşanması mümkündür. Uygulamada davanın taraflarının vekili olan avukatlar zaman zaman kanun yolu incelemesinin sonuçlarını görmek amacıyla dosyalarını UYAP avukat portal üzerinden görüntülemektedirler. Ancak uygulamada avukatlar UYAP üzerinden yaptıkları her görüntülemeyi kayıt altına almadıklarından görüntüleme tarihini unutabilmekte ve UYAP evrak işlem kütüğüne avukatların erişimi olmadığından daha sonra kararın ilk görüntülenme tarihini de UYAP'tan tespit edememektedirler. Ayrıca bazı hukuk bürolarından birden fazla avukat çalışmakta olup, bu avukatlar, hatta büronun diğer çalışanları tek bir avukatın UYAP giriş şifresini kullanabilmektedirler. Bu durumda da bir avukatın ya da büro çalışanının kararı UYAP üzerinden ilk görüntülediği tarihten diğer avukatların haberdar olmaması da mümkün olabilmektedir. Diğer taraftan, tarafların vekili olan avukatın nihai kararı UYAP'tan öğrendiği tarihte bireysel başvuru süresinin başlatılması, bireysel başvurunun aynı avukat tarafından yapılmadığı ya da bireysel başvurunun bizzat davanın asıl tarafınca yapıldığı durumlarda tartışmaları daha da arttırıcı bir nitelik taşımaktadır.

5. SONUÇ

Sonuç olarak, bireysel başvuru süresinin UYAP'tan öğrenme tarihinden başlatılmasına ilişkin AYM'nin katı yaklaşımı bireylerin mahkemeye erişim hakkını orantısız biçimde kısıtlamakta, hak arama hürriyeti ve adil yargılanma hakkının (AY.md.36) ihlaline yol açmaktadır. AYM'nin bu yaklaşımı Mahkemenin önündeki bireysel başvuru sayısının çokluğundan kaynaklanan iş yükünü azaltma amacına hizmet etmekte ise de, bireyler açısından birçok bireysel başvurunun kabul edilmez bulunmasına, belki de esas incelemesi yapılsaydı "ihlal" tespiti yapılacak bireysel başvuruların esas incelemesi aşamasına geçilmeden sonuçlandırılmasına yol açmaktadır. Belirtmek gerekir ki AYM'nin iş yükünü azaltamaya yönelik bu yaklaşımı başka tartışmalı kararları da beraberinde getirmektedir. Örneğin AYM, nihai kararın yer aldığı elektronik tebligatın (e-tebligat) başvurucu veya vekili tarafından açıldığı tarihten itibaren bireysel başvuru süresinin işlemeye başlayacağını kabul etmektedir (AYM Birinci Bölüm, *Mehmet Özcan Başvurusu*, Başvuru Numarası, 2019/6266, Karar Tarihi 15.01.2020, paragraf 26-28). Oysa 7201 sayılı Tebligat Kanunu 7/a maddesi gereğince "*Elektronik yolla tebligat, muhatabın elektronik adresine ulaştığı tarihi izleyen beşinci günün sonunda yapılmış sayılır".* Keza AYM bireysel başvuru süresinin adli tatil döneminde de işlediği yönünde kararlar vermektedir (AYM Birinci Bölüm, *Turgut Tayyar Başvurusu, Başvuru* Numarası, Başvuru Numarası 2013/7168, Karar Tarihi 15.10.2014, paragraf 18-21). Bu kararların ortak yönü, başvuru süresinin hesaplanmasında başvurucu aleyhine sonuç doğurması ve AYM önündeki iş yükünü azaltıcı bir işlev görmesidir. Oysa bireysel başvurunun etkin biçimde işletilen bir hak arama yolu olması, AYM'nin iş yükünün azaltılmasına göre daha büyük bir anayasal önem taşımaktadır. Bu nedenle, bireysel başvuru süresinin başlangıcına ilişkin yukarıda incelenen AYM içtihadı değişmez ise sorunun çözümü için yasal düzenlemeye gidilmesinin yararlı olacağı düşünülebilir.

Diğer taraftan, AYM'ne bireysel başvuru için öngörülen 30 günlük süre de çok kısadır. UYAP'tan öğrenme tarihinin dikkate alınmasının yarattığı yukarıda değinilen olumsuzlukları gidermek için en azından bu sürenin daha uzun olarak düzenlenmesine ilişkin bir kanun değişikliğine gidilmesi de isabetli olacaktır. Bu bağlamda örneğinin idari

yargıdaki genel dava açma süresi olan 60 günlük bir sürenin ya da İHAM'ne yapılacak bireysel başvurular için öngörülen 4 aylık sürenin bireysel başvuru için de uygulanmasına yönelik kanun değişikliği yapılabilir.

AYM'nin yaklaşımının İHAM'nin benzer konularda verdiği kararlar dikkate alındığında, İHAM tarafından da İHAS'ne aykırı bir değerlendirme olarak görülme potansiyeli taşıdığını bu noktada bir kez daha dikkat çekilmelidir. İHAM tarafından verilebilecek bu şekilde bir karar da ülkemizdeki bireysel başvuru yolunun etkinliği tartışmalarına neden olabilecektir.

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Yenilikçi Yabancı Dil Öğretim Yaklaşımları ve Öğrenme Yetkinlikleri Üzerine İnceleme

Prof. Dr. Hikmet ASUTAY[1]

[1]Trakya Üniversitesi Eğitim Fakültesi Yabancı Diller Eğitimi Bölümü Alman Dili Eğitimi Anabilim Dalı Prof. Dr. Hikmet ASUTAY, E-Posta: asutay@trakya.edu.tr ORCİD ID: 0000-0002-0175-2429

Özet: Yenilikçi yabancı dil eğitimi ve yöntemleri derken aslında hem yeni olan fakat günün çok hızlı değişen koşullarına uyarlanan yabancı dil öğretim yaklaşımları söz konusu olmuştur. Küreselleşen ve dijitalleşen dünya ile birlikte dijitalleşen ve elektronik ortamlardan yararlanarak geliştirilen yaklaşımlar revaçtadır artık. Ayrıca pandemi dönemini deneyimledikten sonra uzaktan eğitim, karma / hibrit eğitim modelleri ile birlikte harmanlanan yabancı dil eğitim yöntem ve yaklaşımları bugün için çok farklı düzeylere gelmiştir denebilir. Dünyadaki teknolojik gelişmelere paralel olarak dil öğretim yöntem ve tekniklerinde de pek çok yenilik ve teknikler kullanılmaya başlanmıştır. Bunların büyük çoğunluğu ise yapay zekâ unsurları diyebileceğimiz ekran uygulamalarıdır. Son olarak ise yapay zekâ teknolojisi ile ortaya çıkan yapay zekâ ve yabancı dil eğitimi yaklaşımları söz konusu olmuş, "ChatGPT" adı verilen yapay zekâ uygulaması son derece popüler olmuştur. Dolayısıyla yabancı dil öğretim yöntemlerinde eskiye oranla hiç olmadığı kadar teknik ve dijital bir çeşitlilik, uygulama ve yaklaşımlarla uzaktan eğitim modelleri gelişmiştir. Yapay zekâ ve uygulamalarının tehdit ettiği meslekler grubuna çevirmenlik, turizm rehberliği gibi alanlar eklenirken, dil editörlüğü, kodlama, dil ve metin çözümleme gibi yeni alanlar da ortaya çıkmaktadır. Bu çalışmada da uzaktan eğitim yaklaşımı ile birlikte dijitalleşen ve teknolojik olarak uygulamaları temel alan dil öğretim yöntemleri tartışılacak ve günümüz dünyasında yabancı dil öğretim ve yaklaşımları konusunda sorgulayıcı bir bakış açısı tartışmaya açılacaktır.

Anahtar Kelimeler: Yabancı dil öğretim yöntemi, uzaktan eğitim, dijitalleşme uygulamalar, yapay zekâ

A Study On Innovative Foreign Language Teaching Approaches And Learning Competences

Abstract: When we say innovative foreign language education and methods, we actually mean foreign language teaching approaches that are both new but adapted to the rapidly changing conditions of the day. With the globalizing and digitalizing world, approaches developed by taking advantage of digitalized and electronic environments are now popular. In addition, after experiencing the pandemic period, it can be said that foreign language education methods and approaches blended with distance education and mixed / hybrid education models have reached very different levels today. In parallel with technological developments in the world, many innovations and techniques have begun to be used in language teaching methods and techniques. The majority of these are screen applications that we can call artificial intelligence elements. Finally, there are artificial intelligence and foreign language education approaches that emerged with artificial intelligence technology, and the artificial intelligence application called "ChatGPT" has become extremely popular. Therefore, distance education models have developed with more technical and digital diversity, applications and approaches than ever before in foreign language teaching methods. While fields such as translation and tourism guidance are added to the group of professions threatened by artificial intelligence and its applications, new fields such as language editing, coding, language and text analysis are also emerging. In this study, language teaching methods that are digitalized and based on technological applications along with the distance education approach will be discussed and a questioning perspective on foreign language teaching and approaches in today's world will be discussed.

Keywords: Foreign language teaching method, distance education, digitalization applications, artificial intelligence

1. Giriş

Dil öğreniminin ana yöntemi, anadili öğrenme biçiminden yola çıkmaktadır. İçinde doğduğu dilde büyür, gelişir ve toplumsallaşır insan. Dolayısıyla dili de yine içinde doğup büyüdüğü kültür içerisinde bir fidan gibi büyür, dallanır, budaklanır. Yabancı dilde de temel öğretim yöntemi, o dilin içinde yaşayarak, anadili edinme sürecindeki benzer süreçleri yaşayarak edinmektir. Öğrenilen dilde düşünmek, duygulanmak, hüzünlenmek ve hatta rüya görmek gerekir. O dilde yüz yüze insanlarla bir araya gelmek, en az iki kişilik iletişim modelinde konuşma ya da iletişimin taraflarından biri olmak gerekir. Bu bağlamda dilin ait olduğu toplumsal ve kültürel ne kadar çok unsurla karşı karşıya kalırsa insan, o dile o kadar hâkim olmayı ve kullanmayı öğrenebilir. Kısacası dili olabildiğince hemen her yönüyle yaşamak, başka deyişle olabildiğince çok dilsel-kültürel unsura maruz kalmak gerekir. Ancak bu durum her dili öğrenen için mümkün olmadığından, daha kısa sürelerde, daha sistematik bir biçimde yabancı dili öğrenme ihtiyacı ortaya çıkmıştır. Bu sonuçla birlikte yöntem kavramı son derece önem kazanmış, dili belli amaç ve gereksinimler doğrultusunda öğrenmenin yolları ve yaklaşımları ortaya çıkmıştır. Böylelikle yabancı dil bağlamında en önemli soru; dili öğrenme amacı ve gereksinimleridir, denebilir. İletişim gereksinimi nedeniyle dil öğrenmek isteyenler, iletişimsel yaklaşıma dayalı yöntemlerle dili öğrenmek durumundadırlar.

Yabancı dil eğitimi ve öğretimi bağlamında pek çok yöntem ve teknikler zaman içerisinde kullanılmaktadır. Söz konusu yabancı dil eğitimi teknik ve yöntemleri zamanın gelişen teknik araç-gereç, donanım vb. olanaklarını hemen bünyesine uyarlayabilmektedir. Tüm bu yöntemlerin dışında yabancı dil derslerinin veriliş biçimi de yine aynı şekilde zamana bağlı olarak farklılıklar göstermektedir. Bunlardan biri örgün yani yüz yüze eğitim ve de uzaktan eğitim konusudur. Gustav Langenscheidt'in[1] Almanya'da 1870'li yıllarda kurduğu uzaktan dil eğitimi okulu kurumsal olarak ilk uzaktan dil öğretimi sayılabilir (Verduin, J. R. ve Clark 1994). Elbette bundan öncesinde pek çok uzaktan eğitim ile ilgili uygulamalar olabilir ancak dil eğitimi ve öğretimi alanında Almanya'daki Langenscheidt Okulu bir ilktir, denebilir. O yıllardan bugünlere dek dil eğitim ve öğretim biçimleri açısından pek çok gelişim aşaması yaşanmıştır. Uzaktan eğitim bağlamında eğitim öğretim süreçleri gerek mektupla öğretim, gerek radyo, televizyon gibi kitle iletişim araçlarıyla sürdürülmüştür. Günümüze doğru yaklaştıkça da seksenli yıllardan sonra bilgisayar ve internetin ortaya çıkışıyla adeta dil öğretiminde yeni bir çığır açılmıştır. Dolayısıyla dil eğitimi ve öğretimi zamanın teknik imkânlarından yararlanarak yeni yöntem ve yaklaşımlar geliştirmektedir. Tüm bu gelişmeler gerek öğrenciler, gerek öğretmenler açısından bambaşka olanaklar sunmaktadır. Öğrenci ve öğretmen inanılmaz bir kaynağa sahip olmuştur günümüzde. Ağ bağlantısı ve geliştirilen akıllı uygulamalar ve son dönem geliştirilen yapay zekâ tabanlı uygulamalar sayesinde çok geniş kaynak, ders materyali, ders uygulama örnekleri, alıştırmalar, sorular, çözümleri, diyaloglar vb. pek çok gerçek yaşama ve ortama birebir uyumlu materyallere erişilebilmektedir. Öğrenilen dilin ülkesine gitmeden henüz, diksiyon, telaffuz vb. dil becerileri örneklerine de ulaşmak mümkün olmuş, inanılmaz bir literatür taraması da yapılabilir bir çağa gelinmiştir. Üstelik tüm kırtasiye ve kâğıt israfından son derece uzak bir biçimde tamamen dijital ortamlarda erişilebilecek hale gelmiştir.

2. Dil Öğretimini Etkileyen Unsurlar

Yakın zamanda yaşamış olduğumuz pandemi dönemi tüm dünyada olduğu gibi Türkiye'de de tüm eğitim öğretim etkinliklerinin uzaktan yapılması zorunluluğunu doğurmuştu. Daha sonra yaşanan deprem felaketinde de bir takım uygulamalara yer verilmiştir. Zamanın bilgisayar teknolojileri ve internet imkânları kullanılarak hızlı bir şekilde internet üzerinden Zoom, Teams vd. gibi programlar aracılığıyla uzaktan eğitime[2] geçilmiştir. Bugün de kısmen uygulanan bu sistemlerle birlikte hibrid yani karma eğitim sistemi de ortaya çıkmış oldu. Dolayısıyla dil eğitimini etkileyen doğal ve doğal olmayan felaketler olabileceği gibi gelişen ya da yeni ortaya çıkan bir takım teknik buluş ve gelişmeler de bulunabilmektedir. Bu etkilemelerin olumlu yanları olduğu gibi, olumsuz yanları da vardır. Pandemi ve daha sonrasında yaşanan deprem felaketinde ağ üzerinden uygulanan uzaktan eğitim sistemlerinde eğitime ara vermeden devam etme imkânı bulunmuş oldu. Çeşitli fiziksel ulaşım problemleri ya da hastalık, bulaş riski açısından eğitim süreci kesintiye uğramamış oldu.

Ekran / internet aracılığıyla yapılan uzaktan eğitim uygulamalarında bir takım olumsuzluklar da gözlemlenmiştir. Ağ imkânlarının zayıf oluşu, internet erişimi bulamayan ya da internet erişimi yanında bilgisayar, tablet, vb. ekran imkânı bulamayan insanlar da olmuştur. Bu durum eğitimde fırsat eşitliği ilkesine aykırı bir durum oluşturmuştur. Bir diğer konu ise derslerde öğrencilerin aktif derse katılım ya da katılmama sorunu idi. Kameraların açılmaması ve benzer bir takım nedenlerle dersin niteliklerinde yaşanan olumsuzluklar öğrenmeye ket vurmuş, ders kazanımlarında istenilen hedeflere ulaşılamamıştır. Dolayısıyla her ne kadar teknolojik araç ve gereçler son derece güzel olanaklar da sunsa yüz yüze eğitimin gerekliliği ve önemi bir kez daha ortaya çıkmıştır.

[1] Uzaktan Yabancı Dil Eğitimi bağlamında ilk kez 1856 yılında Gustav Langenscheidt (1832-1895) Fransızca derslerini içeren ve Fransızca öğretmeni Charles Toussaint (1813-1877) ile birlikte hazırladığı „*Brieflicher Sprach- und Sprechunterricht für das Selbststudium der französischen Sprache*" (Mektupla Fransızca Dersleri) başlıklı yayını, uzaktan dil öğretiminde ilklerdendir. "Methode Toussaint-Langenscheidt (MeTouLa)" yöntemi olarak da anılan bu yöntem; mektuplu öğretimin ilklerinden olup, 19. Yüzyılın belli başlı dil öğretim yöntemlerinden biri olarak da anılmıştır (wikipedia). Bu yöntemin temel ilkesi, öğrencinin kendi başına özerk öğrenme çalışmasını yapmasıdır. Kendi kendine öğrenme ya da özerk öğrenme biçimi olarak da bilinir.

[2] *Alm. Fernunterricht, İng. Distance Education.* Uzaktan Eğitim Yoluyla Yabancı Dil Öğretim Yöntemi, uzaktan eğitim kavramıyla doğrudan ilişkilidir. Uzaktan eğitim kavram olarak oldukça eski ve köklü bir yöntem olup ilk kez Wisconsin Üniversitesi'nin 1892 yılı kataloğunda terim olarak geçmiştir (Kaya 2002: 27). Uzaktan eğitim, "öğrenenle öğretenin fiziksel olarak birbirinden uzakta olduğu eğitim biçimidir" (Adıyaman 2002: 92). Bir başka deyişle uzaktan eğitim; "aynı ortamda gerçekleşmeyen tüm eğitim ve öğretim süreçlerini kapsar" (Karasu, Sarı 2019: 321).

3. Yenilikçi Dil Eğitiminin Unsurları

Örgün eğitimin yanı sıra, yaygın eğitim, uzaktan eğitim[3] ve çevrimiçi (online) eğitim gibi amaç, hedef, birey ve benzeri her bir durum için yabancı dil eğitim öğretim süreçleri şekillenmeye ve her amaca uygun yöntem oluşmaya başlamıştır. Bilim ve teknolojinin gelişimine paralel olarak eğitim öğretim alanında da tüm bunlardan yararlanılmaya başlanmıştır. Bu gelişim ders araç gereçlerinden, ders içeriklerine ve ders materyallerine kadar çok büyük çeşitlilik sağlamıştır. Özellikle internet ve bilgisayar, tablet ve benzeri ekranların okullarda da yaygın olarak kullanılması ile birlikte yabancı dil eğitiminde dijital dönüşüm hızla gerçekleşmeye başlamıştır. Bunun en güzel örneği de dersliklerdeki akıllı tahtalardır. Ayrıca bunların dışında tamamen ya da karma (hibrit) kişiye özel eğitim programları da ortaya çıkmıştır.

"*Blended Learning, Hybrid Learning*" olarak da anılan bu yöntemden geleneksel yani yüz yüze öğretim biçimi ile modern yeni medyalar ya da çevrimiçi materyallerle bir arada kullanıldığı karma ya da harmanlanmış öğrenme anlaşılır. Genel olarak e-öğrenme etkinlikleri daha çok öğrencinin kendi başına çalışmasını gerektiren özerk ve bağımsız çalışma ya da öğrenme biçimleridir. Ancak özerk çalışmayı bilmeyen ya da kendisine uygun olmayan öğrenciler için karma eğitim modeli daha idealdir. Kurumsal olarak bakıldığında ise karma ya da hibrid öğrenme modelinin okullarda sınıf ortamlarında daha çok uygulanabilir olduğu, böylelikle öğrenci ilgi ve istekleri açısından da pekiştirici olduğu anlaşılmıştır. Teknolojik araç gereç donanımlarının sağlandığı tüm sınıf ortamlarında uygulanabilir oluşu, okul programları ile uyumlu çalışılabilir hale getirilişi, modelin diğer avantajlarındandır. Böylelikle sınıf içi öğrenme etkinlikleri sınıf dışına da taşınabilir hale gelmiştir. Öğrenci bu sayede hem yüz yüze eğitimin avantajlarından yararlanır, hem de ders dışında özerk çalışma alışkanlığı sayesinde kendini geliştirebilir. Karma eğitim modelinde genel olarak iki aşamadan söz edilir: Birincisi sunu aşaması, diğeri de elektronik öğrenme (e-öğrenme) aşamasıdır.

Sunu aşaması genelde sınıf içinde yüz yüze öğretim etkinliklerini kapsar. E-öğrenme ise sınıf dışı tüm öğretim etkinliklerini kapsar. Bunun için elbette bu modeli iyi bilen öğretmenlere gereksinim vardır. Bu anlamda öğretmen sistem yöneticisi ve eğitim koçudur. Ders ortamında rehber öğretmen konumundadır. Ders dışı e-öğrenme ortamında da sistem yöneticisi ve eğitim koçudur. Ders müfredatının ise her iki aşamayı da kapsayan uyumlu, tutarlı bir ders programı olması gerekmektedir. Dersler öğretmen tarafından organize edilir ve ders aşamalarının her birinde *"e-Learning"* teknik araç ve gereçlerinden özellikle de çevrimiçi ağ bağlantısından yararlanılır. Bu anlamda karma öğrenim, öğretmen gözetiminde uygulanan e-öğrenme ile yüz yüze dersin birleşimidir. Öğretmen faktörü burada son derece önemlidir. Günümüzde *"Couching System"* olarak da tanımlanan rehber öğretmen kavramı aynı zamanda bilişim sistemleri yöneticisidir. Sistem aracılığıyla uzaktan ya da elektronik sistemler aracılığıyla öğrencileri yönlendirir.

Tüm bu olanaklar elbette öğrencilerin yabancı dili çok daha kolay ama etkili ve verimli bir biçimde öğrenmelerini sağlar. Öğretmen açısından da pek çok kolaylık ve imkân sağlamaktadır. Dolayısıyla olumlu anlamda yabancı dili öğretme ve öğrenmede pek çok unsur da ortaya çıkmış bulunmaktadır.

3.1. Youtuber Ders Anlatımları

Son yıllarda öğrenciler tarafından oldukça benimsenen ve çok da rağbet gören ders patformları içerisinde belki de en çok tercih edileni "*youtuber*" ders anlatımlarıdır. İçerik geliştirici olarak da anılan "*Youtuber*"; beğeni oranlarıyla var olmaya çalışan içerik hazırlayıcıları, ders anlatımcılarıdır. "*Youtube*" sitesi üzerinden yayın yapan içerik sahipleri, aldıkları beğeni oranları doğrultusunda reklam alarak bu işten para kazanmaktadırlar. Öğrenciler ise bu kanalları ücretsiz olarak kullanabilmektedirler. Bu tarz ders anlatımlarının neredeyse tamamı ücretsizdir. Öğrenci açısından en önemli avantajı ise sayısız ders anlatımları içerisinden dilediğini seçebilme ve izleyebilme imkânıdır. Video oynatma özelliklerinden de çeşitli hızlarda görüntüyü izleme imkânı da mevcuttur. Hazır eğitim

[3] Dünyada diğer uzaktan yabancı dil eğitimi uygulamalarına bakılacak olursa; İngiltere'de Ulusal British Program 1980'lerde radyo ve TV aracılığıyla Fransızca öğretimi için uygulama başlatmış, çift yönlü iletişim için telefonla soru yanıt servisi kullanmıştır. Kanada'da yapılan benzer bir uygulamada öğrenciler kendi kendine çalışmakta ve ünitenin belli yerlerinde telefonla dönütler almaktadır. Amerika'da pek çok dilde uzaktan eğitim uygulanmakta program, danışmanlık ve kurslar ücretli olarak sunulmaktadır. Avrupa'da *ayrıca "BBC, The British Council, Cambridge Üniversitesi ve Longman"* işbirliği ile hazırlanan *"Look Ahead*" serisi uzaktan dil eğitiminde kullanılmaktadır. Kendi kendine öğrenme kiti olarak sunulan eğitim materyali, 4 ders kitabı, 15'er dakikalık 60 TV programı, 10'ar dakikalık 60 radyo programı, 6 videokaset ve 8 ses kasetinden oluşmakta ve CD ortamında da bulunmaktadır" (Adıyaman 2002: 94). Uzaktan eğitim programları son derece gelişmiş olup, dil sınavları konusunda da uzmanlaşmışlardır. Uzaktan erişimle yapılan dil sınavları sonucunda sertifika verilmektedir (Örneğin; IATEFL, TESOL, Almanca Onset vb.).

ya da ders platformları ya da paketlerinden farklı olarak tamamen öğrenci tarafından tamamen kendi ihtiyaçları doğrultusunda arayarak bulabileceği ve istediğini seçip izleyebileceği bir içeriğe sahiptir. Bu yönüyle kişisel eğitim anlayışına en uygun yapıdaki içeriklerdir. Çevrimiçi ders (online-eğitim) olarak da bilinen bu yöntem uzaktan eğitimin günümüzdeki biçimidir.

Youtube üzerinden eşzamanlı ya da eş zamansız sürdürülen dil kursları ise kayıt videolardan farklı olarak öğretmen eşliğinde yüz yüze ama ekranda *youtube* üzerinden sürdürülür. Dil kursu, dil öğretmeni ve dil gereksinimi belirleyerek seçimler yapmak mümkündür. Uzaktaki öğretmenle web üzerinden kurslar sürdürülür. Kurslarda gerek özerk öğrenme biçiminde, gerekse öğretmen gözetiminde web tabanlı programlar aracılığıyla dil öğretim süreci izlenir. Çevrimiçi uzaktan öğretmen ile sürdürülecek dil öğretim süreçleri ile diğer dil öğretim programlarında dil gereksinimlerine göre program seçilmesi istenir; örneğin genel yabancı dil, mesleki dil, akademik yabancı dil, dil sınavlarına hazırlık vd. gibi. Her bir alanda, ilgili alanın uzmanı öğretmen tarafından eşzamanlı veya eşzamansız dil kursları düzenlenir.

Diğer bir kısım ise çeşitli kurum ve kuruluşlarca çevrimiçi olarak düzenlenen kişisel gelişim kursları, özel kurslar ve benzeri eğitim programları olup çoğu ücretlidir. Tamamlanan programlar sonunda sertifikalar düzenlenmektedir. Birçok yabancı dil kursu da bu şekilde yapılanmıştır. Bunun dışında özel ders sektöründe de çevrimiçi dersler önemli bir ölçüde yaygınlık kazanmış ve son derece işlevsel hale gelmiştir, denebilir. Bu platformlarda uzaktan eğitim de verilse kameralar açık bir şekilde karşılıklı (face to face) yüz yüze öğretim esastır.

3.2. Eğitim Platformları

İnternet üzerinden yayın yapan ücretsiz ders anlatımlarının dışında daha profesyonelce ve kurumsal olarak hazırlanan paket programlar bulunmaktadır. Bu alanda pek çok kurum ya da kuruluş faaliyet göstermektedir. Bunların birçoğu okul, dershane, üniversite vb. resmi ya da özel kurum ya da kuruluşlar olabileceği gibi, pek çok yayınevi de bu alanda etkin bir biçimde çalışmaktadır. Yayınevlerinin dil öğretimi ile ilgili kitaplarında yer alan barkodlar aracılığıyla ilgili yayınevinin platformuna erişim sağlanmakta ve dijital ders içeriklerine ulaşılabilmektedir. Bu türden hazırlanan dil öğretim paketlerinin hemen hepsi hem ders anlatımları içermekte, hem test ve alıştırmalar sunmaktadır. Çevrimiçi ders platformları denilen ve bir tür paket eğitim içerikleri sunan çevrimiçi sitelerin hemen hepsi ücretlidir. Örneğin; *"Doping Hafıza", "Vitamin", "Bahçeşehir Okulları", "Vedubox"* ve benzeri pek çok kuruluş benzer hizmetler sunmaktadır. Ancak devlet tarafından öğrencilere sunulan "EBA" platformu ücretsizdir. Resmi kurum olan Milli Eğitim Bakanlığının 2007 yılında etkinleştirdiği dijital öğrenci – EBA (Eğitim Bilişim ağı) ve ayrıca veli bilgilendirme, okul yönetim sistemi gibi platformlardır. Daha kurumsal oluşu, doğrudan eğitim bakanlığı tarafından oluşturulmuş olması ve de kurum içinde yaygın olarak kullanılması ayrıca tamamen ücretsiz oluşu gibi nedenlerle belki de en geniş eğitim bilgi ağına dönüşmüş durumdadır EBA.

3.3. "Apps" ya da Uygulamalar

Yaşamın her alanında yaygın olarak kullanıldığı üzere eğitim-öğretim alanında da akıllı cep telefonları ve "*Apps*" olarak anılan uygulamalar birer devrimdir aslında. Yapay zekâ teknolojisi kullanarak çalışan uygulamaların çoğu eğitim alanında oldukça fazla kullanılmaktadır. Seksenli yılların yaygın aracı hesap makinası gibi bugün için de tüm bilgisayar, internet erişimi ve diğer tüm uygulamaların çalıştırılabildiği akıllı cep telefonları aslında doğru kullanıldığında eğitim alanındaki en önemli materyal haline gelmiştir denebilir. Örneğin dil alanında son derece yararlı ve çok işlevsel yabancı dil öğrenmek için oluşturulmuş uygulamalar mevcuttur; *"Duolingo, Busuu, Mondly, Memrise, Babbel"* ve benzerleri. Elbette çeviri için kullanılan "*Translate*" ya da "*DeepL*") adlı site ve uygulamaları anmadan geçemeyiz. Yapay zekâ teknolojisi ile çalışan bu uygulamalar önce öğrencinin öğrenme amacını, dili nerede neden kullanmak istediğini, öğrencinin ilgi alanlarını vs. kısa anketlerle sorgulayarak verilerini toplar ve analiz eder. Sonrasında dil öğrenme amacına en uygun yöntem, kelime haznesi ve içerikleriyle seviye grubunu belirleyerek adım adım ilerlemesine yardımcı olur. Dolayısıyla uygulamaların çoğu kişiselleştirilmiş eğitim anlayışına uygun olarak çalıştırılabilmektedir. Çünkü tüm uygulamalar kitle değil birey olarak kullanıcı dostu bir yapıyla kurgulanmaktadır.

Mobil-öğrenme (M-öğrenme), akıllı telefon, tablet ve benzeri cihazlara yüklenen uygulamalar aracılığıyla gerçekleştirilen öğretim etkinlikleridir, denebilir. "*Application"* adı verilen ve kısaca "*Apps*" olarak adlandırılan uygulamalar, Budiu'e (2013: Falk 2016) göre üçe ayrılmaktadır: *"Native App", "Web-App"* ve *"Hybride App"* (Budiu 2013 aktaran Falk 2016: 15). *"Nativ-App"*, "*IOS"* veya "*Android"* sistemlerde kullanılmak üzere geliştirilen ve telefonlara yüklenebilen çeşitli işlevler kullanabilen uygulamalardır. "Web-App" uygulamaları ise "HTML5" yazılım dilinde kodlanan ve web siteleri üzerinden çalıştırılabilen, mobil cihazlarla erişilebilen uygulamalardır.

Cihazlara yüklenmeden, web üzerinden çalıştırılabilen uygulamalardır. *"Hybride-App"* olarak adlandırılan uygulamalar ise her iki uygulamanın teknik biçimlerini kullanabilir. Bunlar da "*HTML5*" ile yazılır ve "*App-Stores*" denen sunucularda bulunur.

Bu yapısal ayrımların dışında uygulamalar içinde amaç ve içeriklerine göre de çeşitli sınıflandırmalar yapılabilir. Bunlardan biri de *"Edu-App"* olarak adlandırılan ve genel olarak eğitim, ders vb. ile ilgili olan, mobil öğrenme ile hibrid öğrenme bağlamında çokça kullanılan uygulamalardır (Falk 2016: 16). Tüm mobil cihazlarla (tablet ve akıllı telefonlar gibi) uygulamalar aracılığıyla yapılan dil öğretim süreçleridir[4]. Bu olanakların ulaştırılamadığı yer ve gruplarda ise ne yazık ki dezavantajlı gruplar oluşmuş, eğitimde fırsat eşitliği ilkesine ters düşen durumlar da oluşabilmiştir (Bkz. Dellal 2023: 99-115). Yakın zamanda bunun örnekleri 2019 yılındaki pandemi döneminde ve daha sonra Maraş deprem felaketinde deneyimlemişti. Gerek altyapı ve teknolojik olanakların çöküşü ya da bulunamaması, gerek maddi olanaksızlıklar nedeni ile erişim ve teknolojilere ulaşamayan ve herhangi bir destek de bulamayan birey ya da gruplar dezavantajlı duruma düşmektedir.

3.4. Yapay Zekâ ve Dil Öğretimi

Elektronik öğrenme de diyebileceğimiz öğrenme biçiminin[5] makine öğrenmesine dayalı şeklidir, denebilir. Günümüz dijital dünyasına bakıldığında giderek kişiselleştirilen özellikler daha fazla ortaya çıkmaktadır. İlginç olan şey; yapay zekâ tabanlı uygulamalar aracılığıyla bilgisayarlarda her bir kişiye özel algoritmaların oluşturulabildiği ve böylelikle tamamen kişiye özgü öğrenme yaklaşımlarının yapılandırması imkânı ortaya çıkmıştır. Ticaret ve alış veriş sitelerinin çok yoğun olarak kullandığı bu tarz bir yapılanma eğitim alanında da kullanılmaya başlanmış ve böylelikle bireye özgü eğitim modelleri de geliştirilmeye başlanmıştır.

Yapay zekâ teknolojisinin dönüşmeye mecbur bıraktığı mesleklerin başında eğitim gelmektedir. Zira pek çok mesleği tehdit eden yapay zekâ teknolojisi eğitim alanında son derece yararlı bir araca dönüştürülebilir. Chat-GPT ile gündemden düşmeyen intihal olayları, hazır metin yazarlığı, ödev yazdırma ve benzeri gibi konular olsa da tüm bunların denetimi yine doğrudan bireylerle iletişimden geçmektedir. Dolayısıyla öğretmen ile öğrencisinin yüz yüze iletişimi sonucu öğrencinin performansının kendi emeği ya da yapay zekâ aracılığıyla kurgulanıp kurgulanmadığı anlaşılacaktır. Bu bağlamda öğretmen-öğrenci iletişimi tüm zamanlara göre çok daha önemli hale gelecektir. Yapay zekâ teknolojisinin en önemli katkılarından biri, öğrencilerin kişisel gelişimlerinin ayrıntılı olarak takip edilmesi, ölçme değerlendirme analizlerinin yapılması, öğrenci ilgi ve gereksinimleri doğrultusunda program ve içerik geliştirilmesi gibi özetle kişisel gelişim programlarını düzenleyebilmesidir.

Yabancı dil öğretimi bağlamında sayısız dil öğretim uygulamaları mevcuttur ve *IOS*, *Android* işletim sistemlerine göre çalışmaktadır. Bu uygulamalar içinden örnek vermek gerekirse en popüler uygulamalar arasında "*Busuu"*, "*Mondley"*, "*Duolingo"* vd." sayılabilir. "*Duolingo*" adlı uygulama tüm dünyada yabancı dil öğrenimi için tasarlanmış, 23 farklı dilde destek veren bir dil öğrenim sitesidir ve ücretli *premium* özellikleri bulunmaktadır. Kullanıcılar aşamalı olarak ilerleyebilmekte, hatalarını görebilmekte, geri dönüp düzeltebilmektedir. Her bir aşamanın sonunda değerlendirme ve ölçme de yer almaktadır. Uygulama içeriğinde temel dil becerilerine yönelik alıştırma ve uygulamalar mevcuttur. Kulaklık, mikrofon gibi çoklu medya özellikleri barındıran cep telefonlarında duyma-anlama, telaffuz, yazma gibi becerilere yönelik alıştırmalar yapılabilmekte, çeşitli partnerler ya da gruplar aracılığıyla sanal ortam, grup ya da sınıflarda iletişim becerisine yönelik çalışmalar da yapılabilmektedir. Gün geçtikçe bu tarz uygulamaların sayısı ve aynı oranda nitelikleri de artmaktadır. Tek olumsuz yönleri belki de ücretli olmasıdır. Ancak verilen ücrete karşılık önemli bir hizmet alındığı da unutulmaması gerektir.

Bu tarz dil öğretim uygulamalarının yanında ek uygulamalar olarak görebileceğimiz elektronik sözlüklerin de yeri ve işlevi unutulmamalıdır. Günümüzde tanınmış ve son derece büyük içeriklere sahip pek çok elektronik sözlükler

[4] Alan Key'in 1972'de tasarladığı günümüzdeki iPad (Apple şirketi tarafından tasarlanarak geliştirilen iOS işletim sistemli tablet bilgisayar) cihazına benzeyen cihaz ile mobil öğrenme kavramı o zamanlarda tartışılmaya başlanmıştır. Amerikalı Cy Endfield ve Chris Rainey tarafından 1978'de icat edilen elle taşınabilir kelime işlemci cihazı Microwriter, 1980'lerin başında İngiltere'de piyasaya sürülmüştür. 1980'li yıllarda Microwriter'in avuç içi cihazları üzerinde mobil öğrenmenin ilk deneme uygulamaları okullarda gerçekleştirilmiştir (Zengin ve diğ. 2018: 18-35).

[5] Alm. Elektronisch unterstütztes Lernen, İng. E-Learning / Electronic Learning. Düz anlamda elektronik öğrenme denebilir, fakat doğrusu bilişim tabanlı öğrenme olup, dil öğretim sürecinde bilişim tabanlı medyaların, teknik donanım, yazılım, ağ ve altyapılarının, yeni medyaların kullanımı anlamına gelmektedir. Mektupla öğretim sürecinden başlayarak gelişen uzaktan eğitimin günümüzdeki biçimidir, denebilir. Kullanılan medyalar ile araç-gereç türlerine göre farklı adlarla anılabilir, örneğin; bilgisayar destekli öğretim, web tabanlı eğitim, multimedya destekli eğitim, dijital öğrenme, uzaktan / açık öğretim, eşzamanlı / eşzamansız öğretim, sanal eğitim, internet temelli eğitim, çevrimiçi eğitim, mobil öğrenme vb. gibi.

mevcuttur. Bu uygulamalar sayesinde eşzamanlı çeviriler yapılabileceği gibi metin çevirisi yapan uygulamalar da mevcuttur. Bunların içinde en önemlilerinden biri de hiç kuşkusuz "*Google Translate*" uygulamasıdır. Bu uygulama sayesinde mobil cihazlar aracılığıyla taratılan metinler doğrudan çevrilebilmekte ve de çeviri doğruluğu açısından yüzde 80-90 gibi oranlara ulaşabilmektedir. Aynı şekilde "Deeple" vd. çeviri siteleri de benzer özellikte çeviri hizmeti sunmaktadır. Bunun yanında mobil cihazlara yüklenebilecek tarzda sayısız sözlük uygulamaları bulunmaktadır. Bu uygulamalar doğrudan konuşmaları da çevirebilmekte, sözcüklerin doğru telaffuzunu defalarca dinleyebilme olanağı sunmaktadır. Elbette elektronik sözlükler aracılığıyla yapılan çevirilerin mutlaka redaksiyon edilmesi gereklidir.

"*Duolingo*" uygulamasının da yaratıcısı olan Luis von Ahn, küçük yaşta tablet kullanımını yanlış bulmamakta, tersine küçük yaşlarda teknolojiyle tanışmanın önemine dikkat çekmektedir. Gerçi bu tespit on yıl geride kaldı artık ebeveynler bebeklere bile ekranlardan görüntü izleterek yemek yedirdikleri gözlemlenmektedir. Bebek yaşlarda kişisel teknolojik araç gereçlerle donanımlı bir çevre içinde büyümektedir çocuklar. Büyüdükçe okul da dâhil olmak üzere etraflarını saran yaşam alanlarının her birinde ekranlar ve dijital dünyanın diğer unsurları yer almaktadır. Elbette yararlıkları olduğu gibi oldukça zararlı ve tehdit edici unsurları da bulunmaktadır. Akranların kendi içlerindeki kavgalar bile dijital ortama taşınmış olup siber şiddet unsuru ve dijital ortamda sosyal medya araçlarında yürütülen siber zorbalık son derece hassas ve kritik boyutlara gelmiştir. Dolayısıyla dijital aydınlanma çağında dijital okuryazarlık, sosyal medya okuryazarlığı gibi kavramlar da ortaya çıkmıştır.

"*Busuu*" uygulaması da benzer tarzda bir dil öğrenim uygulamasıdır. Uzman dilbilimciler tarafından oluşturulan, çalışma planları ve binin üzerinde yazılı ve sözlü dersler vardır. Aynı zamanda öğrenmek istenilen dili, ana dil olarak konuşan insanlarla pratik yapma fırsatı bulunan bir uygulamadır. Önerilen dil partnerleri ile iletişime geçilebilmekte veya sorular sorulabilmektedir. Dört ana beceriyi kapsayan 12 farklı dil kursu sunulmaktadır. Kurslar başlangıç seviyesi A1'den, orta üzeri seviye B2'ye kadar uzanmaktadır[6]. Yazma becerileri de yine mobil cihazlar üzerinde sanal klavye aracılığıyla yapılabilmektedir. Bu tür dil uygulamalarında da az da olsa alanlara göre kurslar yer alabilmektedir, örneğin: turizm, seyahat, genel dil bilgisi vs. gibi. "*Busuu*"nun ücretsiz sürümü "*Flashcards*", yazma alıştırmaları ve ana dili konuşanlardan düzeltmeler sunmaktadır. Cevap ya da ses kaydı düzeltme topluluğuna gönderilir ve diğer kullanıcılar tarafından geri dönütler alınabilmektedir.

Dersler sayfasında, uygulama tarafından düzenlenmiş olarak birer birer hareket etme veya hangilerinin üzerinde çalışılacağını ve hangilerinin atlanacağını manuel olarak seçme seçeneği bulunmaktadır. Dersler A1 seviyesinden başlar ve B2'ye kadar dört seviye boyunca devam eder. Her seviye on iki ila yirmi sekiz dersten oluşmakta ve ders aralarında konu ile ilgili ipuçları ve kısa konu anlatımları yer almaktadır. Seviye sonlarında ise ders tekrarı ve seviye testi bulunmaktadır. Ders tekrarları ve seviye testleri yalnızca Premium özelliğinde girilebilmekte ve test sonuçlarına göre sertifika alınabilmektedir.

4. Sonuç: Yenilikçi Dil Öğretimi

Yenilikçi dil öğretiminde yöntem ve yaklaşımları iki boyutta ele almakta yarar vardır: Birincisi derslerin işleyiş olarak yöntemi. Burada uzaktan eğitim yöntemleri, ders platformları, uygulamalar devre girer. Ağ ve programların yapısı erişimi gibi özellikler sıralanabilir. İkinci boyut ise ders içerikleri konusu olabilir. Ders içerikleri de zamanın teknik donanım, altyapı ve gelişmelerine paralel olarak hazırlanacağından zengin içerik oluşturmak mümkündür. Burada yapay zekâ ya da yapay zekâ tabanlı uygulamalardan yararlanarak zengin ders içerikleri oluşturulabilir. Bu ders içeriklerinin dil becerilerine göre ayrı ayrı ele alınması, yine her bir beceriye yönelik olarak alıştırma ve örneklerin oluşturulması, ölçme değerlendirme ve son olarak da dönütler verilerek bir tür eğitim-öğretim ile dil danışmanlığı ya da koçluğu yapılmasıdır. Dolayısıyla yenilikçi dil öğretimi bir tür sistematik dil öğretimini kapsamaktadır ve çok yönlüdür. Görüldüğü üzere yenilikçi yabancı dil öğretimi yeni teknolojilerle çalışmayı gerektiren çok yönlü, çok yöntemli bir yapı haline gelmiştir. Dolayısıyla yenilikçi dil öğretimi ile ilgilenecek olan ya da çalışacak olan öğrenci ve öğretmenlerin yeni teknolojileri bilmesi ve bu teknolojileri kullanabilmesi gerekmektedir.

[6] Eğitim kurumlarında sunulan dil öğretim kurslarının tüm basılı ve elektronik ders materyalleri paket veya öğrenim seti şeklinde sunulmaktadır. Bireysel öğrenme amaçlı olarak da edinilebilir. Çevrimiçi dil öğretim süreçlerinde ise hizmeti sunan kursun yine çevrimiçi olarak sunduğu ders materyalleri mevcuttur. Ancak bunların büyük çoğunluğu herhangi bir basılı materyale gerek olmadan çevrimiçi sunulur. Mobil cihazlarla erişim sağlanan dil öğretim uygulamalarında ise içerik tamamen uygulamanın içinde yüklüdür ve herhangi bir basılı ders materyaline gereksinim olmadan çalışır.

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Uzaktan Eğitim Yoluyla Yabancı Dil Öğretiminde "Extra" Programının İncelenmesi

Prof. Dr. Hikmet ASUTAY[1] **Ayşe Nur TELLİ[2]**

[1]Trakya Üniversitesi Eğitim Fakültesi Yabancı Diller Eğitimi Bölümü Alman Dili Eğitimi Anabilim Dalı Prof. Dr. Hikmet ASUTAY, E-Posta: asutay@trakya.edu.tr ORCİD ID: 0000-0002-0175-2429

[2]Trakya Üniversitesi, Sosyal Bilimler Enstitüsü Yabancı Diller Eğitimi Ana Bilim Dalı Alman Dili Eğitimi Bilim Dalında Seminer dersi bağlamında yürütülen derste ele alınmış içeriklerden yararlanılmıştır. Yüksek Lisans Öğrencisi aysenurstt@gmail.com ORCID: 0000-0002-2578-1451

Özet: Hayatın her alanında yeni teknolojilerden yararlanılmaktadır. Bilgisayar, akıllı telefon, tablet vb. teknolojik araçların; TV programları, dizi-film-belgesel platformları, internet mecraları gibi yeni medya kanallarının pek çok şeyi daha zahmetsiz ve ulaşılabilir kılması kişiye hayatın diğer alanlarında harcayabilmek adına zaman kazandırmaktadır. Bu platformların artık tek amacı keyif vermek olmakla kalmayıp; aynı zamanda çeşitli konularda doğrudan veya dolaylı bir şekilde bilgi aktarımı sağlamak da olmuştur. Artık yeni bir dil öğrenmek isteyen bireyler, uzun soluklu kurslara kayıt yaptırmak yerine internet üzerinden çeşitli uygulamalar ve kaynaklar yardımıyla belli bir seviyeye kadar kendi kendine öğrenme modelini gerçekleştirmektedir. Bu bir çeşit uzaktan eğitim yöntemidir. Uzaktan eğitim, öğrenenlerin zaman-mekân bağlamında birbirlerinden ve öğrenme kaynaklarından uzak olduğu; geçmişinin sanıldığından daha eskiye, mektupla öğrenime kadar dayandığı ve günümüzde yeni medyaları kullanarak çığır açtığı bir eğitim modelidir. Son yıllarda çevrimiçi diziler yardımıyla dil öğrenmek ya da dil geliştirmeyi desteklemek oldukça yaygın bir yöntem olarak karşımıza çıkmaktadır. Hatta yalnızca bunun için oluşturulan platformlar ve çekilen diziler de günden güne artmaktadır. Bu çalışmada, uzaktan eğitim modeli tanımlanmaya ve tarihsel gelişimi kapsamlı bir şekilde açıklanmaya çalışılmış; buradan hareketle Wedemeyer tarafından ortaya atılmış olan Bağımsız Çalışma Kuramı çerçevesinde, dört dilde versiyonu bulunan (İngilizce, Almanca, Fransızca ve İspanyolca), hedef dildeki en temel kelime ve yapıların aktarımı amacıyla çekilmiş olan "Extra" adlı 13 bölümlük mini sit-com dizisi öğrenenlere uzaktan eğitimle bağımsız yabancı dil öğrenimi konusunda bir alternatif olması açısından ele alınmıştır.

Anahtar Sözcükler: Yabancı Dil, Uzaktan Eğitim, Medya, Almanca, Extra.

Analysis Of The "Extra" Program In Language Teaching With Distance Education Method

Abstract: Today, we benefit from technology in all areas of our lives, including education. Computer, smartphone, tablet, etc. technological tools; New media channels such as TV programs, series-film-documentary platforms, internet channels make many things more effortless and accessible, saving time for people to spend in other areas of life. These platforms are no longer just for pleasure; at the same time, it was to provide information directly or indirectly on various subjects. Individuals who want to learn a new language now realize their self-learning model to a certain level with the help of various applications and resources over the internet instead of enrolling in long-term courses. This is a kind of distance education method. Distance education means that learners are far from each other and learning resources in the context of time and space; is a model of education, where its past dates back to old times, learning by letter, and has revolutionized by using new media today. In recent years, it is a common method to learn languages or support language development with the help of online series. In fact, only platforms created for this and the series shot are increasing day by day. In this study, distance education model is tried to be defined and its historical development is explained comprehensively. Accordingly, within the framework of the Independent Study Theory developed by Wedemeyer, the 13-section mini sit-com series called Extra, which has a version in four languages (English, German, French and Spanish), which was taken for the transfer of the most basic words and structures, is independent with distance education. An example is shown as an alternative for foreign language learning.

Keywords: Foreign Language, Distance Education, Media, German, Extra.

1. UZAKTAN EĞİTİM

Uzaktan eğitim, eğitim-öğretimin önündeki tüm engelleri ve eşitsizlikleri kaldırdığından, gelişmekte olan ülkelerde oldukça rağbet görmektedir denilebilir. Çeşitli nedenlerle eğitim hayatını tamamlayamadan yarıda bırakmak zorunda kalan bireylere yaş sınırı gözetmeksizin, çalışmak zorunda olan kişilere zaman ve mekân engeli koymadan, öğrenme hızları farklı olan bireylerin aynı sınıf içerisinde zorluk çekmediği, ekonomik durum nedeniyle gerçekleştirilemeyen eğitimin neredeyse her evresini telafi edebilme imkânı sunmakta ve yaşam boyu öğrenmeyi mümkün kılmaktadır.

Teknolojinin hâkim olduğu günümüzde, uzaktan eğitimin geleneksel eğitim ortamlarına nazaran bir diğer avantajı ise daha kolay ve çabuk değiştirilebilir ve geliştirilebilir olması neticesinde yeniliklere daha erken ve hızlı adapte

olabilmesidir. Gelişen teknolojiyle birlikte bilgisayar ve internetin eğitim-öğretime dâhil olması, uzaktan eğitime görsellik, işitsellik ve etkileşimlilik gibi özellikler kazandırmış ve E-Öğrenme kavramını eğitim dünyasına katmıştır (Çoban, 2013). Zaman ve mekân kısıtlaması gözetmeksizin çoklu ortam teknolojileri sayesinde yürütülen bu öğrenme sisteminde, birey etkileşimde bulunmak istemediği sürece kendi başınadır. Daha açıklayıcı olmak gerekirse; bireyin video-konferans gibi yöntemlerle eşzamanlı bir karma öğrenme alanını tercih edebileceği gibi, bilgisayar başında bağımsız çalışarak kendi kendine öğrenim gerçekleştirme olanağının da bulunmasıdır denilebilir.

Uzaktan eğitimin en temel özelliği, öğrencinin pek çok yönden bağımsız olmasıdır. Uzaktan eğitim alanında öncü bir isim olan Wedemeyer, ortaya attığı bağımsız çalışma kuramında öğrenme eyleminin bireyselleştirilmesi gerektiği ve öğrencinin öğrenme materyalleri, öğrenim zamanı, hızı, formatı, amacı ve bu gibi pek çok hususta daha özgür olması ve daha fazla sorumluluk alması gerektiğini savunmuştur (Gökmen, Duman ve Horzum, 2016). Bu sayede daha bilinçli ve kalıcı bir öğrenme süreci tecrübe edilebileceği ve aynı zamanda bu süreçle ilgili tüm tercihleri bireyin kendisi yapacağı için, daha öznel; doğal olarak daha motivasyon sağlayıcı bir çalışma içeriğine sahip olacağı da düşünülmektedir.

1.1. UZAKTAN EĞİTİMİN TANIMI

Başlarda eğitimde fırsat eşitliği sağlamak amacıyla ortaya çıkmış ve şimdilerde ise çok çeşitli nedenlerle tercih edilebiliyor olan Uzaktan Eğitim Modeli, Wisconsin Üniversitesi Sürekli Eğitim Grubu'na göre şu şekilde tanımlanmıştır:

> *"Uzaktan Eğitim, öğrenci etkileşimi ve öğrenme sertifikası sağlayacak şekilde tasarlanmış; uzaktaki kitleye ulaşmak için geniş bir teknoloji yelpazesi kullanan planlanmış bir öğrenme/öğretme deneyimidir"* (Adıyaman, 2002).

Alandaki kavram karmaşasını gidermek amacıyla 2016 yılında oluşturulan ve çevrimiçi olarak erişime açılan uzaktan eğitim sözlüğünde ise bu kavram şu şekilde tanımlanmıştır:

> *"Öğrenenin zaman ve mekân sınırlaması olmadan, basılı materyallerin yanında zengin iletişim teknolojilerinden yararlanarak öğretim etkinliklerine katıldığı, eğitsel kaynak ve içeriklere eş zamanlı veya eş zamansız olarak erişebildiği öğretim sistemidir" (*Açık ve Uzaktan Öğrenme Sözlüğü, Erişim 20 Haziran 2020).

Bu tanımlamalardan sonra artık bir şekilde uygulama alanı olarak yerleşmiş bir düzene sahip olan uzaktan eğitim yöntemiyle yabancı dil eğitimi konusunu irdelemek gerekmektedir.

1.2. UZAKTAN EĞİTİM YOLUYLA YABANCI DİL ÖĞRETİMİ

Kişinin herhangi bir konuda eğitim görmek istemesi üzerine yöntem seçeneklerinden uzaktan eğitime yönelmesi günümüzde sıkça rastlanılan bir durumdur. Öğrenim süreciyle ilgili kararları öğrencinin kendi veriyor oluşu; mekân, zaman, platform hatta öğrenim modeline kadar her konuda esnek olunması; iş veya başka herhangi bir nedenle vakit ayıramama, ulaşım sıkıntısı çekme, maddi yetersizlikler vb. gerekçelerle eğitim imkânı bulamayan bireyler için çok uygundur denebilir. Günümüzde hemen her sektörden ve yaştan insanın yabancı dil biliyor olması gerekliliği de, yukarıda sayılan ve sayılmayan pek çok gerekçeye sahip bireyleri uzaktan eğitimle yabancı dil öğrenmeye sevk etmektedir. Kişi örneğin trafikte toplu taşımada, dışçide bekleme odasında veya evinde yemek hazırlarken geçen zamanı, telefon veya tabletiyle yapabileceği işlemleri hallederek değerlendirmekte ve zaman kazanmaya çalışmaktadır. Bazen e-postalara cevap verirken, bazen de oyun oynarken geçirilen bu zamanın, son zamanlarda çevrimiçi diziler izlenerek geçirildiği gözlenmektedir. Bunu bir avantaja çevirerek hedef dilde bir şeyler izleyip dinleyerek bir nevi eş zamansız uzaktan öğrenme gerçekleştirilmiş olunacaktır.

Bir yabancı dil öğrenmek için adım atmak, konfor alanından ayrılmak demektir. Farklı bir dilde kendini ifade etmenin yollarını aramak, bambaşka bir kültürü keşfetmek için uzun ve bilinmez bir yolculuğa çıkmak gibidir. Bu esnada kendi dil ve kültürüyle hedef dil ve kültürü karşılaştırmak, benzerlik ve farklılıkları mukayese etmek, bağımsız çalışmada tüm sorumluluk bireyin kendisinde olduğundan bilinçli öğrenme açısından çok doğal ve gereklidir denebilir.

Günümüzde farklı kültürlerle en kolay ve hızlı bir şekilde dizi ve filmler aracılığıyla bağ kurulmaktadır. Dizi ve filmler yardımıyla yabancı dil geliştirmek artık çok yaygınlaşmıştır. Nasıl ki dönem film ve dizilerinde o döneme ait bilgiler ediniliyorsa, güncel dizi ve filmlerde de o kültürün ve dilin en güncel hali edinilmiş oluyor denebilir.

Yabancı dil öğrenmedeki temel hedef, o dildeki en önemli ve en sık kullanılan kelime ve yapıları öğrenmek, bunları ortama ve duruma uygun bir şekilde kullanabilmek ve doğru anlayabilmektir.

1.3. Çalışmanın Amacı, Önemi ve Sınırlılıkları

Bu çalışmanın amacı, uzaktan eğitimin tarihsel gelişimini aktarmak, uzaktan eğitimle yabancı dil öğrenimi bağlamında dört hedef dilde en temel ve sık kullanılabilecek kelime ve yapıları aktarmak için üretilmiş olan Extra adlı mini dizinin hedefe görelilik açısından incelenmesidir. Yalnızca yabancı dil öğretimi amaçlı üretilmiş bir sit-com dizi örneği olması ve eğlendirirken öğretmeyi hedef edinerek titizlikle hazırlanmış senaryosu; televizyon için üretilmiş olan diğer dizilerin dil seviyesinin öğrenenler için ağır olması nedeniyle önem arz etmektedir. Çalışma, dizinin Almanca versiyonunun ilk bölümüyle sınırlandırılmıştır.

2. Dünyada Uzaktan Eğitimin Tarihsel Gelişimi

İlk olarak mektup yoluyla başladığı bilinen Uzaktan Eğitim Modelinin kesin bir başlangıç tarihi bilinemese de profesyonel anlamda kullanımına 19.yy.'da başlandığı söylenebilir. Lakin tarihsel gelişimine bakılacak olursa 20 Mart 1728 tarihli Boston Gazetesi'nde uzaktan eğitim aracılığıyla steno derslerinin verileceği duyurulmuştur (Çoban, 2013). Steno ya da stenografi; kısa ve yalın imlerden oluşan, konuşmaları hızlı bir şekilde yazıya geçirme yöntemidir. 1833 yılında ise İsveç Üniversitesi'nde kadınlara "Mektupla Kompozisyon Dersleri" verilmiştir. İlk modern eğitimci olarak bilinen ve stenografi eğitimcisi olan Isaac Pitman 1840 yılında İngiltere'de mektupla stenografi öğretmeye başlamıştır. (*Wikipedi, Uzaktan Eğitimin Tarihsel Gelişimi Erişim 22 Mayıs 2020*). 1892 yılıyla ilgili olarak kaynaklarda iki farklı bilgi vardır. Bunlardan biri; uzaktan eğitim teriminin ilk olarak bu yılda Wisconsin Üniversitesi'nin yıllık kataloğunda geçtiği (Adıyaman, 2002), diğeri ise Chicago Üniversitesi'nde ilk Mektupla Eğitim bölümünün açıldığıdır (*Brussels Capital University, Uzaktan Eğitimin Tarihsel Gelişimi Erişim 20 Mayıs 2020*).

Uzaktan Eğitim'de dünyanın öncü kurumlarından olan Hermands, dil eğitimi vermek üzere 1898 yılında İsveç'te kurulmuştur (*Ordóñez de Pablos, 2014*). 1906 yılında Winconsin Üniversitesi yöneticisi William Lighty tarafından yazılan bir yazıda uzaktan eğitim terimi kullanılmış (Adıyaman, 2002) ve yine aynı yılda yazışmalı İlköğretim ABD'de başlamıştır (*Wikipedi, Uzaktan Eğitimin Tarihsel Gelişimi Erişim 22 Mayıs 2020*). 1919'da ABD'de ilk kez eğitimle ilgili radyo kurulmuştur (Zigerell, 1984). 1920 yılında artık ABD'de birçok üniversite kendi yayınlarını yapmaya başlamış ve eğitimi uzaktaki insanlara ulaştırmayı başarmıştır (Çoban, 2013). Dünyanın ilk televizyonla uzaktan eğitim uygulaması 1932 ile 1937 yılları arasında ABD'de Iowa Üniversitesi'nde başlamıştır (Çoban 2013). 1939 yılında savaş döneminde Fransa'da resmi Uzaktan Eğitim Merkezi halka hizmet vermeye başlamışken, aynı yıllarda Rusya'da da buna yönelik çeşitli proje ve uygulamalar geliştirilip halka sunulmuştur (Kırık, 2014).

2.1. Türkiye'de Uzaktan Eğitimin Tarihsel Gelişimi

Türkiye'de uzaktan eğitim ilk olarak 1927 yılında eğitim sorunlarının görüşüldüğü bir toplantıda ele alınmış; 1950'li yıllara dek uygulamaya geçilememiştir (*Wikipedi, Uzaktan Eğitimin Tarihsel Gelişimi Erişim 22 Mayıs 2020*). Ancak 1956 yılında Ankara Üniversitesi, Hukuk Fakültesi, Banka ve Ticaret Hukuku Araştırma Enstitüsü banka çalışanlarının mektupla öğrenim yoluyla uzun bir süre devam edecek olan hizmet içi eğitim aldığı bir uygulama yapmıştır. Milli Eğitim Bakanlığı bünyesinde bir Mektupla Öğretim Merkezi kurulması 1961 yılında gerçekleşirken; Radyo ile Eğitim Ünitesi'nin kurulması ise 1962 yılında olmuştur. Bundan iki yıl sonra TRT ile planlı bir şekilde eğitsel radyo yayınları yapılmaya başlanmıştır.

Mektupla Öğretim Merkezinin çalışmaları 1966 yılında Genel Müdürlük düzeyinde örgütlenerek örgün eğitim alanında yaygınlaşmıştır (*Brussels Capital University, Uzaktan Eğitimin Tarihsel Gelişimi Erişim 20 Mayıs 2020*). 1974 yılında, "*lise ve dengi okul çıkışlı öğrencilere toplumun ve ekonominin gereksinim duyduğu alanlarda modern eğitim teknolojisinin tüm gereklerini kullanarak öğretim olanağı sağlamak ve böylece yükseköğretim önündeki yığılmaya çözüm olarak 2 yıllık ön lisans eğitimiyle ara insan gücü yetiştirmek*" amacıyla Yaygın Yüksek Öğretim Kurumu (YAYKUR) kurulmuştur. 1976 yılına gelindiğinde ise bu kurum uzaktan eğitimde yeni bir dönem başlatarak eğitsel TV yayınlarına başlamıştır (Bozkurt, 2017).

1982 yılında açılan Anadolu Üniversitesi Açık Öğretim Fakültesinde diğer derslerle beraber yabancı dil dersleri de uzaktan eğitim yöntemiyle kitaplar ve TV programlarıyla sürdürülmeye başlanmıştır (Adıyaman, 2002). 1989 yılında Anadolu Üniversitesi Bilgisayar Destekli Eğitim Birimi'nin açılması uzaktan eğitim alanındaki ARGE çalışmalarına hız vermiştir (Bozkurt, 2017). 1992 yılına gelindiğinde, çeşitli nedenlerle tamamlayamadıkları lise

öğrenimlerini bitirmek isteyenlere bu olanağı sağlamak amacıyla Açık Öğretim Lisesi'nin kurulması ve bir sonraki yıl Anadolu Üniversitesi'nde Uzaktan Eğitim Anabilim Dalı'nın açılması da yine uzak eğitim alanında Türkiye'deki en önemli gelişmelerdendir (Adıyaman, 2002).

Uzaktan eğitimin Türkiye'deki gelişim sürecinde bilişim tabanlı dönemi başlatan olaylar için ODTÜ Enformatik Enstitüsü'nün 1996 yılında internet üzerinden uzaktan eğitim çalışmalarını başlatması ve aynı yıl İTÜ Uzaktan Eğitim Merkezi'nin (UZEM) kurulması işaret edilebilirken; Açık İlköğretim Okulu'nun kurulması ise 1997 yılında gerçekleşmiştir. Bu gelişmeleri 1999 yılında Ahmet Yesevi Üniversitesi'nin uzaktan yüksek lisans derslerini vermeye başlaması ve Anadolu Üniversitesi'nin Uzaktan Eğitim Tezli Yüksek Lisans Programı'nın başlaması takip etmiştir. Türkiye'nin internete dayalı ilk ön lisans programı olarak Bilgi Yönetimi Programı 2001 yılında başlamışken; ilk Uzaktan Eğitim Doktora Programı 2006 yılında açılmıştır. Tüm bunlar olurken pek çok üniversitede yıllar içinde uzaktan eğitim programları açılmaya devam etmiştir ancak yasal olarak meşrulaştırılması 2011 yılını bulmuştur (Bozkurt, 2017).

3. Alanyazında Uzaktan Eğitim Yoluyla Yabancı Dil Öğretimi

Alanyazında uzaktan eğitim ve uzaktan eğitim yoluyla yabancı dil öğretimi üzerine pek çok çalışma bulunmaktadır. Son yıllarda yapılan çalışmalarda ise bilgisayar destekli uzaktan eğitim üzerine yapılan çalışmalar dikkat çekmiştir. Bunlardan bazıları:

Ronald Boyle (1995), "Uzaktan Dil Öğretimi: Birinci nesilden Üçüncüye" adlı çalışmasında uzaktan eğitimin geçtiği aşamaları ve bu konuda yapılan çalışmaları tartışmış; uzaktan eğitimin zorlayıcı, çok yönlü ve değerli bir eğitim şekli olduğunu ancak İngilizce öğretmenleri tarafından o dönemde hala ihmal edildiğini göstermeye çalışmıştır.

Uwe Baumann (1999), "Açık Üniversite'de Uzaktan Eğitimde Almanca" adlı makalesinde Açık Üniversite'deki Almanca derslerinin gelişim aşamalarını açıklamış, ders bileşenlerini ve işlevlerini sunmuş, ders yapısının ve bileşenlerinin ders kitaplarına entegrasyonunu örneklerle göstermiş ve uzaktan eğitimde dil öğretiminin mümkün olup olmadığı sorusuna cevap aramıştır.

Jana Bıcakova ve *Hedviga Semanova* (2014), "Uzaktan Eğitimde Yabancı Dil Ediniminin Modern Biçimleri" adlı çalışmalarında bilgisayar destekli uzaktan eğitimin tarihçesinden, kriterlerinden, avantajlarından bahsetmiş ve bir ders örneği göstermiştir.

4. "EXTRA" DEUTSCH DİZİSİ ÜZERİNE

"Extra" adlı mini dizi, temelde ortaöğretim ve lise seviyesinde yabancı dil öğrenenler için, hedef dilde günlük konuşmada en önemli, en sık kullanılan temel kelime ve yapıları aktarmak amacıyla üretilmiş 2004 yapımı bir dizidir. 19-22 yaşlarındaki dört gencin günlük yaşantısını konu almaktadır. İlişkilerindeki ana sorun, aralarından birinin hedef dilinin çok zayıf olmasıdır. Bu figürün çevresini anlamaya ve kendisini anlatmaya yönelik çabaları dizinin merkezi dinamiğidir. *Extra'nın* senaryosu, tüm seviyeler için kolay ve erişilebilir olmak adına titizlikle yazılmış; güçlü figürler, durumsal mizah ve şakalarla, hedef kitleye hitap etmeyi amaçlamıştır. Dizinin Fransızca, İspanyolca, İngilizce ve Almanca olmak üzere dört hedef dilde versiyonu mevcuttur. "*Südwestrundfunk*" adlı kamu yayın kuruluşunun multimedya okul televizyonu, *WDR* ve İsviçre Televizyonu ile birlikte diziyi satın almış ve TV bölümlerinin yanında başka materyaller de sunmuştur. Bunlar örgün eğitimde kullanılabilecek ders planı örnekleridir. Diziyle alakalı bu bilgiler, "*Planetschule"* adlı internet sitesinden edinilmiştir (*Planet Schule, Extra Deutsch/Sitcom zum Deutsch Lernen Erişim 20 Nisan 2020*).

Resim 1: Dizinin Karakterleri



Senaryoya bakılacak olursa, bu dizi "Sascha, Anna, Nic" ve "Amerikalı Sam"in hikâyesidir (Resim 1). *Sascha* ve *Anna* Berlin'de bir evi paylaşmakta olan iki genç kadındır. *Nic* ise onların komşusudur. Eğlenceli bir tip olan *Sam* ortaya çıktığında, bu üç arkadaşın hayatı alt üst olur.

Bu çalışmada ele aldığımız Sam'ın Gelişi adlı birinci bölümde, Sascha, Amerikalı eski mektup arkadaşı Sam'dan 14 Temmuz'da Berlin'e geleceğini yazdığı bir mektup alır. Kapının zili çaldığında Sascha ve Anna o günün bugün olduğunu yeni fark ederler. Sam'in garip göründüğünü ve Almancasının çok zayıf olduğunu anlayan iki kız, hayal kırıklığına uğrar ve Sam'e Almanca öğretme görevini Nic'e bırakırlar. Bu sırada Nic, bir derginin ön sayfasında Sam'in Amerika'nın en zengin ailelerinden birine mensup olduğunu öğrenir fakat Sam, Nic'ten bu sırrı saklamasını ister, çünkü onunla sadece parası yüzünden ilgilenmeyen gerçek arkadaşlar edinmenin peşindedir.

Birinci bölümle ilgili olarak çalışma yapılmak istendiğinde, bölümün teması da göz önüne alınırsa genel başlıklar tanışmak, aile ve arkadaşlar, günlük planlar gibi konularda olacaktır. Bölüm dil bilgisel yapıları açısından incelendiğinde ise; geniş zaman (Almancadaki geniş zaman aynı zamanda Türkçede şimdiki zamana da tekabül ediyor), birinci gelecek zaman (Almancada iki tane var), emir kipleri, soru zamirleri, olumsuzluk ve yardımcı fiiller konuları geçtiğinden bu konularla ilgili çalışmalar yapılabilir.

4.1. Extra ile Almanya'daki Göçmen Öğrencilerle Yapılan Deneme Hakkında

Dizi ile ilgili çalışma materyalleri, Lahr'daki Theodor-Heuss-Schule isimli yüksek oranda göçmen barındıran (2/3'ten fazla) ortaokulda denenmiştir. Bazılarının neredeyse hiç Almanca bilmediği okulda özel dil dersleri verilmektedir. Bu deneme, 13 ila 16 yaşlarında öğrencilerden oluşan iki grup üzerinde yapılmıştır. Sınıf ortamında daha önce bir sit-com kullanıldığını görmeyen öğrenciler diziyi genelde iyi bulmuşlardır ve çoğu kendilerini Sam'le bağdaştırmışlardır (*Planet Schule, Bericht Aus Der Praxis zu Extra Deutsch 24 Haziran 2020*)

5. Extra İle Bağımsız Uzaktan Öğrenme İçin Öneriler

Öğrenenlerin diziyi yalnızca izleyerek, hiçbir eğitsel etkinlik yapmadan bitirmesi elbette ki onlara pek bir fayda sağlamayacaktır. Daha önce de bahsedildiği gibi, uzaktan eğitim bir nevi bağımsız öğrenme modelidir ve eğer çevrimiçi sınıf ortamında öğretmen eşliğinde eş zamanlı bir ders işlenmiyorsa, sorumluluğun neredeyse tamamı öğrenendedir. Aşağıda Extra dizisi ve buna benzer pek çok eğitsel amaçlı olan veya eğitsel amaçlı olmasa da içerik vb. bakımından hedefe yönelik izlencelerle yabancı dil öğrenmek isteyen bireylere yol göstermek amacıyla birkaç etkinlik önerisi verilmiştir:

1. Diziyi izlerken rastgele durdurup, "şimdi ne olabilir?" sorusunu kendine sorarak, yazma etkinliği yapılabilir.
2. Diziyi sesi tamamen kapatarak izleyip, karakterlerin ne konuştukları tahmin edilmeye çalışılabilir.
3. Sahnelerde görülen nesnelerin isimleri tekrar edilip, bilinmeyenler öğrenilebilir.
4. Rastgele bir sahnede durdurulup, o anın tasviri yer yön zarflarıyla ve sıfatlar kullanılarak yapılmaya çalışılabilir.
5. Karakterlerden herhangi biri seçilip, onun adına günlük yazılabilir.
6. Bölümde geçen dil bilgisel yapılar not edilip, daha sonra bunlarla örnek cümleler kurulup dil bilgisi alıştırmaları yapılabilir.
7. Bir dil arkadaşı edinilip, tüm bu etkinlikler ve daha fazlası önce bireysel yapılıp, daha sonra cevaplar karşılaştırılıp üzerinde tartışılabilir ve hatta sahneler dramatize edilebilir.

6. SONUÇ

İçinde bulunduğumuz bilişim ve iletişim çağında kültürlerin tanıtımı ve dil yapılarının aktarımı açısından bakıldığında görsel-işitsel medya unsurlarının önemi yadsınamaz. Bugün aynı dil içerisindeki yöresel farklılıkları bile çok geniş kesimlere duyurabilen dizilerin bu gücünü yabancı dil öğretiminde kullanmak çok akıllıca bir seçim olacaktır. Bu çalışmada ele alınan Extra adlı dizinin, televizyonda ve çeşitli internet platformlarında yayınlanan seyirlik dizilerdeki ileri seviye dilinden ziyade hedef dildeki günlük yaşantıda karşılaşılabilecek en temel kelime ve yapıları içerdiğini ele alınacak olursa, başlangıç ve orta seviyedeki öğrencilere hitap edebileceği ve tamamen eğitim amaçlı hazırlanmış olması dolayısıyla da sakıncalı bir içerik barındırmadığı gözlemlenmiştir. Her bölümde en fazla 3-4 tema işlenmiş ve yine sınırlı sayıda dil bilgisel yapılar kullanılmış olduğundan kendi kendine öğrenme

açısından kolaylık sağlanmıştır denebilir. Bölüm sonlarında bölümün küçük bir özeti verilirken önemli yapılar da yazılı olarak gösterilmektedir. Bu da tekrar ve kalıcılık anlamından bir artı olarak değerlendirilebilir. Bu alandaki diğer örneklerinden en büyük farkı ise; olay örgüsü, esprileri ve karakterleriyle gerçek bir sit-com tadı vermesi hatta dünyanın en popüler sit-com dizisi olan Friends'i andırması nedeniyle eğitsel bir materyal olduğunu hissettirmeyip sıkıcı olarak etiketlenmeyecek kadar eğlenceli ve gerçekçi olmasıdır. Aynı zamanda hedef kültüre ait unsurlar ve davranış kalıpları hakkında da bilgi sahibi edinilecek olması, dizinin güldürü özelliğinin yanında sağladığı diğer bir avantajdır.

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Training Multi-Intelligence at Extra-Curricular Activities

Natalia HIOARĂ[1] RUGA Ecaterina[2] RUGA Olesea[3]

[1]University Assistant, Master in Philology, ASEM, Chisinau, https://orcid.org/0000-0003-2351-1287

[2]PhD, Associate Professor

[3]Master in AI

Abstract: The strategic and moral imperative of the 21st century in education. Family's economic impasse and perplexity lead to prioritize immediate survival over long-term educational investment. Lots of individuals lack trained teachers, adequate learning materials, also lack of innovative volunteer relevant teaching programs, lack of community involvement, etc., that, can make education accessible and effective.

Another barrier is the lack of technological integration such as creating mobile learning platforms, online courses and digital classrooms can bring quality education to all remote areas.

One more barrier to education is lack of partnerships between government, organizations, etc., that can pull resources and expertise, as well as provide training for teachers and develop innovative teaching materials, etc.

The above said will unlock human potential, will foster the cognitive and social skill necessary to thrive in a rapidly changing world. Creating different extracurricular activities that cater to the particular interest of each student.

Key Words: override, superside, barriers to education, palmy, electic.

1. INTRODUCTION:

The students organized in extra-curricular activities are considered special because of their idiosyncrasies and their electic interests to hone /sharpen their talents. They have the opportunity to continue what interest them most and they are encouraged to discover other potential talents in arts, painting, dance, learning new languages. By this they develop their levels of intelligence that can serve as the starting point for efficient learning, guarantee a successful future developing team spirit, healthy lifestyle and fairness.

The students at extra-curricular activities are proposed to find out their IQ and the field of interest. There is a difference between IQ and the intelligence. The first is a score on a test, while the latter is the important thing. This is one of the definitions of intelligence**: Intelligence means the ability to perceive, to pose and to resolve problems related to survival**. Young students with low IQ are not smart merely because they are young. Our IQ level is inherited and cannot be changed, but we can raise our IQ sometimes by as much as only 10 points by learning strategies in an academic setting. Moreover, IQ is only one type of intelligence.

Every student can enhance / raise his IQ, but to size of the effect gets smaller the older you are. Still, it is possible to do very well at school with a below average IQ.

For many years schools' administrations were looking for students with high IQ. The decisions of most teachers surprised school managers, parents and even higher educational bodies: IQ is a completely meaningless number in life. It really doesn't matter what you score on a two-hour exam. It is your character, what matter in life, stick-to-it-iveness (diligence or work day by day); it also matters resourcefulness of course kindness and willingness to work hard. Many school principles (directors), many employers would rather take new employees who possesses(s) those characteristics over a "High IQ" 100% of the time. One should do their best.

One can effectively raise his IQ; although IQ is less important than you would think. Still the ability to think may be assumed in the points as:

1. Entertain (train) different logic puzzles
2. Learn to program
3. Play an instrument
4. Sleep 8 hours, otherwise your IQ will go down
5. Study math.

1.There exists a book of general topics, reading them although they are useful in expanding your mind usually, they do not;

2. Impact the IQ

3.A healthism lifestyle will help you to take tests, and help you to learn, but the IQ may raise a point or two living in a favourite environment

4.Medicine can enhance mental elasticity and can rewire your brain for efficiency, but would have little impact on young students

5.As we grow older IQ which is mostly a measure of fluid intelligence reaches a peak and then diminishes gradually, however crystalized intelligence does increase with age. In our tens and 20s we are best figuring our novel puzzles, while knowledge and skills continue to increase until old age, meaning we are suited to different tasks at different ages. Fundamental discoveries in mathematics are made in their 20s. The peak of proficiency in a wide range of profession is reached in Middle Ages, at the moment when (where) fluid and crystalize intelligence cross. In late middle age the outstanding composers produced their greatest works.

One can get a higher level of education or you can get an individual study to educate yourself, you can read the greatest 100 books from a list whispered by the best writers in order to broaden somebody's visual intelligence and be a success on a job market by opening more opportunities at the disposal if all these seem doesn't present any interest to you then it means that you are good at self-study (as self -didact) you may teach yourself.

2.HEADING

Multiple Intelligence

According to Howard Gardner's theory of multiple intelligence he proposes that people are not born with all of the intelligences they will ever have. He says that there is one single type of intelligence known as "g" for general intelligence, as it focuses on cognitive abilities.

In order to broaden the "g" notion of intelligence, Gardner proposed eight different types of intelligence such as: Logical/Mathematical, Linguistic, Bodily-kinesthetic, Spatial, Musical, Interpersonal then Intrapersonal (now it is called "Emotional Intelligence") and Naturalist. In schools and our modern society, according to Gardner, the Linguistic and logical – mathematical modalities are solicited and valued in school and society. Besides, Gardner also notes there are other "possible types" intelligences consisting of spiritual intelligence, existential intelligence and moral intelligence though they do not meet his initial/original criteria advanced in 2011. According to the latest investigation Inclusion Criteria should be categorized as a Multiple Intelligence such as:

*Existence of savants, prodigies and other exceptional individual

*Potential of isolation by brain damage

*People with evolutionary, history and evolutionary plausibility

SUBHEADING 1

Linguistic Intelligence or Word Smart

According to Howard Gardner's Multiple Intelligence theory, Linguistic Intelligence (or Word Smart) deals with:

1.sensitivity to the spoken and

2.ability to learn languages;

3.capacity to use language to reach certain goals;

4.also, Linguistic Intelligence involves the ability to use language masterfully to express oneself rhetorically or poetically;

5.ability to manipulate syntax, structure, semantics, and philology of language

6.people with linguistic intelligence have the ability to:

a) analyze information;

b) create products involving oral and written languages such as: speeches, books, memos

Potential career choices as: *lawyer, speaker/Host, author, journalist, curator, poet, novelist, English teacher, could help dominate with your linguistic intelligence.*

Expressions used for enhancing intelligence development in the field of education

What is The Role of Education in Developing Intelligence

1.Unlock human potential

2.Investing in education

3.Promote a powerful strategy

4.Personal and Social development

5.Impart knowledge

6.Foster cognitive and social skills

7.Fundamental human right

8.Cornerstone for personal advancement

Expression used for expanding/heightening the intelligence occurrence in education

The Education contributes a) to the betterment of society, b) to the increase of intelligence in many fields of activity

1.Elevating Cognitive Development

2.Significant contribution to the cognitive development of individuals

3.Individuals exposed to a proper educational environment in order to develop:

a) better memory

b) problem-solving skills

c) critical thinking abilities

4.Cognitive skills sketch/frame:

a) the foundation of intelligence

b) enable individuals to process information

c) make informed decision

d) figure out/understand complex problems

5. Provide access/means to quality education

6. Can soundly/steadily fortify the intellectual capabilities of students

7.Can equip them with tools/instruments needed personal and professional success

Expressions used to develop empathy/sympathy helping to manage emotions

1.Stimulate / cultivate social and emotional intelligence

2.a crucial role in cultivating / fostering social and emotional intelligence

3.Create/provide structured environment (as schools and educational programs)

where students: a) interact with peers

b) manage their emotions

c) develop empathy

d) educate cooperation skills

e) train social competencies:

building strong communities' spirit

fostering a collaborative attitude

4.Tensioned/forced social cohesion aggravated by economic hardships / burden

5.Education can contribute bridge/connect divides/parts

6.Cultivate resilience

Expressions used for enhancing intelligence development in the field of "Overcoming Barriers" to education

What hinder educational progress?

1.Because of economic difficulties families are forced to prioritize immediate survival over long-term educational investments as:

a) A shortage of trained teachers;

b) Lack of infrastructure;

c) Inadequate learning materials;

d) Lack of online learning

What makes education more accessible and effective?

2.Local communities' initiatives ensure relevant cultural solutions like:

a) Teachers' volunteer programs;

b) Organizing mentorship

c) Community schools

What can overcome both infrastructural and geographical limitations?

3.Prioritizing / leveraging technological integration in education

What modern issues can bring quality education?

4.Quality education in remote arears can be developed appropriately by using 1) digital classrooms, 2) mobile learning platforms, 3) online courses, etc.

What can collaboration and partnerships offer to enhance quality education

5.Different types of partnerships and collaborations between non-profits, governments, as well as private sectors organizations can pool resources and expertise proficiency/know-how for teachers:

a) provide training

b) develop innovative teaching materials:

c) fund infrastructure projects

Expressions used for the future creation of an environment where intelligence can flourish

What is the solution to magnify to develop the quality of learning?

What kind of educational system governments should create?

1.Increasing school attendance is not the key solution to intensify the quality of learning. By implementing innovative solutions, by addressing economic infrastructural and social barriers can create educational systems that:

a) nurture/cultivate

b) empower individuals

c) ensure every child has access to grow its intelligence to build evenhanded honorable world

Other people confess that they made mostly Bs, some Cs and some As. But they succeed to transform their grades by choosing professors. If he is irrationally difficult, he should plan to take the course with another teacher. This attitude should be called: Study, Study and again Study. It requires sacrifice and commitment.

When a Sophomore programme tool a rough turn the first thing you must do is get organized: Plan extra-curriculars, chores, plan out your time, homework, studying, work, etc. Follow the schedule. The next message is TRY YOUR BEST. When you get a C, don't give up, keep moving and study harder for the next test. Let your teacher know that you want to earn an A in their class.

If you want to be one of brilliant students who are always topping the class you should

1) pay attention to study;

2) listen in class then you won't have to work hard to study;

3) try to learn in every lecture,

4) give your full concentration in class, every day.

Other useful prompts to increase your intelligence are as follows:

1)Never miss class

2)Have no missing work

3)Compliance counts for so much of the education

4)Ask questions: do not feel dumb, many other students want to know the same things

5)Carefully follow directions and required elements on every assignment

6)Try to have a genuine interest in the course.

As schools are designed to teach people with average IQ the education system considers that As are achievable through hard work and intention to reach that level. Average IQ can achieve almost anything if the person is willing to work for it and who put forth the time and effort.

What is the difference between a straight A student and an intelligent one? The former usually sits in the front row

He smiles at all times

Collaborate with your team males

Study on a daily basis

Become obedient and slave-like

Get good grades.

Usually, people accept their capabilities to be gauged using a standardized grading scale since early age, as the only method what we can accomplish. That's a big problem – because grades and intelligence are very different things: they don't suit the same worth/ acceptation.

Around the internet for years there floated a popular quote **"If you judge a fish by its ability to climb a tree, it will its whole life believing that it is stupid".**

The way we evaluate people's skills and abilities makes as much sense as judging a fish by its climbing ability.

The student might know the material covered in class, but is not able to translate into a performance – on the other hand many people suffer from test anxiety. That can make it difficult to succeed, no matter how well you understand the material.

In case, the students are stressed your brain would manage to do a lot of things rather than writing a test. Maybe they are too stressed to focus. In the previous two cases the grades do not determine intelligence (see the fish), and in the case rendering the atmosphere during the test (which is anxious) doesn't reflect the ability of the student.

In the following case the student learned to take the test, but he didn't comprehend the material. The approach cannot accurately measure abilities, One just play a game.

As humans, we are a lot more than just numbers in a certain area. Each of us has an incredible variety of strengths and talents. The grades don't reflect all the abilities, the grades cover only a certain range of them. As far as intelligence is just one of countless variables that will impact your grades.

If you compare 3 kinds of intelligence a surgeon, a chemist and an actor where each is brilliant in their own.

CONCLUSION

1.When an individual wants to assess himself, he should ask people closes to him for their observation linked with things he gravitated towards during his youth;

2.One should provide you with clearer sense of your strengths (strong points) before choosing your future profession;

3.When choosing a career think if your top skills and interests align with your future job;

4.Everyone should gain a deeper understanding of your natural talents;

5.Figure out how to achieve goals, how to enhance your intelligence in both your personal and professional lives.

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Finansal Okuryazarlığın Hanehalkının Nakit Tutma Talebine Etkileri

Prof. Dr. İlhan Eroğlu[1] **Ülkü SATANER[2]**

[1] 1 Tokat Gaziosmanpaşa Üniversitesi / İktisadi ve idari Bilimler Fakültesi, İktisat, ilhan.eroglu@gop.edu.tr
ORCID:0000-0003-4711-1165

[2] 2 Tokat Gaziosmanpaşa Üniversitesi / Lisansüstü Eğitim Enstitüsü, İktisat, ulkunadir@gmail.com

ORCID:0009-0001-0371-4792

Özet: Finansal okuryazarlık ile finansal eğitimler; bireyleri, toplumu, finans piyasalarını ve nihai olarak, ülke ekonomisini etkileyen, yönlendiren önemli kavramlardır. Globalleşmenin etkisiyle teknolojinin hayatımızın her alanında aktif rol alması, finansal piyasaların kullanım alanlarının genişlemesi, ürün çeşitliliklerinin artmasına bağlı olarak, finansal işlemlerde komple bir yapının oluşmasıyla finansal okuryazarlık ve finansal eğitimin önemini artırmıştır. Finansal okuryazarlık, finansal konularda ve paranın yönetilmesinde etkin kararlar alabilme durumudur. Finansal eğitimlerle paranın yönetilmesine yönelik ihtiyaç duyulan finansal kavramlar, finansal ürünler ve finansal piyasalar hakkında gerek duyulan bilgi beceri, tutum ve davranışların kazandırılması amaçlanmaktadır. Finansal eğitim seviyesi ve finansal okuryazarlık bireylerin finansal tutum ve davranışlarını etkilemekte ve bulundukları toplumun finansal refah seviyesini yansıtmaktadır. Finansal okuryazarlık toplumların kalkınmasında, refah seviyesinin yükselmesinde önemli pozitif sonuçlar doğuracağı kabul edilmekte ve bireylerin finansal piyasaları hakkında bilgi sahibi olmalarıyla birikim, tasarruf, yatırım, borçlanma gibi kararlarda karar alıcılara rasyonel davranışları mümkün kılacak düzeyde rehberlik yapmaktadır. Bu çalışmanın amacı Finansal okuryazarlık ve finansal eğitimlerle ilgili finansal tutum ve davranışların belirlenmesi ve şekillenmesi adına yapılan çalışmalar hakkında literatür incelemesi yapmak ve finansal okuryazarlığın toplumsal ve iktisadi sonuçları hakkında bir çıkarımda bulunmaktır. Çalışmada sonunda finansal okur yazarlığın karar alıcıların nakit tutma eğilimini etkileyeceği ve şekillendireceği, bu bağlamda, bireylerin nakit varlık kullanımı ve yönetimi konusunda Finansal okuryazarlık seviyesinin önemli bir etkiye sahip olduğu tespit edilmiştir.

Anahtar Kelimeler: Finansal okuryazarlık, Nakit tutma talebi

Abstract: Financial literacy and financial education are important concepts that affect and guide individuals, society, financial markets and ultimately, the country's economy. The active role of technology in every aspect of our lives due to globalization, the expansion of the areas of use of financial markets, and the increase in product diversity, as well as the formation of a complete structure in financial transactions, have increased the importance of financial literacy and financial education. Financial literacy is the ability to make effective decisions on financial issues and money management. Financial education aims to provide the knowledge, skills, attitudes and behaviors needed for money management, financial concepts, financial products and financial markets. The level of financial education and financial literacy affect the financial attitudes and behaviors of individuals and reflect the level of financial well-being of the society they live in. It is accepted that financial literacy will have significant positive results in the development of societies and the increase in the level of welfare, and it guides decision-makers in a level that will enable rational behaviors in decisions such as savings, savings, investments and borrowing by individuals having information about financial markets. The purpose of this study is to conduct a literature review on studies conducted to determine and shape financial attitudes and behaviors related to financial literacy and financial education and to make an inference about the social and economic consequences of financial literacy. At the end of the study, it was determined that financial literacy will affect and shape the tendency of decision makers to hold cash, and in this context, the level of financial literacy has a significant effect on the use and management of cash assets of individuals.

Keywords: Financial literacy, Cash holding demand

GİRİŞ

Finans parayı yönetebilmenin sanatı ve bilimi olarak adlandırılmıştır. Paranın yönetilebilmesini sağlamak yaratıcı fikirlere sahip olabilmeyi, yerinde kararlar alabilmeyi gerektirmektedir (Khan ve Jain, 2008: 1). Finans kavramıyla günlük hayatta bireyler ve kurumlar sürekli karşılaşmaktadır. Bireylerin ve toplumların yaşam standartlarının iyileştirebilmesi, tasarruflarını doğru değerlendirebilmesi, refah seviyesini artırabilmesi, işletmelerin ise başarılı bir bütçe yönetimi sağlayabilmesi finans kavramını etkin kullanabilmeyi ve finansal okuryazarlık seviyesinin artmasıyla sağlanabilir. Ekonominin ana kavramları arasında yer alan olan finans; bütçe, birikim, yatırım, tasarruf, risk, sigorta gibi konuları kapsamaktadır. Finansal yönetim bireylerin ihtiyacına yönelik maddi kaynakların sağlanabilmesiyle birlikte oluşturulan birbirine entegre faaliyet alanıyla durumun yönetilmesidir. Finansal yönetim bireylerin tecrübeleriyle işletme veya kurumların genel hedefleri doğrultusunda finansal kararların alındığı birimdir. Finansal kararlarda istikrar sağlanması için bireysel tecrübelerin yanında işletmelerin hedeflerinin birbirine entegre olması gerekmektedir. Bu iki tutum arasındaki uyum sayesinde finansal kararlarda uzun ve kısa vadede istikrar sağlanmaktadır (Paramasivan ve Subramanian, 2009: 3). Finansal piyasaların tarihsel

gelişim süreci çok eski çağlara dayanmaktadır. Babil krallığında Hammurabi yasalarındaki uygulamalara göre kredilere uygulanacak faiz oranları bu sistem doğrultusunda uygulama alanı bulduğu tahmin edilmektedir. İlk opsiyon sözleşmesinin filozof Thales tarafından satın alındığı bilinmektedir. Vadeli işlemlerin 1950'li yıllarda ilk defa Japonya'da pirinç üzerinden işleme alındığı kayıtlara geçmiştir. Uluslararası bankacılık sisteminin ise 15. yy.'dan günümüze ulaşmıştır. İlk anonim şirket 1599 yılında İngiltere'de East India Company ismiyle kurulduğu bilinmektedir. Kâğıt para ilk kez 1690 yılında Massachusetts Körfezi Kolonisi'nde basılarak piyasaya çıkarılmıştır (Ceylan ve Korkmaz, 2013:4). Türkiye'de 1980 yıllarının öncesinde herhangi bir finansal sistem oluşumundan bahsetmek mümkün değildi. O yıllarda sadece finansal sistem yürütücüsü olarak bankaların faaliyet gösterdiği bilinmektedir. Banka mevduatı dışında piyasada etken bir araç yoktur. Finansal sistemin sağlayıcısı bankalar sistemin kaynak sağlayıcısı rolündedirler. 1980' den itibaren dünya ekonomik düzeninde gerçekleşen gelişmelerle birlikte 24 Ocak 1980'de alınan köklü değişim sağlayacak etkin kararlarla ülkemizde de ekonomik dönüşümler başlamıştır. Türk finans sisteminin geliştirilmesi için, finansal sistemin yeniliklerle uyarlanması, teknolojik yeniliklerin sisteme dahil edilmesi, kambiyo serbestleşmesi ve küreselleşmeye uyum sağlanması gibi konularda gelişmeler olmuştur (Öztürk ve Özyakışır, 2013:413)

Türkiye ekonomisinde gerçekleşen köklü değişim ve yapılanmayla birlikte karma ekonomik sistemin yerine liberal anlayış sistemiyle modern ekonomi sistemi uygulanmaya başlamıştır (Güloğlu ve Altunoğlu, 2002: 131) Finansal piyasalar, finansal sistem araçlarının alış, satış işlemlerinin yapıldığı piyasalarda ekonomik yönden mekânsal ve zaman faktörüyle oluşan fon sıkışıklığı problemini çözmek için oluşturulmuştur. Finansal piyasaları işletmeler, devlet, hane halkı, menkul değer alım satımı gerçekleştirenler oluşturmaktadır. Finansal piyasalarda akış şu şekilde gerçekleşmektedir, fon fazlalığı olandan fon eksikliği olanlara doğrudur. Fon fazlalığını oluşturanlar hane halkı iken fon eksikliği yaşayanlar işletmeler ve hükümetlerdir. (Günal, 2007:19). Finansal piyasaları bu özellikleri yönünden sınıflandırdığımızda; Para piyasası, sermaye piyasası, kredi piyasası olarak değerlendirebiliriz (İnağ, 1994: 336).

FİNANSAL OKURYAZARLIK, FİNANSAL EĞİTİM, FİNANSAL FARKINDALIK VE FİNANSAL EĞİTİMİN GELİŞTİRİLMESİ İÇİN YAPILAN ÇALIŞMALAR

Okuryazarlık kelimesinin ingilizce tanımlanması literacy olarak yer almaktadır. Okuryazarlık olma kavramı Türkçe 'de okuryazar olma hali, okuyup yazabilme durumu olarak ifade edilmektedir. Finansal okuryazarlık, birden fazla etkenin bir araya gelmesiyle anlam kazanmaktadır. Finansal okuryazar olmak finansal bilginin, tutum ve davranışlarla bir araya gelmesiyle oluşmaktadır.

Bireylerin finansal okuryazarlık seviyelerinin makroekonomik süreçlerin belirlenmesinde önemli bir etken olduğunu para ve maliye politikalarıyla birlikte finansal piyasaların işleyişinde de etkin rol aldığını savunmaktadır (Béres ve Hudzik, 2012).

Finansal bilgi sistemin kullanıcıları finansal işlemler yapmak isteyenler için önem arz etmektedir. Finansal bilginin finansal okuryazarlık için önemini şu şekilde açıklamak mümkündür; finansal bilgiye erişim sağlamak için doğru ulaşım kanallarını kullanmak önemlidir. Finansal okuryazarlıkta bireylerin gelirlerine göre harcama yapmamaları, sosyo-ekonomik durumlarını aşan durumların oluşması, finansal kaynakların kontrolsüz tüketilmesi durumu, tasarruflardan kaçınıp gereksiz borçlanmayla yanlış karar vermeleri, yanlış finansal bilgiye erişim, finansal yönlendirilmenin yanlışlığı, tüketicinin finansal okur yazarlık için bilgi eksikliğini oluşturmaktadır. Mevcut ekonomik düzende finansal piyasadaki ürün çeşitliliği bu alandaki kötü niyetli kişilerin çoğalması, finansal dolandırıcılığın yaygınlaşmasıyla birlikte tüketicilerin hak ve sorumlulukları konusunda finansal kuruluşlar tarafından hak ve sorumlulukları konusunda yeterli açıklamalarda bulunulmaması, finansal kuruluşların yanıltıcı reklam ve kampanyalarla tüketiciyi yanıltmaya göz yumması sonucu tüketiciler önemli düzeyde maliyetlere katlanmak zorunda kalmaktadır (World Bank, 2013).

Finansal tutum, finansal bilginin oluşmasıyla sağlanan finansal davranış arasındaki etkileşimi destekleyerek finansal okuryazarlık kavramının oluşmasını sağlamaktadır. Finansal bilgi olarak elde edilen her bilgi finansal tutumdan kaynaklanan olumlu, olumsuz etkileşim doğrultusunda finansal davranış ortaya çıkmaktadır (İnceoğlu, 2010: 18).

Finansal davranış, paranın yönetilmesini sağlayan insan davranışından oluşmaktadır (Gutter ve Çopur, 2011). Finansal davranışlarda bireylerin eğilimlerinin sosyal öğrenme teorisi ile geliştiği görüşü savunulmaktadır, bireylerin çocukluk ve gençlik dönemlerinde gözlemledikleri davranışları aileden aldığını, bazılarını ise finansal yönetim eğilimi gerçekleştirdiği dönemde deneyimleyerek öğrendiği bilinmektedir (Gönen ve Özmete, 2007: 58).

Finansal okuryazarlık çerçevesinde yapılmış olan araştırmalarda; toplumdaki bireylerin finansal olaylara ve ekonomiye dair bilgi eksikliğinin olduğunu, finansal araçların ve finansal araçlara yönelik finansal sistem içerisindeki hizmetlerin insanlara karmaşık geldiğini, tüketicilerin finansal konuları anlama ve finansal planlama oluşturabilme yetisinde yetersiz kaldıkları sonucuna ulaşılmaktadır (İstanbul Finans Enstitüsü, 2016). Finansal piyasalarda gerçekleşen hızlı değişimler, teknolojik yenilikler ve küresel olarak gerçekleşen finansal krizlerin doğrultusunda finansal eğitim konusu üzerinde yapılacak düzenlemelerle, toplumun finansal yönetimi iyileştirici hamleleriyle birlikte hükümetlerin ve düzenleyici kuruluşların bu konuda etkinliğinin artacağı düşünülmektedir (OECD, 2012: 3).

Ekonomik İş Birliği ve Kalkınma Örgütü (Organisation for Ekonomic Coperation and Development, OECD) 2000 yılında düzenlemiş olduğu çalışma raporunda Finansal okuryazarlığı; davranış ve bilgi kapasitesi olarak değerlendirerek evde, işte, toplumun her aşamasında yazılı olarak bulunan herhangi bir bilgiyi anlama, yorumlama, belirli hedeflere ulaştırabilme bilgi ve potansiyeli artırıp geliştirebilme olarak yorumlamıştır (Baysal ve Karaca,2016:71).

The National Foundation for Educational Research (NFER) çalışmasına göre finansal okuryazarlık paranın kullanılması, paranın sistem içerisinde yönetilmesi konusunda etkin kararlar verebilme yeteneğinden oluşmaktadır (NFI, 2006:2).

Finansal okuryazarlık ekonomik sorunların tespit edilebilmesi sorunların yorumlanabilmesi, oluşan veya oluşabilecek sorunların çözüme ulaşmasındaki farklı yolların bulunması, bu süreçte oluşan maliyet, kar, zarar tanımlamasını yapılabilmesi, farklı ekonomik koşulların oluştuğu ortamlarda kamunun politikalarını ve sonuçlarını değerlendirebilme, yorumlayabilme yeteneğidir (North Central Regional Educational Laboratory [NCREL], 2003).

Türk Ekonomi Bankası (TEB) ve Boğaziçi Üniversitesinin birlikte düzenlediği Finansal Okuryazarlık ve Erişim zirvesinde Finansal okuryazarlık Erişim Endeksi raporunda, finansal okuryazarlık, paranın kullanılması, yönetilebilmesi aşamasında oluşan bilgi ile değerlendirmenin yapılabilmesi, sistem içerisinde yapılabilecek yatırımların yönünü belirleyecek finansal araçların seçilmesi konusunda etkin ve rasyonel karar vermedeki yeterlilik düzeyi olarak tanımlanmaktadır (TEB ve Boğaziçi Üniversitesi, 2015).

Finansal Okuryazarlığın Hane halkı Refahı Açısından Önemi

Finansal okuryazarlık bilgisine sahip olan bireyin finansal planlama, bütçe yönetimi, finansal araçları yerinde ve uygun şartlarda kullanabilme, ekonomik gelişmeleri takip ederek ne anlama geldiğini kavrayabilme, ekonomik koşullarda yaşanacak herhangi bir olumsuz gelişme karşısında kendini koruyabilme özelliklerine sahip olması gerekmektedir. Bu koşulları sağlayan bireyin finansal refah seviyesinin yükselmesi gerekmektedir (Çolak, 2017:6).

Finansal okuryazarlık her yaş grubunda bulunan bireyler için önem arz etmektedir. Örnek olarak finansal okuryazarlık bilgisi temel düzeyde olan, iş hayatına yeni atılmış bireylerin borçlarının ve harcamalarının kontrol altında tutulmasını sağlayabilir. Aileler tasarruf sağlayarak ev alabilir, çocuklarının eğitim giderlerini karşılayabilir, ileriki yaşamlarında emeklilik için yatırım yapabilir (Er vd., 2014: 115).

Küresel ekonomik dünya düzeninde bireylerin istek ve ihtiyaçlarını karşılayabilmesi için finansal sistemde yer alan ürün ve hizmetleri kullanması gerekmektedir. Finansal ürün ve hizmetlerden verim sağlayabilmesi için bu ürün ve hizmetlerin bilinçli kullanılması gerekmektedir. Teknolojik yenilikler, dünya ekonomik döngüsündeki değişimler ve küreselleşen sistemle birlikte şekillenen finansal ürün ve hizmetlerin anlaşılması kolay değildir. Bu ürün ve hizmetlerin anlaşılması ve etkin kullanımı finansal okuryazarlığın bilinmesiyle mümkündür (Gökmen, 2012: 45).

Finansal sistemi oluşturan ürün ve hizmetler konusunda eğitimli bireyler, finansal kurumlar tarafından sunulan finansal ürün ve hizmetlerin risk ve getiri özellikleri hakkında bilgi sahibi olur. Bu paralelde değişen maliyetlerin ne gibi sonuçlar doğuracağı konusunda karşılaştırmalar yaparak ihtiyaçları doğrultusunda daha yetkin kararlar alabilir (OECD, 2005: 35).

Finansal Okuryazarlık ve Nakit Talebi

İktisadi birimler finansal alanda aldıkları kararlardan önemli olanlardan birisi de nakit tutma eğilimidir. Nakit tutmanın iktisadi birimlere sağlayacağı önemli faydalar olabildiği gibi önemli fırsat maliyetleri de vardır. Literatür taraması yapıldığında nakit talebini oluşturan birçok belirleyicinin bulunduğu gözlenmektedir. Kapsamlı bir

literatür finansal okuryazarlığın nakit talebinin belirleyicisi olduğuna vurgu yapmaktadır. Finansal okuryazarlık bireylerin sosyo-ekonomik ve demografik yapısıyla değişkenlik gösterebilmektedir.

Finansal okuryazarlık ve nakit varlıkların varlığını etkileyen araştırmaların sonucunda finansal okuryazarlığa sahip olan bireylerin nakit varlıkları daha az elde tuttuğu başka şekilde nakit saklama eğilimi gösterdiği bilinmektedir. Finansal okuryazarlık düzeyinin artmasıyla birlikte insanların daha fazla kredi kartı sahipliği bulunduğu gözlenmektedir. Finansal okuryazarlık seviyesi yüksek bireylerin nakit saklama eğilimlerinde genellikle daha az bir oranı acil durumlar için veya teknolojik aksaklıkların yaşanması durumunda psikolojik olarak kendilerini güvende hissetme duygusunda bulunmak için nakit sakladıkları gözlenmektedir. Finansal okuryazarlığı yüksek olan bireylerin temassız ödemelerinde daha fazla artış olduğu Covid-19 salgını gibi değişken koşullara uyum sağlamış olup nakit para kullanmaktan kaçındıkları gözlenmektedir (Bilici ve Çevik; 2022).

Finansal okuryazarlık konusunda eğitim almış kendini geliştirmiş bireylerin tasarruf yapma eğilimlerinin daha yüksek olduğu ve ülkenin yatırım düzeyine olumlu yönde katkı sağladıkları bilinmektedir. Finansal açıdan tabana yayılmanın sağlanmasıyla birlikte finansal sistemi oluşturan bileşenlerin çeşitliliklerinin artmasıyla tasarrufların yatırıma dönüşme süreci de çeşitlenmektedir. Finansal sisteme giriş sağlayan kullanıcının artmasıyla birlikte toplam tasarrufun artması sağlanarak tasarrufların sisteme kazandırılmasının mümkün olduğu gözlenmektedir. Bireylerin yastık altında tuttukları tasarruflar finansal sistem içerisinde değerlendirilerek yatırım ve istihdama dönüşme imkânın yaratıldığı ve ülke ekonomisine katkı sağlamasının beklendiği gözlenmektedir (TCMB, 2015: 1).

Hanehalkının tasarruf ve yatırımlarını şekillendirmede önemli etkenlerinden birinin borçlanma olduğu bilinmektedir. Borçlanma gelirden daha çok harcamanın gerçekleşmesi durumu olarak tanımlanmaktadır. Borçlanma geleceğe ait gelirlerin bugünden tüketilmesi olarakta tanımlanmaktadır. Borçlanmanın yatırım amacı dışında tüketim aracı olarak kullanılmasıyla birlikte bireylerin geleceğe yönelik hayatlarında yıpratıcı etkilere sebep olabilmektedir. Finansal bilgi ve finansal okuryazarlık yetisinin yetersiz olduğu bireylerin bu sorunlarla karşılaşması kaçınılmazdır (Özgüler, 2013: 33).

SONUÇ

Dünya genelinde finansal sistemdeki yeniliklerin yaşanması, finansal araçların ve finansal uygulamaların çeşitlenmesiyle birlikte finansal okuryazarlık önem kazanmıştır. Finansal okuryazarlık toplumu oluşturan her bireyin elinde bulunan sınırlı kaynakları en verimli şekilde kullanmasını amaçlamıştır. Finansal okuryazarlıkla birlikte bireylerin sistem araçları olan kredi kartı, tüketici kredileri gibi finansal hizmetleri en doğru biçimde kullanmalarını, doğru bilgiye ulaşmalarını amaçlamaktadır. Finansal okuryazarlık konusunda tam etkin bir tanımın varlığı ve fikir birliği olmamasına karşın Ekonomik Kalkınma ve İşbirliği Örgütü bireylerin finansal kararlar alma kısmında etkili ve sağlıklı fikir yürütmeleri, finansal kavramlar hakkında bilgi sahibi olmaları ve ileriye yönelik güvenli uygulamalarda bulunma becerisi olarak tanımlamaktadır. Literatür incelendiğinde finansal okuryazarlığın çeşitli finansal davranışlar arasında ilişki bulunduğu sonucuna ulaşılmıştır. Genel olarak çalışmalar incelendiğinde finansal okuryazarlık ağırlıklı olarak tasarruf, bireysel emeklilik, borçlanma, yatırım davranışlarıyla ilişkilendirilmiştir.

Bu çalışmada hanehalkının finansal okuryazarlık seviyesiyle birlikte bireylerin finansal okuryazarlık seviyesinin nakit tutma ve tasarruf davranışlarını şekillendirmesi incelenmiştir. Sonuç olarak finansal okuryazarlığın belirli bir seviyede geliştirilmesi gerektiği sonucuna ulaşılmıştır. Finansal okuryazarlık seviyesinin artmasıyla nakit kullanım oranı azalmakta ve dolaşımdaki paranın sisteme dahil olması ve takip edilebilmesi kolaylaşmaktadır. OECD çalışmalarında finansal okuryazarlık seviyesi yüksek bireylerin fiziksel nakit tutma eğilimleri ne kadar az olsa da sisteme dahil olan nakit varlıklarının yüksek olduğu sonucuna ulaşılmıştır. Politika yapıcıların finansal okuryazarlığı destekleyen programları geliştirmesi, teşvik etmesiyle birlikte sistem içerisinde dolaşımda olan paranın denetlenebilmesi ve siteme dahil olması sağlanır. Bireylerin finansal okuryazarlık seviyesinin artmasıyla doğru güvenilir bilgiye arayışı artar ve bu sayede sistemdeki aracı kuruluşların, bankaların politikalarında güvenilir ve doğru bilgi anlayışı anlam kazanır.

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The Financial Management of Secondary Schools through Delegated Budgets: Advantages, Disadvantages, and Survey Analysis

Ilian PEHLIVANOV[1]

[1]University of Agribusiness and Rural Development

Abstract: This report examines the system of delegated budgets as a key instrument for financing secondary schools in Bulgaria. The conducted analysis reveals both the advantages of this model - enhanced financial autonomy and flexibility in management and the challenges related to the lack of a direct link to the quality of education and potential conflicts with local administration. Based on the conducted survey, recommendations for improving the system have been proposed, including the optimization of funding, enhancement of control mechanisms, and strengthening the administrative capacity of schools.

Keywords: education financing, delegated budgets, financial autonomy, efficiency, school management

1. OVERVIEW OF THE DELEGATED BUDGET SYSTEM.

Delegated budgets represent a specific mechanism for financing school education, combining the principles of decentralized management with market-oriented approaches based on the interaction between supply and demand. At the core of this model lies the concept of a direct relationship between the financial provision of educational institutions and the quality of the educational services provided. In the current system, quality is primarily assessed through the number of enrolled students, which is considered an indicator reflecting the free choice of parents and students within the framework of existing competition between educational institutions.

According to §1, item 10 of the Supplementary Provisions of the Public Finance Act, a "Delegated Budget" is defined as the budget of a secondary or lower-level budget administrator, for which the right to modify expenditures is granted to the respective administrator by law or based on legal provisions[1]. Petya Georgieva from the Institute for Market Economics argues that "in reality, the delegated budget is a system of rules, rights, and obligations for managing the educational institution by the school principal."[2]

The Delegated Budget System (DBS) was introduced as a means to optimize the model for allocating financial resources. "The delegated school budget is an autonomously formulated budget based on a pre-established formula."[3] The initiator of the introduction of this system was the Ministry of Education and Science (MES), which received funding for the project "Financial Management of Secondary Education" under the Phare program of the European Union (EU). The financial resources under the Phare program were provided as a grant.[4] The introduction of the delegated budget system aims to achieve better overall results in school education, higher efficiency in the utilization of resources, and the provision of educational services. According to Denitsa Zagorcheva, "The purpose of introducing delegated budgets in the preschool and school education system is decentralization and increased freedom of action in decision-making at the delegated level. However, the delegated budget also implies an increase in the responsibility of the managers who administer it."[5] The introduction of the delegated budget system in secondary education was regulated by the State Budget Act of the Republic of Bulgaria for 2008, according to which, as of January 1, 2008, all schools within the national education system began implementing this financing model.

After the introduction of the delegated budget system, during the first ten years, individual municipalities experimented with different formulas for determining school funding. These formulas most commonly included

[1] Public Finance Act, Supplementary Provisions, item 10. Promulgated in the State Gazette, issue 15 of February 15, 2013, last amended in the State Gazette, issue 98 of December 10, 2021

[2] Georgieva, P., article "Delegated Budgets Have No (Good) Alternative in Education Financing," https://www.mediapool.bg/delegiranite-byudzheti-sa-bez-dobra-alternativa-vav-finansiraneto-na-obrazovanieto-news329485.html, last accessed on October 22, 2024.

[3] Pitekova, R. Fundamentals of Financial Management in Secondary Education, EX-PRESS Publishing, Gabrovo, 2007.

[4] Ministry of Finance of the Republic of Bulgaria. Financing of Secondary Education. https://www.minfin.bg/bg/78

[5] Zagorcheva-Koycheva, D. P. Financial Accountability and Control in Education. Shumen: University Publishing House "Bishop Konstantin Preslavski," 2022.

factors such as the educational profiles of different classes, the size of the school, its distance from the municipal center, the quality of its infrastructure, and various assessments of educational quality. Another approach used was the so-called expenditure standards—formulas for determining funding based on projected costs, such as those related to school staff or the number of students.[6]

The delegated budget system is closely linked to the Unified Expenditure Standards (UES), which serve as a key instrument for allocating financial resources to schools. Delegated budgets are based on the application of UES, which are normatively defined indicators for the cost of educating a single student. They provide an objective and predictable methodology for fund allocation while also granting schools a certain degree of autonomy in managing their resources.

It should be noted that despite its advantages, the delegated budget system is not linked to the assessment of school efficiency or the measurement of the quality of education provided. Funding under this model is primarily determined based on quantitative indicators, such as the number of enrolled students, without considering academic results, educational achievements, or other indicators related to the quality of teaching. "The principle of 'money follows the student' is no longer relevant."[7] This creates conditions for an imbalance between financial resources and the actual needs of schools, as well as a lack of incentives for improving educational standards and outcomes.

2. THE SURVEY ON THE IMPLEMENTATION OF THE DELEGATED BUDGET SYSTEM

The implementation of delegated budgets is characterized by numerous advantages that can contribute to increasing the efficiency and sustainability of educational institutions. However, a detailed analysis also requires an examination of the potential challenges and limitations associated with this system. To provide a deeper understanding of the real advantages and challenges faced by stakeholders, an empirical study was conducted.

The objectives of the study are aligned with the questions from the conducted survey, which aims to identify the positive and negative aspects of the delegated budget system.

The study's subjects are schools from various regions of Bulgaria that offer secondary education and apply the delegated budget system.

The survey includes questions with predefined answer choices. The questions are of a closed type, which facilitates data processing and the creation of analytical charts.

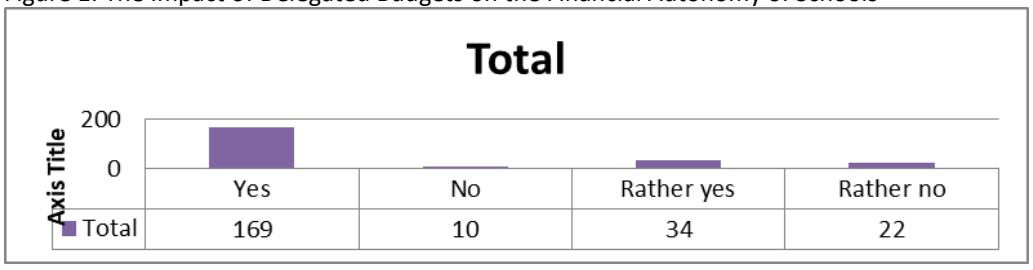
For the purposes of the survey, an online questionnaire was adapted, allowing for a standardized study. The collected responses were obtained voluntarily and anonymously, ensuring the ethical integrity of the research. Data processing was performed using Pivot Tables in Microsoft Excel.

The scientific report systematizes the most significant survey questions, namely:

Question: Do you believe that the delegated budget system helps in building the financial autonomy of schools?

Figure 1 presents the distribution of responses regarding the impact of delegated budgets on the financial autonomy of schools.

Figure 1: The Impact of Delegated Budgets on the Financial Autonomy of Schools



[6] Ivanov, St., Danchev, P. Financing of Public Education in Bulgaria, OSI/LHI, 2007.

[7] Alexandrova, N. Why Did the "Money Follows the Student" Principle Fail?, 2022. Retrieved from www.kmeta.bg/защо-принципът-парите-следват-ученик/

The data show that out of a total of 235 participants, a significant share—169 respondents (72%)—answered "Yes," indicating a strong positive perception of the system's impact on the financial autonomy of educational institutions.

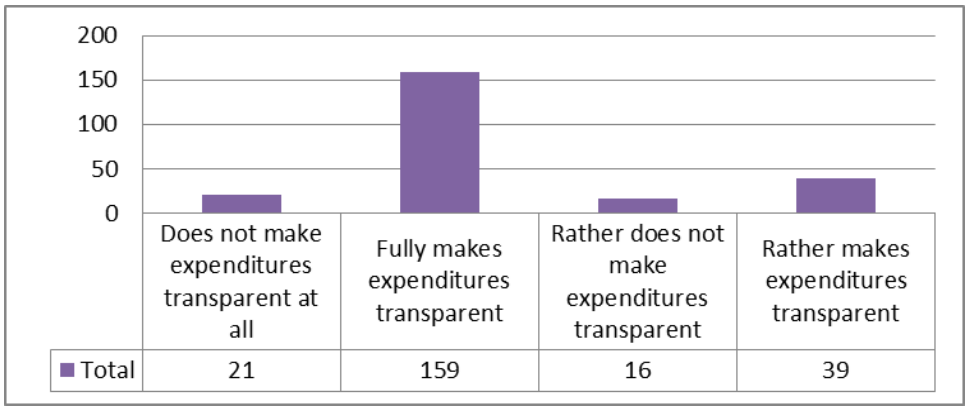
Additionally, 34 participants (14%) responded with "Rather yes," suggesting some reservations despite the predominantly positive evaluation. Meanwhile, 22 respondents (9%) answered "Rather no," and 10 participants (4%) outright rejected the contribution of delegated budgets to building financial autonomy.

The collected data reveal a clearly expressed positive assessment from the majority of respondents regarding the role of delegated budgets in ensuring the financial autonomy of schools. This result is indicative of the system being perceived as an effective tool for increasing flexibility and independence in the allocation of financial resources. The predominantly positive share of responses suggests that the delegated budget system largely achieves its primary goal—ensuring the financial autonomy of educational institutions.

Question: To what extent do you believe that the system makes expenditures transparent and accountable?

Figure 2 presents the distribution of responses regarding the extent to which the delegated budget system ensures transparency and accountability of expenditures.

Figure 2: Degree of Transparency and Accountability of Expenditures in the Delegated Budget System



The data show that the majority of respondents—159 participants (68%)—believe that the system "completely makes expenditures transparent." Additionally, 39 participants (17%) expressed a moderately positive view, selecting "Rather makes expenditures transparent." This suggests that for a significant portion of stakeholders, the system successfully achieves its goal of ensuring financial accountability and transparency.

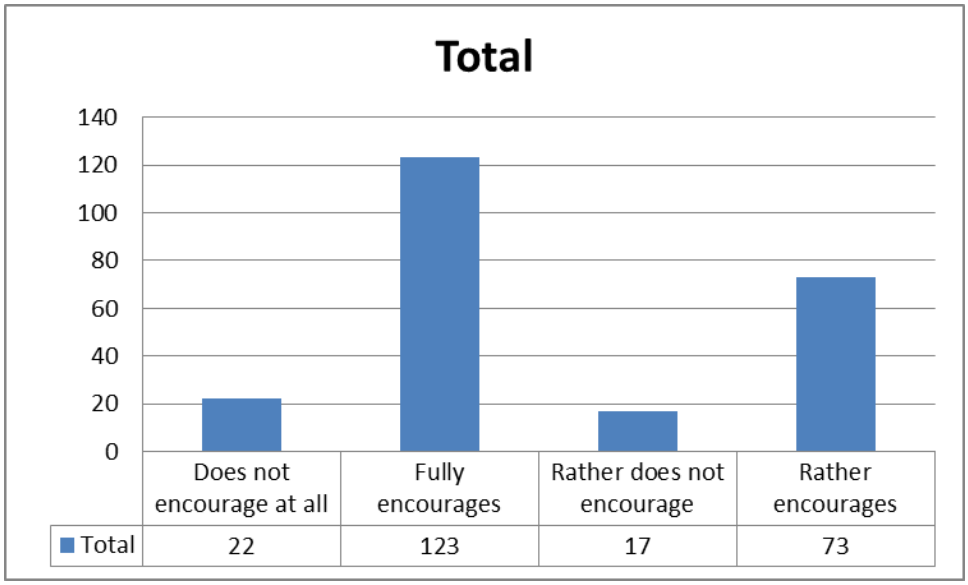
At the same time, 16 respondents (7%) and 21 participants (9%) expressed doubts or disagreement, stating that the system "rather does not" or "does not at all" make expenditures transparent. These results reveal certain challenges related to the control and accountability of spent funds, which may stem from a lack of sufficiently clear and effective monitoring mechanisms or inconsistent application of financial management rules.

The survey results generally highlight a positive perception of the delegated budget system in terms of expenditure transparency and accountability. However, the reservations expressed by a small portion of respondents indicate a need for improving control mechanisms and ensuring full transparency in the allocation and use of financial resources.

Question: To what extent does the system encourage schools to use their resources more efficiently?

In Diagram 3, the distribution of responses regarding the extent to which the delegated budget system encourages schools to use their resources more efficiently is presented.

Diagram 3: Degree of Efficient Resource Utilization under Delegated Budgets



The survey results indicate that 123 participants (52%) believe that the system "fully encourages" schools to use their resources more efficiently. Additionally, 73 respondents (31%) selected "rather encourages," highlighting a moderately positive assessment from a significant portion of the surveyed individuals.

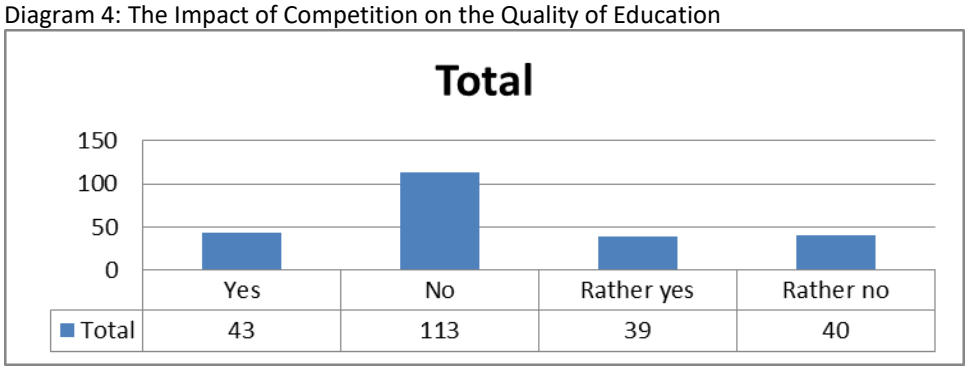
At the same time, 17 participants (7%) think that the system "rather does not encourage" effective resource management, while 22 respondents (9%) firmly state that it "does not encourage at all" such optimization. These results clearly demonstrate that, for the majority of respondents, the delegated budget system fulfills its role in promoting more efficient resource utilization in schools.

However, the presence of 16% skeptical responses reveals certain challenges and barriers, likely related to uneven funding distribution, the lack of adequate control mechanisms, or insufficient financial literacy among school management personnel.

Question: Do you think that the system encourages competition between schools, leading to an improvement in the quality of education?

In Diagram 4, the distribution of responses regarding whether the delegated budget system stimulates competition among schools and contributes to improving the quality of education is presented.

Diagram 4: The Impact of Competition on the Quality of Education



The data clearly reveal a diverse range of perceptions among respondents. The largest share—113 participants (48%)—believe that the system does not stimulate competition among schools in a way that improves the quality of education. On the other hand, 43 respondents (18%) support this statement with a "Yes" response, while 39 participants (17%) take a more moderate stance by selecting "Rather yes." Additionally, 40 respondents (17%) express the opinion that the system "Rather does not" achieve this effect.

The results indicate a predominantly negative or neutral perception regarding the ability of the delegated budget system to stimulate competition aimed at improving education quality. Nearly half of the respondents (48%) do

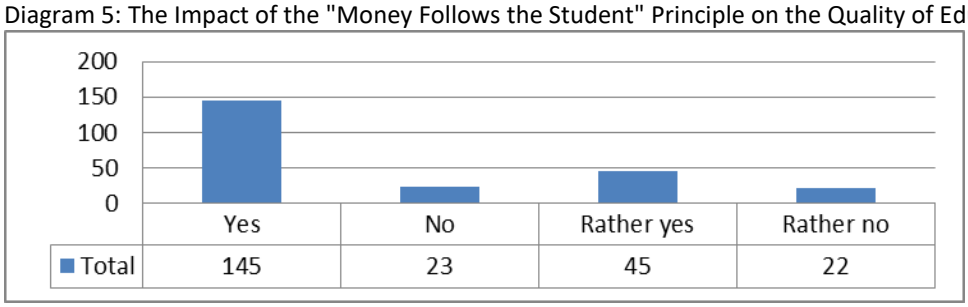
not see a link between competition and quality, which may be attributed to insufficiently developed incentives or the absence of effective mechanisms for measuring and promoting quality.

Nevertheless, the relatively significant proportion of positive responses ("Yes" and "Rather yes"—a total of 35%) suggests that the system does have some potential to foster competitiveness among schools.

Question: Do you think that the "money follows the student" principle creates challenges for the quality of education?

In Diagram 5, the distribution of responses regarding whether the "money follows the student" principle creates challenges for the quality of education is presented.

Diagram 5: The Impact of the "Money Follows the Student" Principle on the Quality of Education



The data indicate that a significant majority of respondents—145 participants (62%)—believe that the "money follows the student" principle creates challenges for the quality of education. Additionally, 45 participants (19%) express moderate agreement with this statement by selecting "Rather yes." This highlights a strongly prevailing opinion that the current funding model leads to potential difficulties and risks for the quality of the educational process.

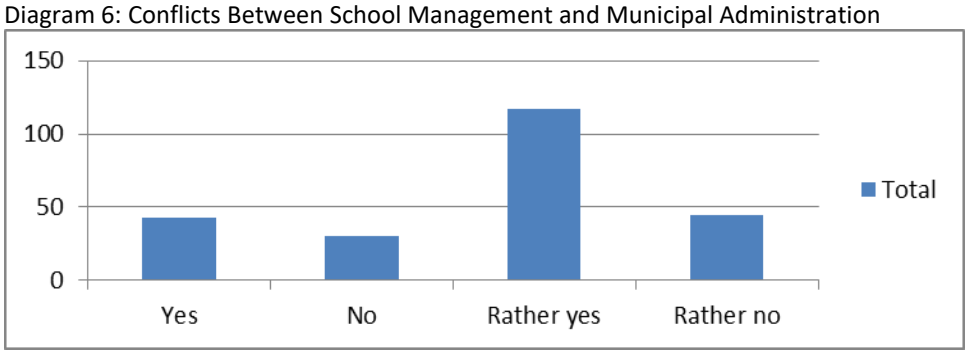
At the same time, 22 respondents (9%) selected "Rather no," while 23 participants (10%) firmly disagreed with the statement. These responses suggest the existence of a smaller group that does not perceive the model as a source of challenges, possibly due to its more effective implementation in certain schools or regions.

The survey results clearly show that the "money follows the student" principle is perceived by the majority of respondents as a factor that creates challenges for education quality. This could be explained by the over-reliance of schools on student enrollment numbers, which, in turn, may lead to competition focused on attracting students rather than improving the quality of educational services.

Question: Do you think that the system leads to conflicts between school management and the municipal administration?

In Diagram 6, the distribution of responses regarding whether the delegated budget system leads to conflicts between school management and municipal administration is presented.

Diagram 6: Conflicts Between School Management and Municipal Administration



The data indicate that the majority of respondents—117 participants (49%)—selected "Rather yes," suggesting moderate agreement with the statement that the delegated budget system creates conditions for conflicts between school management and municipal administration. Additionally, 43 participants (18%) firmly confirm the existence of such conflicts.

At the same time, 45 respondents (19%) answered "Rather no," while 30 participants (13%) expressed strong disagreement with the statement. This shows that nearly 32% of the surveyed individuals do not perceive the

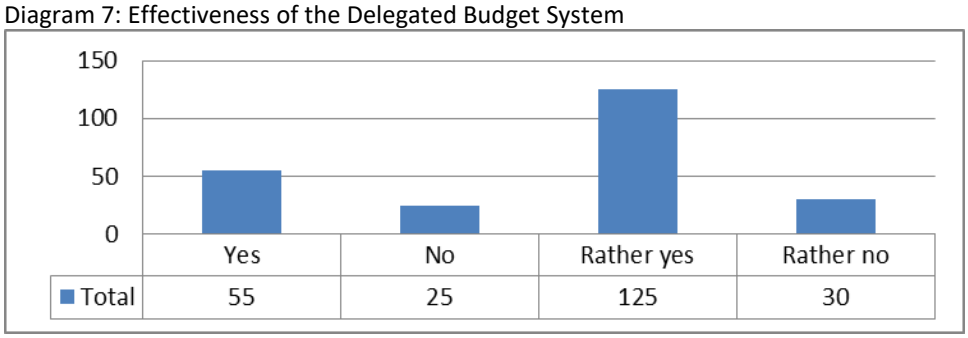
system as a source of conflicts, which may be attributed to well-established communication mechanisms and effective cooperation in certain municipalities.

The results reveal that a significant share of respondents (67%) perceive the delegated budget system as a potential source of conflicts between school management and municipal administration. To minimize these conflicts, clearer mechanisms for interaction and support should be established to facilitate the effective management of delegated budgets.

Question: In your opinion, is the delegated budget system effective?

In Diagram 7, the distribution of responses regarding the effectiveness of the delegated budget system is presented.

Diagram 7: Effectiveness of the Delegated Budget System



The data show that a significant portion of respondents—125 participants (53%)—believe that the system is "rather effective," reflecting a predominantly moderately positive perception of the effectiveness of delegated budgets. Additionally, 55 participants (23%) strongly support this statement by selecting "Yes."

At the same time, 30 respondents (13%) answered "Rather no," while 25 participants (11%) consider the system ineffective. Although representing a smaller share, these responses indicate the presence of reservations and criticisms regarding the system.

The results highlight that a large majority of respondents (76%) perceive the delegated budget system as effective or moderately effective. This suggests that the system largely achieves its primary objectives by providing financial autonomy and encouraging more rational resource allocation in schools.

However, the existence of 24% negative responses (combining "Rather no" and "No") signals the presence of challenges related to the system's effectiveness.

3. ADVANTAGES OF THE DELEGATED BUDGET SYSTEM

Based on the conducted survey, as well as an analysis of existing research and publications, the following advantages of the delegated budget system can be identified:

- Decentralization of Management: The delegated budget system promotes decentralization by allowing schools to manage their financial resources independently. This leads to greater flexibility and adaptability in decision-making, tailored to the specific needs of each educational institution.

- Financial Autonomy: The vast majority of respondents believe that the system ensures financial autonomy for schools (72% answered "Yes" categorically), granting them freedom in resource allocation and management. This aligns with the concept of an "optimal distribution of powers and resources across different levels of governance to provide higher-quality services to citizens."[8]

- Transparency of Expenditures: A significant share of participants perceive the system as a means of enhancing accountability and transparency in spending (68% stated that it "fully ensures expenditure transparency").

[8] Updated Decentralization Strategy 2006-2015, adopted by Decision No. 454 of the Council of Ministers on July 2, 2010

According to Denitsa Petkova Zagorcheva-Koycheva, "delegated budgets encourage independent planning and transparent allocation of funds."[9]

- Encouraging Efficient Resource Utilization: More than half of the respondents believe that the system encourages schools to optimize expenditures and use their resources more efficiently. This aligns with the argument that the system "provides freedom in setting priorities" and "flexibility in reallocating available funds."[10]

- According to the Education Trade Union, one of the main advantages of funding through delegated budgets is that it prevents the diversion of funds intended for schools to other municipal needs. Another positive outcome of the delegated budget system is that, in line with its philosophy, expenditures become clear and transparent, making the education system the most accountable among all public and state systems.[11]

4. DISADVANTAGES OF THE DELEGATED BUDGET SYSTEM

Based on the conducted survey, as well as an analysis of existing research and publications, the following disadvantages of the delegated budget system can be identified: - Lack of Link to Education Quality: Over 65% of respondents believe that the system needs a component related to education quality, indicating the absence of incentives for achieving better outcomes. "The current system lacks incentives for improving the quality of education, as evidenced by the absence of significant improvement in student performance in comparative international studies."[12]

- Conflicts Between School Management and Municipal Administration: More than half of the participants (67%) see a potential for conflicts arising from discrepancies in priorities and coordination. This is further emphasized in other studies, which state that "the system creates potential for conflicts between different institutions."[13]

- According to an analysis by the Bulgarian Teachers' Union (SBU), one of the main weaknesses of the delegated budget system is that a significant number of school principals were unprepared for their new responsibilities or, taking advantage of their increased authority, adopted an authoritarian management style.[14]

- Risk of Fictitious Student Enrollment: Funding based on the number of students may encourage some schools to report fictitious enrollments or retain students who do not actually attend classes in order to secure higher funding. [15]

5. OPPORTUNITIES FOR IMPROVING THE DELEGATED BUDGET SYSTEM

- Optimization of Funding Criteria Through an Efficiency Coefficient.

The delegated budget system in education serves as a key mechanism for financial resource allocation. However, it faces challenges related to uneven funding distribution and the lack of alignment with qualitative indicators of school performance. In this context, the introduction of an Efficiency Coefficient (EC) as part of the funding formula emerges as a suitable tool for optimizing the existing system.

The Efficiency Coefficient is a measure of a school's ability to utilize available resources to achieve maximum educational outcomes. It is based on the principles of Data Envelopment Analysis (DEA), which enables an

[9] Denitsa Petkova Zagorcheva-Koycheva, Financial Accountability and Control in Education, University Publishing House "Bishop Konstantin Preslavski", Shumen, 2022.

[10] Denitsa Petkova Zagorcheva-Koycheva, Financial Accountability and Control in Education, University Publishing House "Bishop Konstantin Preslavski", Shumen, 2022.

[11] Education Trade Union, Delegated Budgets – Prosperity or Decline. Available at: https://www.podkrepa-obrazovanie.com/bg/начало/79-all-languages/1423-делегирани-бюджети-просперитет-или-упадък.

[12] Adrian Nikolov, School Funding: Effects on Budgeting, Salaries, and Education Quality, Institute for Market Economics, Sofia, 2017.

[13] Denitsa Petkova Zagorcheva-Koycheva, Financial Accountability and Control in Education, University Publishing House "Bishop Konstantin Preslavski", Shumen, 2022.

[14] Bulgarian Teachers' Union (SBU), Analysis – Improvement, Monitoring, and Evaluation of Delegated Budgets in School Education.

[15] Bocheva, N., What Problems Do Delegated Budgets Create for Schools?, Investor.bg, 2017.

objective comparison of similar educational institutions by accounting for their specific input and output parameters. By incorporating the Efficiency Coefficient, financial resources can be distributed more equitably, incentivizing effective resource management and promoting higher efficiency in the educational sector. The funding formula can be modified as follows:

SF=(OKF+DKF)×RK×EC

where:

SF – Funding Allocation

OKF – Base Funding Component

DKF – Additional Funding Component

RK – Regional Coefficient

EC – Efficiency Coefficient, based on DEA analysis results

The introduction of an Efficiency Coefficient (EC) into the school funding model is a key step toward creating a fairer, more efficient, and sustainable delegated budget system. This adjustment will lead to better resource utilization and incentivize higher educational performance.

- Enhancing Administrative Capacity in the Management of Delegated Budgets.

The management of delegated budgets requires school leadership to demonstrate a high degree of competence and adaptability to the dynamic changes in the educational environment. To enhance the administrative capacity of schools and ensure the effective management of financial resources, targeted measures must be implemented to improve the knowledge and skills of school principals and administrative staff. This can be achieved through the development of standardized guidelines, the organization of training programs, and the establishment of platforms for sharing best practices.

Implementing measures to enhance administrative capacity in the management of delegated budgets is crucial for achieving more efficient and transparent financial resource management in educational institutions. Developing guidelines and best practices, organizing training programs for school management, and creating a knowledge-sharing system between schools with varying levels of efficiency will contribute to an overall improvement in financial management and the strategic allocation of funds. Schools will gain access to better tools and expertise, enabling them to optimize resource allocation and enhance the effectiveness of the educational process.

Additionally, strengthening the expertise of administrative staff, combined with effective control mechanisms, will reduce administrative errors and financial mismanagement. As a result, the risk of improper use of financial resources will be minimized, ultimately increasing stakeholder trust in the education system.

Adopting these measures will create a stronger foundation for the sustainable development of the education sector by ensuring better resource utilization and promoting innovative management approaches. In this context, enhancing administrative capacity should be viewed as a strategic priority to ensure that financial resources are used effectively to improve education quality and achieve the sector's long-term development goals.

- Enhancing Control Mechanisms.

The effectiveness of the delegated budget system in education largely depends on the presence of well-functioning control mechanisms that ensure transparency, accountability, and the proper use of expenditures. Strengthening these mechanisms is crucial for improving financial management, minimizing the risk of misuse of public funds, and ensuring the sustainability of educational institutions. In this context, the implementation of comprehensive measures aimed at reinforcing control processes and increasing trust in the system is essential. Enhancing control mechanisms will contribute to greater financial discipline, improved efficiency in resource allocation, and the long-term sustainability of the educational sector. This requires a multi-faceted approach, including stricter auditing procedures, real-time monitoring systems, and greater transparency in financial reporting. These steps will help prevent financial mismanagement, ensure optimal resource utilization, and strengthen public confidence in the delegated budget system.

The improvement of control mechanisms requires the implementation of stricter internal and external audit procedures to ensure compliance with financial discipline in educational institutions. Regular expenditure

reviews should be conducted by both internal units and independent external organizations to guarantee objectivity and impartiality in the assessment of financial management. The main aspects of these procedures should include: - Implementation of Automated Accounting Systems. The Ministry of Education and Science (MES) has an established database encompassing all funded schools, providing detailed information on the annual budgets received by each institution, as well as the amounts allocated to different components of the funding formula. This system ensures transparency and public access to information, facilitating the tracking of financial flows at the national level.

To improve accountability and resource management at the local level, a similar system should be implemented within municipalities, ensuring that all of them use a unified platform and database for budget management. Standardizing these systems will enable more efficient collection and analysis of financial data while reducing the administrative burden on school management and improving communication between local and national authorities.

The introduction of a unified automated accounting system at the municipal level will contribute to better monitoring and control over financial management in the education sector. This will enhance coordination between central and local authorities, ultimately leading to greater efficiency and transparency in the allocation and use of public funds.

- Optimization of Independent Control Bodies for Internal and External Audits.

Within the delegated budget system, the National Inspectorate of Education (NIE) is already in operation, conducting inspections and providing assessments of school management quality. However, given the increasing demands for financial accountability and transparency, it is necessary for this body to update its activities and expand its role in overseeing the management of delegated budgets.

The implementation of the proposed measures will lead to significant improvements in the financial resource management of educational institutions. The main benefits will include:

Improved accountability and transparency, facilitating the tracking of financial flows and ensuring that funds are used in line with educational policy objectives.

Limiting financial mismanagement and increasing trust by strengthening control mechanisms and utilizing automated monitoring and reporting systems.

6. CONCLUSION.

The present study analyzes the effectiveness of the delegated budget system as a key funding mechanism for secondary schools in Bulgaria. Based on the conducted survey and the analysis of existing data, both the advantages and the challenges associated with the implementation of this budgeting model have been identified.

The results indicate that the system provides a significant degree of financial autonomy to schools and encourages flexibility in resource management. Expenditure transparency and accountability are among the primary advantages highlighted by respondents, confirming that delegated budgets create conditions for better management of public funds.

However, substantial disadvantages have been identified, including the lack of a link between funding and the quality of education, as well as potential conflicts between school management and municipal administrations. Funding based primarily on student enrollment poses a risk to the sustainable development of the educational system, as it may lead to compromises in the quality of services provided.

Based on the conclusions drawn, the future directions for the development of the system should include:

- Introducing mechanisms to link financial support with the achievement of quality educational outcomes;

- Developing a unified monitoring and control system to ensure higher efficiency and transparency in expenditures;

- Enhancing the administrative capacity of school management through targeted training programs and guidelines for implementing budget policies;

- Optimizing funding by incorporating an Efficiency Coefficient, based on performance assessment and the specific needs of each school;

- Aligning the delegated budget system with best European practices, emphasizing the sustainability and efficiency of educational institutions.

The prospects for the development of the delegated budget system in Bulgarian secondary education should be explored in the context of its integration with European educational policies, which focus on efficiency, transparency, and equal access to quality education. Only through a comprehensive reform and optimization of existing mechanisms can sustainable and long-term results in educational financing be achieved..

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Emerging Trends and Growth of Financial Technology (Fintech) In Albania

Prof.Assoc.Dr Ilir TOMORRI[1] **PhD(c) Joana SHIMA[2]**

[1]Agricultural University of Tirana, Faculty of Economy and Agrubusiness, Department of Agribusiness Management, ALBANIA, itomorri@ubt.edu.al

[2]European University of Tirana, Faculty of Economics, Business and Development, Department of Economics and Finance, ALBANIA, joana.shima@uet.edu.al

Abstract: Fintech, short for financial technology, refers to new technologies that aim to improve and automate the delivery and usage of financial services. Since the internet revolution, the fintech sector has experienced rapid growth. Fintech plays a vital role in competing with traditional banks, particularly among younger consumers who seek faster and less bureaucratic services. To promote adoption, fintech should actively encourage consumer-friendly policies, address informal practices, and work to reduce cash circulation. By increasing transaction flows, fintech has the potential to drive financial inclusion, stimulate economic growth, and enhance overall well-being. In developing countries such as Albania, the rise of digital financial services has granted access to financial resources for the first time, especially to consumers underserved by the traditional banking system. The primary objective of this paper is to analyze the evolution of FinTech in Albania. This study employs a methodology that combines descriptive and explanatory data, relying on a literature review and secondary data gathered from existing studies and reports produced by both international and domestic institutions.

The goal is to provide evidence of the FinTech sector's potential to foster new start-up businesses, encourage entrepreneurship among young people, and stimulate job creation. Overall, FinTech can offer small and medium-sized enterprises easier access to loans, thereby promoting growth and improving market alignment. Increased financial activity through diverse services will enhance Albania's economy and encourage more transparent financial practices. The research will examine the impact of the FinTech sector on different aspects of the financial industry. This includes analyzing business models, financial processes, payment methods, challenges in adaptation, and potential recommendations. The central research question is: What are the current developments and future expectations for this sector, particularly in Albania?

Keywords: FinTech, financial services, digitalization, productivity, traditional financial providers.

1. Introduction

Fintech has experienced significant growth in recent years, transforming financial services in multiple ways. Digital technologies, facilitated by the widespread use of smartphones, offer users faster, more affordable, tailored, secure, and convenient financial services, particularly benefiting those who are underserved or unserved. For both established financial institutions and new fintech service providers, the costs associated with delivering digital products to customers can be considerably lower than those linked to physical infrastructure and traditional, paper-based business models that rely on human interaction. While traditional financial services primarily depend on face-to-face interactions and often involve cash transactions, digital financial services enable remote, contactless, and cashless transactions. Big tech companies have also ventured into financial services by leveraging their large platforms and extensive customer data, which can be analyzed for valuable insights using big data analytics. This expansion allows financial service providers to reach a broader customer base and offer a wider range of products at lower prices, although the outcomes of this competition are not guaranteed.Fintech holds the potential to enhance financial inclusion and drive productivity gains across countries at various stages of development. However, it is crucial to manage the associated risks carefully. Notably, the COVID-19 pandemic has accelerated the shift towards fintech adoption by traditional financial institutions.

In developing countries like Albania, the rise of digital financial services has provided access to financial products for many consumers who were previously underserved by the traditional banking system. The main purpose of this paper is to analyze the development of FinTech in Albania.

II. Literature review

2.1 The definition of FinTech and its role in the growth of enterprises and the economy.

Fintech, short for financial technology, refers to the application of technology in delivering financial services and solutions. This encompasses a wide range of applications, including online banking, mobile payment systems,

investment tools, and cryptocurrency platforms. Technology can drive economic growth by enhancing productivity and expanding markets for goods and services. As a result, integrating advanced technology into our daily lives is essential. Fintech involves new technologies designed to improve and automate the delivery and usage of financial services. It primarily helps companies, business owners, and consumers effectively manage their operations, processes, and financial decisions. This field includes specialized software and algorithms used on computers and smartphones. The term "fintech" combines "financial" and "technology." Initially, in the early 21st century, it mainly referred to the technological systems used in the backend of established financial institutions, such as banks. The concept of using technology to provide financial services and products to consumers is not new, even though the term "fintech" is relatively recent. Technology has always played a significant role in transforming the financial industry. However, the advent of the internet, along with the widespread use of smartphones and tablets, has significantly accelerated the pace of these changes in recent years.

Financial technology or "FinTech" refers to the use of technology to provide financial services and solutions (Nicoletti, 2017). FinTech refers to technology startups that are emerging to compete with traditional banking and financial market players, offering a variety of services, including mobile payment solutions, crowdfunding platforms, online portfolio management, and international money transfers (Anyfantaki, 2016). Fintech refers to any innovative concept that enhances financial services by providing technological solutions tailored to various business scenarios (Leong & Sungm, 2018). The financial services industry has been significantly influenced by digitization in the distribution of financial products and services for many years. Today, the concept of digital finance is becoming increasingly popular. Digital finance encompasses a variety of new financial products, businesses, software, and innovative ways of communicating and interacting with customers, all provided by FinTech companies and other forward-thinking financial service providers (Gomber, Koch, & Siering, 2017).

The importance of fintech lies in its ability to enhance efficiency, improve accessibility, and reduce costs in the financial sector. By leveraging innovative technologies, fintech companies can provide faster and more convenient services, often reaching underserved populations. Additionally, fintech promotes competition within the financial industry, leading to better services and choices for consumers. Since the internet revolution, the financial technology sector has experienced rapid growth (Xu, & Kim, 2018). Financial technology (FinTech) companies offer a wide range of services, from traditional banking functions such as payments and cash transfers to innovative technological solutions that enhance operations in key financial markets. Initially, FinTech firms focused solely on leveraging technology to improve or facilitate economic activities. As the industry has evolved, these companies have become competitive alternatives to conventional financial service providers. They enable various financial services, including mobile point-of-sale (POS) payments and marketplace lending for individuals (Financial Intelligence Platform (FIP), 2022).

FinTech is the integration of technological innovations with financial practices to create new and efficient solutions for consumers and businesses. It has become one of the fastest-growing sectors worldwide (Sharma, Ilavarasan,, & Karanasios, 2023). Technological progress has been crucial in shaping and transforming the global financial sector. It has changed the way transactions are conducted and is reshaping the future of finance. Digital technologies are revolutionizing payments, lending, investments, insurance, and various other financial products and services. This transformation has been further accelerated by the COVID-19 pandemic (Feyen, Natarajan, & Saal, 2023). The influence of financial technology (fintech) on the transformation of financial services primarily concerns banking services, specifically payments and transfers (Sadigov, Vasilyeva, & Rubanov, 2020). In the instance of China, large-scale data and web-crawling technology were utilized to examine how digital finance influences green growth. The findings indicated that inclusive digital finance promotes green innovation (Ren, Zeng, & Zhao, 2023). Das & Chatterjee (2023) studied the impact of Information and Communication Technology and financial inclusion on poverty in India. They found that digital finance can help narrow the urban-rural gap, although income inequality persists.

Rapid technological advancements, including artificial intelligence, blockchain, cloud computing, and big data, have significantly impacted the financial industry by introducing a range of innovations known as "fintech." These innovations have transformed how banks and other financial institutions operate. Fintech has immense potential to enhance financial efficiency and promote inclusivity. Additionally, fintech innovations are increasingly making financial services accessible through mobile devices, even for individuals who are unbanked (Senyo & Osabutey, 2020). According to Tok & Heng (2022) there is a significant positive correlation between fintech and digital measures of financial inclusion, suggesting that technological innovations in finance are more effective in promoting access to financial services than traditional methods. This study highlights the potential of fintech bridge gaps in financial inclusion, particularly for underserved populations. However, contrasting findings from

other research indicate that, despite these technological advancements, fintech developments have not had a measurable impact on overall financial inclusion levels. This discrepancy raises important questions about the effectiveness and reach of fintech solutions and suggests that further investigation is needed to understand the factors that contribute to or hinder financial inclusion.

Almashhadani (2023) conducted a comprehensive study that highlighted the transformative effects of digital finance on the operational efficiency of banks. His research specifically examined the impact of financial technology (fintech) on foreign banks operating in the United Arab Emirates. The findings revealed that the integration of digital financial technologies significantly enhanced the performance metrics of these institutions, particularly in terms of return on assets (ROA) and return on equity (ROE). Moreover, the study delved into the myriad advantages that arise from the adoption of innovative technologies in banking operations, illustrating how these advancements can streamline processes, reduce costs, and ultimately foster a more competitive banking environment.

Digital lending significantly boosts the economic growth of countries where this service is widespread, with the strongest impact resulting from the decentralization of lending through digitization (Meng, He, & Tian, 2021). The benefits for society, particularly for small and medium-sized enterprises (SMEs), extend beyond simple access to financing. These businesses can secure loans more quickly and easily, which facilitates their operational expansion. Additionally, the process of finding potential investors is simplified, promoting growth and development in the business sector. Financial technology plays a crucial role by aligning market demand—such as businesses, individuals, families, governments, and foreign entities—with market supply at a significantly higher level. Technology drives this entire process. Furthermore, if digital lending is introduced rapidly into the market, it could have a substantial positive impact on economic growth. This shift may lead to an increase in digital capital, which will have considerable effects soon, even if the immediate impacts appear modest (Asifl, Khan, Tiwari, & Wani, 2023).

Policymakers and regulators view fintech as an opportunity to create a more efficient, effective, and sustainable financial system (Carney, 2017). The growth of FinTech enables more individuals, especially the poor, to access affordable and convenient financial services. FinTech innovations aim to provide the underprivileged with access to financial services like payments, savings, loans, and insurance (Li & Xu, 2021). According to Chemmanur, Imerman, Rajaiya, & Yu (2020), the FinTech ecosystem can be divided into eight industry segments, namely: payments and money transfers; digital banking; digital wealth managers including robot-advisors; crowdfunding; capital markets innovations including algorithmic trading, high frequency traders; FinTech lending, including P2P (Peer-to-Peer) service and marketplace lenders; Insurtech, which refers to innovations in the insurance industry etc.

Panda, Sahoo, & Kumar (2023) analyzed the evolution, challenges, and opportunities associated with FinTech in their research article. They highlighted the inherent risks of implementing FinTech in emerging markets such as Asia, Africa, and India. The study found that several key factors significantly influence the growth of FinTech in these regions, including financial inclusion, financial literacy, technological proficiency, the establishment of regulatory sandboxes, and public trust. These findings align with the trends in financial development observed in the Western Balkans, which are classified as emerging markets in the context of the single European market (Miftari, Shabani, & Hashani, 2024). Research indicates that traditional banking institutions can transform FinTech from a challenge into a strategic opportunity (Fenwick & Vermeulen, 2019).

Fintech refers to emerging technologies that aim to improve and automate the delivery and use of financial services. It can be applied to any innovation transforming how people engage in commercial activities, dating back to the very creation of currency itself. Studies on the digitalization of financial services focus on a landscape where the related risks and benefits can often be complex and difficult to navigate (Campanella, Serino, Battisti, Giakoume, & Karasamani, 2022). The academic discussion about FinTech goes beyond simply examining how it affects the functioning of financial intermediation. The technological advancements in this sector pose challenges regarding the relevance of current legislation and the entry of new players-start-ups-whose business models focus on delivering financial services through innovative digital methods (Bousrih, 2023).

Fintech has the potential to enhance financial inclusion, but it also faces several challenges and risks. In the Western Balkans region, significant obstacles to fintech development include a lack of funding and investment, underdeveloped information and communication technology infrastructure, insufficient government and institutional support, limited regulatory frameworks for fintech innovation, small domestic markets, a brain drain, and a shortage of skilled professionals in the technology sector. Additionally, the main risks associated with fintech development in this region include consumer financial protection risks arising from new products

and business models, as well as cybersecurity threats (Berg, Guadamillas, Natarajan, & Sarkar, 2020). Financial inclusion is a critical factor that significantly influences financial development. By ensuring that individuals and businesses have access to a wide range of financial services-such as banking, credit, insurance, and investment opportunities-financial inclusion promotes economic growth and stability. The advancement of the financial sector is closely tied to the provision of these essential services, which enable people to save, invest, and manage risks effectively. With greater access to financial resources, communities can thrive, leading to increased productivity, job creation, and overall economic development. Thus, fostering an inclusive financial environment is essential for driving sustainable growth and enhancing the well-being of the population (Usman, Makhdum, & Kousar, 2021). Financial technology innovations, commonly referred to as fintech, are recognized as key drivers of financial inclusion. This recognition is emphasized by the G20 High-Level Principles for Digital Financial Inclusion, which highlight the importance of utilizing fintech's potential to mitigate financial exclusion (Global Partnership for Financial Inclusion (GPFI)., 2016).

2.2 A Comparative exploration of the distinctive attributes of Fintech and traditional financial providers

The FinTech sector in the Western Balkans has experienced rapid development. Although the pandemic has presented challenges, there are several other obstacles that could hinder the further growth of this sector in our region, including limited access to capital and financing, a high reliance on cash transactions, reduced access to payment technologies for consumers, and regulatory challenges within the industry. Despite significant growth in card and digital payments in the Western Balkans, there remains untapped potential for other fintech services, primarily due to high mobile and internet penetration alongside a skilled IT workforce. While banks are the main providers of fintech services, there are also other companies operating in this sector. The development of the regional fintech industry faces various barriers, including limited access to capital and financing, high cash usage, low accessibility to payment and information systems, and diverse regulatory obstacles.

Table 1: A Comparative Exploration of the Distinctive Attributes of Fintech and Traditional Financial Providers

Attribute	Traditional Players	FinTech	User Value Proposition for Fintech
Cost of services	High	Medium to High	Ease of use; Faster services; An appealing experience; Lower cost of access; Additional services and features; Value-added services; Better availability.
Customer service	Generalized	Personalized	
Processes	Complexity, partially automated	Simple, hassle-free, fully automated	
Documentation requirements	High	Medium	
Updates on request	Takes time	Instant	
Key operational channel	Branch	Mobile	
Ease of use	Low to medium	High	
Quality of service	Medium	High	
Features	Limited	Multiple, personalized, advisory	
Other integrations	Limited	Social media, bill payments	

Source: Author, 2025.

2.3 Comparison of Albania with other Balkan Countries

Since the mid-2010s, fintech has experienced rapid development in the Balkan region. Although the adoption of fintech in this area has been slower than in some other regions, its usage has been increasing in recent years. This growth is driven by several factors, including the rising trend of smartphone usage. The widespread adoption of smartphones has made it easier for people to access financial services through mobile banking and digital payment platforms. Several countries in the Balkan region have implemented regulatory changes to promote fintech. This includes establishing regulatory sandboxes for fintech startups in countries such as Serbia, Slovenia, Greece, and Croatia, as well as creating regulations governing digital currencies. Additionally, there is a growing demand for financial services in the region, particularly among younger generations who are more tech-savvy

and prefer using digital channels for banking and payments. Moreover, there has been an increase in the number of startups, with more entrepreneurs and investors focusing on fintech opportunities in the Balkans. However, despite the rising interest in fintech, several challenges remain to be addressed. These challenges include the widespread use of cash, especially in the Western Balkans, limited access to financing, low accessibility to payment methods and information, a lack of awareness and understanding of fintech, and regulatory uncertainty.

In developing countries such as Albania, the growth of digital financial services has provided access to financial services for the first time, particularly for consumers who were previously unserved by the banking system.

Table 2: Digital financial inclusion in Balkan Country

	Albania	Bosnia and Herzegovina	Kosovo	Montenegro	North Macedonia
% of Utility Bill Paying Adults Paying Through Accounts	4%	26%	12%	50%	53%
% of Wage Recipients Receiving Wages into Accounts	65%	82%	57%	88%	88%
Account Ownership	44%	79%	58%	82%	85%
Digital Payments	35%	67%	48%	67%	74%
Gender Gap in Account Access: Female	46%	70%	47%	82%	80%
Gender Gap in Account Access: Male	43%	89%	69%	85%	91%
Gender Gap in Digital Payments: Female	35%	56%	37%	64%	69%
Gender Gap in Digital Payments: Male	34%	77%	59%	71%	80%
Savings	10%	19%	10%	23%	15%

Source: World Bank, 2022.

According to World Bank data, Montenegro and North Macedonia lead the Balkan countries in terms of digital financial inclusion. Specifically, Albania conducts 35% of its total payments through digital means, while Kosovo has a rate of 48%. Bosnia and Herzegovina and Montenegro both stand at 67%, with North Macedonia having the highest percentage at approximately 74%. Notably, in Albania, women represent a larger proportion than men when it comes to digital payments and account ownership.

III. Methodology

The methodology employed in this paper involves a comprehensive literature review aimed at exploring the latest developments, opportunities, and challenges associated with FinTech in various countries. This review serves as a foundation for understanding how FinTech is shaping financial landscapes globally. To achieve this, the study synthesizes and analyzes a diverse range of sources, including existing scientific papers, theoretical frameworks, and empirical studies that highlight the growth and impact of FinTech. Additionally, reports from authoritative organizations such as the World Bank and the Bank of Albania are examined to provide insights into regional trends and regulatory environments. The research utilizes several academic databases, including Google Scholar, ResearchGate, Web of Science, and EBSCO, to ensure a robust and well-rounded collection of relevant literature. This rigorous approach not only enhances the depth of analysis but also facilitates a clearer understanding of the intricate dynamics of FinTech across different socio-economic contexts.

This study employs a comprehensive methodology that integrates both descriptive and explanatory data to provide a nuanced understanding of the topic at hand. It draws on an extensive literature review, alongside secondary data collected from a variety of reputable sources. These sources include studies and reports produced by prominent international organizations such as the World Bank, as well as key domestic institutions like the Bank of Albania. By utilizing this array of data, the research aims to uncover patterns, trends, and insights that are critical to understanding the underlying factors influencing the subject matter. This approach not only enhances the reliability of the findings but also situates them within a broader context of existing research and policy frameworks.

IV. Analyses: The Financial Technology (FinTech) landscape in Albania

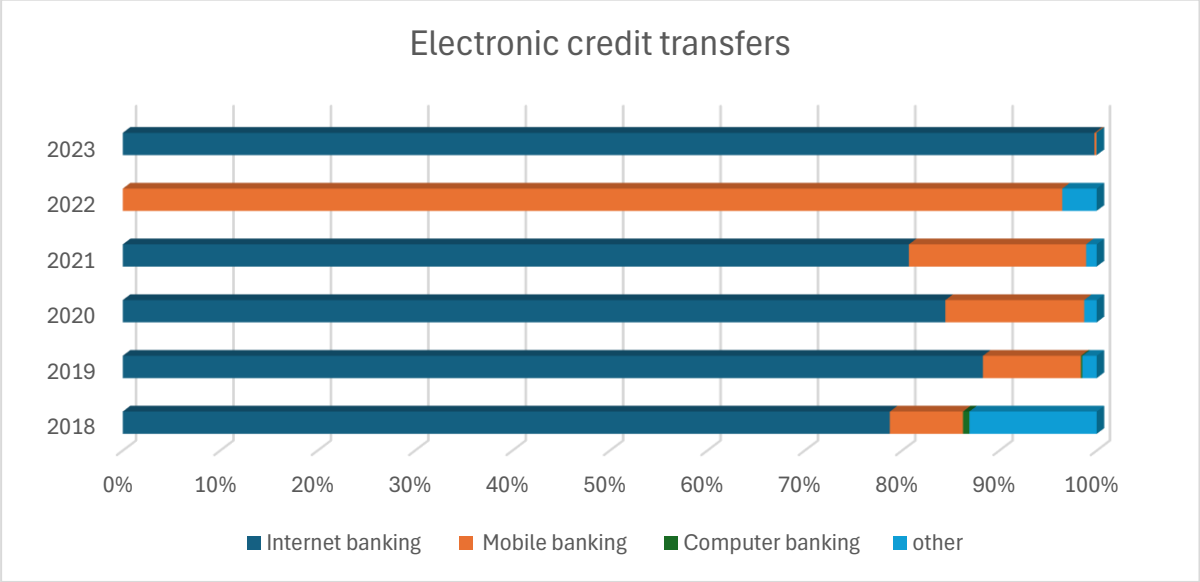
Albania's fintech landscape is rapidly evolving, driven by technological advancements and a growing demand for innovative financial services. With a young, tech-savvy population and increased internet penetration, the country is becoming an attractive hub for fintech startups and established companies alike. The government has shown support for the fintech sector through initiatives aimed at improving the regulatory framework and encouraging digital financial solutions. This includes efforts to enhance the country's banking infrastructure and promote financial inclusion, particularly for the unbanked population. Key players in the Albanian fintech space include mobile payment platforms, peer-to-peer lending services, and digital banking solutions. These startups are not only providing efficient services but also fostering competition within the traditional banking sector, which has traditionally dominated the market. Additionally, collaborations between fintech companies and traditional financial institutions are becoming more common, leading to the development of innovative products that cater to the evolving needs of consumers. As investments in fintech continue to rise, Albania is poised to become a significant player in the broader Balkan fintech ecosystem. Overall, the fintech landscape in Albania presents numerous opportunities for growth and innovation, offering a promising outlook for entrepreneurs and investors in the region.

While financial technology (fintech) has made its mark in the Albanian market over the past few years, its full adaptation and widespread utilization still have significant hurdles to overcome. There is a pressing need for a gradual transformation that not only embraces innovation but also systematically assesses its impact on the market landscape and the broader economy. In Albania, fintech institutions remain largely in their nascent stages, with a primary focus on essential payment functions and the facilitation of microloans. Despite the emergence of these new players, traditional banks continue to hold a predominant position in the financial sector, particularly in the realm of payment services. The role of non-bank financial institutions is noteworthy, as they primarily offer cash counter payment services, filling a crucial gap in the market. True fintech innovators are still in the early phase of their development journey. According to their managers, a significant portion of their efforts is dedicated to educating customers about the available financial tools and services. This educational approach aims to empower users and enhance their understanding of fintech solutions. So far, the main objective of these emerging fintech institutions has been the creation of electronic accounts and digital wallets. These initiatives allow customers to seamlessly execute a wide range of payments, all centered around user-friendly applications designed to enhance convenience and accessibility in their financial transactions.

Fintech institutions are currently facing significant challenges in establishing a competitive edge over the well-established banking sector. Banks boast a much larger market penetration, having offered a wide array of financial services for many years, leveraging their robust online banking platforms and the convenience of debit and credit cards. Many electronic money transactions still rely heavily on traditional cash transactions, as seen in the various payment methods citizens frequently use at physical electronic money counters. These payments are typically made in cash and subsequently processed through the electronic payment terminals operated by these providers, highlighting the ongoing integration of cash-based interactions within the evolving digital payment landscape. The landscape of licensed electronic money institutions in Albania has expanded significantly, reaching a total of ten entities. Among these, the National Commercial Bank, the largest financial institution in the country, has launched its own electronic money platform, recently receiving official licensing from the Bank of Albania. In recent years, the Albanian banking sector has been witnessing a noticeable consolidation trend, evidenced by a reduction in the number of banks from 16 to just 11. In stark contrast, the fintech sector is thriving, displaying a vibrant and dynamic atmosphere that is attracting a wave of new investors. This growing interest can be attributed to the considerable untapped potential of the Albanian market, especially in terms of enhancing financial inclusion and broadening public access to innovative information and communication technologies. The surge in new companies entering the realms of credit and payment services signals a promising shift for Albania, hinting at an impending era of growth and development for fintech institutions. This evolving trend mirrors the advancements seen in more developed countries, suggesting that Albania is poised to embrace a transformative phase in its financial landscape.

Fintech companies operating in Albania are Rubicon, Gjirafa, AILend, EasyPay, Intesa Sanpaolo Bank Albania, IuteCredit Albania, MPay, Banka Kombetare Tregtare (BKT), Kredo Finance, Paysera, Paylink. These organizations are at the forefront of merging service technology with finance, as they have not yet processed payments, banking services and investments. Each listed company contributes to a modern ecosystem of companies, aiming to improve the services of Albania's customers and clients, access to products and promote digital financial education among individuals.

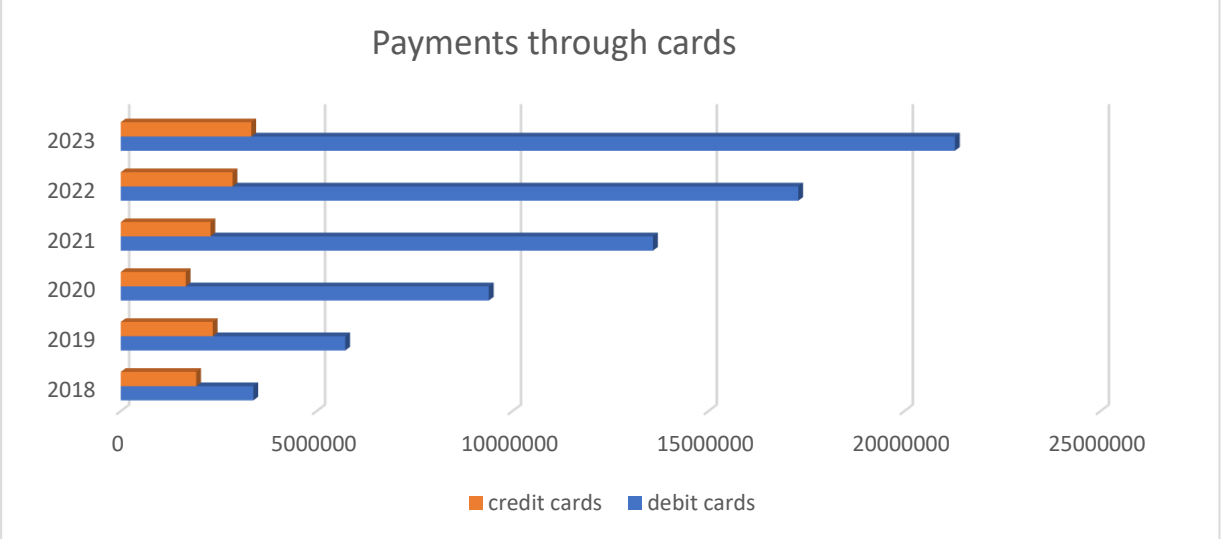
Graphic 1: Electronic credit transfers, 2018-2023.



Source: Bank of Albania, 2024

According to recent data from the Bank of Albania, internet banking has emerged as the predominant method of conducting electronic credit transfers among both individuals and businesses. The accompanying graph illustrates this trend clearly, revealing a significant shift in 2022 when mobile banking began to surpass internet banking in popularity. This transition highlights the growing reliance on mobile technology for financial transactions, reflecting broader changes in consumer behavior and banking preferences.

Graphic 2: Payments through cards (in number) 2018-2023.

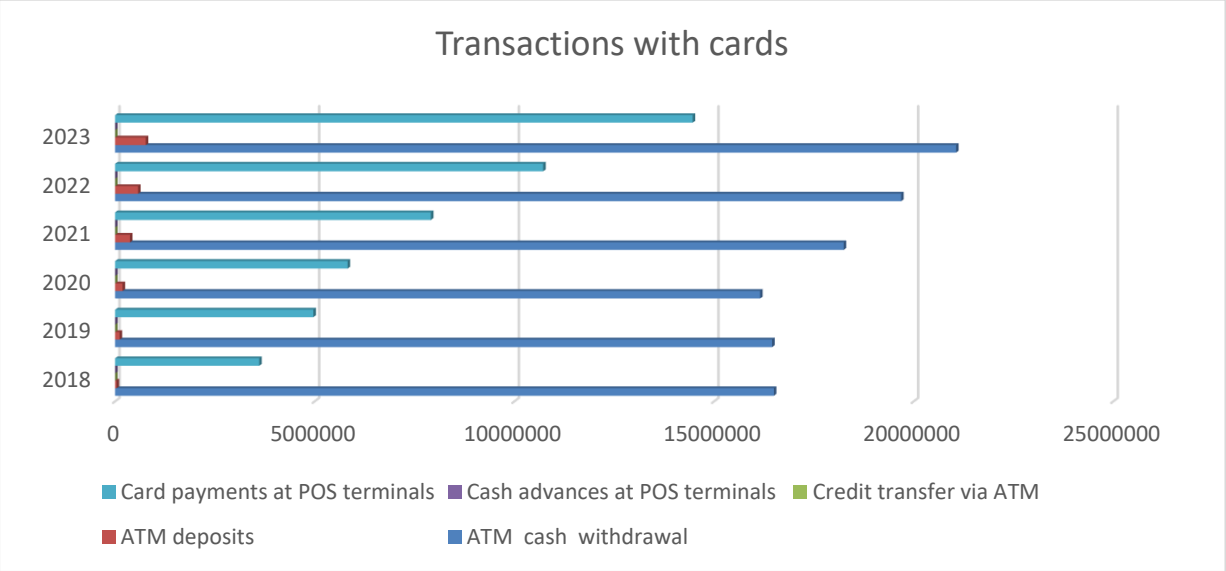


Source: Bank of Albania, 2024

Debit cards have emerged as the predominant method of making payments, outpacing credit cards in popularity. This shift has been particularly noticeable between 2018 and 2023, as more consumers have embraced the convenience and immediacy of debit card transactions. In contrast, the growth of credit card payments has remained steady and predictable, indicating a more traditional approach to spending. As a result, the trend of payment methods is evolving, with debit cards capturing a larger share of consumer spending.

The growth in electronic cash transactions is particularly significant in terms of transaction values. In 2023, the reported value of electronic cash transactions reached 96.8 billion Albanian lek (approximately 890 million euros), marking a remarkable increase of 102% compared to 2022. This growth is similarly reflected in the number of electronic cash accounts.

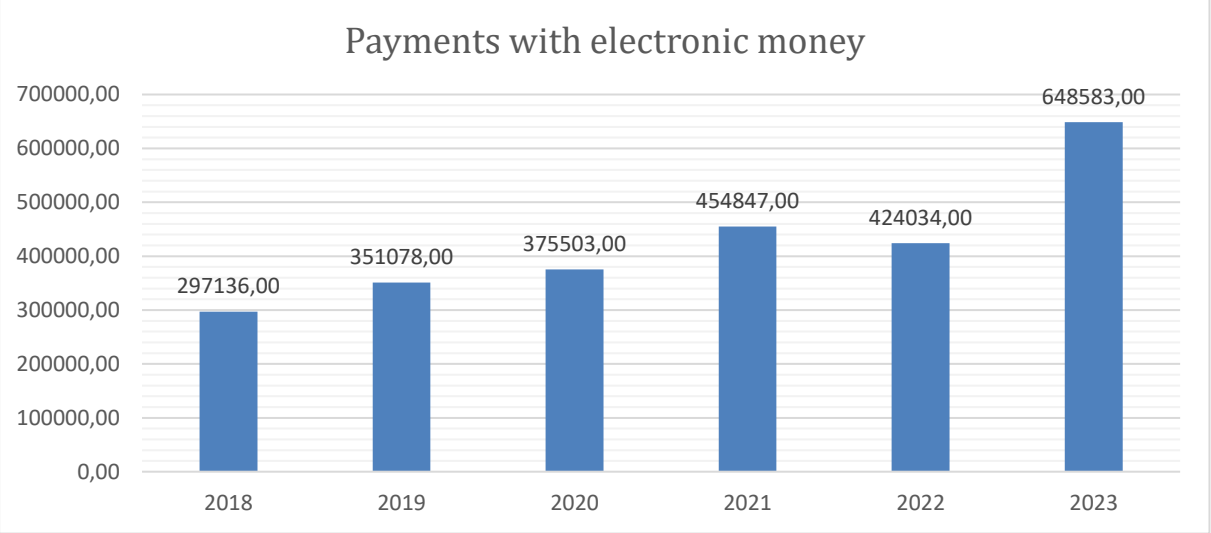
Graphic 3: Transactions with cards (number) 2018-2023.



Source: Bank of Albania, 2024

According to the Bank of Albania, by the end of last year, the number of electronic cash accounts exceeded 152,000, also showing a 102% increase from the previous year. Additionally, the increase in the number of electronic cash accounts in 2022 compared to 2021 was an impressive 273%. The rising popularity of these payment methods is accompanied by a rapid expansion of the technological infrastructure used by providers.

Graphic 4: Payments with electronic money (number) 2018-2023



Source: Bank of Albania, 2024

The use of electronic money for payments in Albania has shown a significant increase from 2018 to 2023. This trend highlights the growing acceptance and reliance on digital financial solutions among consumers and businesses alike, reflecting a shift towards more modern payment methods. The graph above illustrates a significant increase in the use of electronic money for payments over the years observed. In 2018, there was a total of 297,136 payments conducted through electronic means, highlighting the initial adoption of this payment method. By 2023, this number surged to an impressive 648,583 payments, indicating a growing reliance on electronic transactions and a shift towards digital financial practices among users. This upward trend reflects not only the expanding acceptance of electronic money but also the evolving landscape of payment preferences in today's economy.

V. Conclusion and Recommendations

The FinTech revolution is rapidly transforming the financial landscape by leveraging advanced technologies to provide innovative solutions. Every day, we see new digital services that not only change consumer behavior but also disrupt traditional business models that have existed for decades. This dynamic sector is finding applications across various industries, particularly in finance, where it thrives through the integration of technology. By utilizing the latest advancements, FinTech has democratized access to financial services, making them available to a wider audience while also lowering costs. Although it is still a relatively new field, it has established a strong foundation for the development and ongoing evolution of financial products and services, paving the way for future innovations. While the swift growth of FinTech presents significant challenges to established banking and payment systems, it also improves the flexibility and accessibility of financial services. This dual effect creates an environment ripe for change, ultimately benefiting both consumers and businesses as they navigate their financial journeys more efficiently and effectively.

The significance of FinTech in today's world lies in its ability to improve accessibility, efficiency, and user experience in financial services. By leveraging technology, FinTech solutions often reduce costs, streamline processes, and provide consumers and businesses with greater convenience and flexibility. As such, it plays a crucial role in shaping the future of financial services and drives inclusivity in the global economy. Financial Technology, commonly known as FinTech, refers to the innovative use of technology to enhance and automate financial services. This includes a variety of applications, such as mobile banking, online payment systems, peer-to-peer lending platforms, and blockchain technology.

The Financial Technology (FinTech) sector in Albania faces significant challenges due to a lack of accessible funding and investment opportunities, limiting the growth potential of startups and innovations. There is a significant lack of infrastructure and resources that support FinTech innovation, leading to missed opportunities for collaboration and industry development. Albanian regulators and policymakers have not yet established a clear strategy for the FinTech sector, creating uncertainty for businesses and hindering the sector's growth. Many regions in Albania experience inadequate information and communication technology (ICT) infrastructure, which hinders access to essential digital services and limits the growth of FinTech companies. The migration of skilled professionals and young talent seeking better opportunities abroad has led to a significant "brain drain," depriving the local FinTech ecosystem of essential expertise and innovation.

- To promote growth and stability in the FinTech sector, the Albanian government should establish clear regulatory policies. A transparent environment will build trust among consumers and investors while ensuring the safe development of innovative financial products.
- There is a need to review regulations for fintech access to the payments market. This could enhance financial inclusion, promote electronic transactions over cash, and help formalize the economy. Ultimately, improving financial development can reduce the informal economy and create new opportunities for innovative businesses.
- Promoting Financial Literacy and Digital Inclusion: Expanding financial literacy programs is essential for ensuring all individuals benefit from FinTech innovations. Public and private institutions should collaborate to educate consumers on digital finance, encouraging adoption in underserved communities.
- Albania should promote FinTech entrepreneurship by providing incentives, funding, and incubation programs for startups. This will drive innovation and establish the country as a regional leader in FinTech, attracting foreign investment and talent.
- Investing in Cybersecurity and Data Protection: With the growth of FinTech solutions, protecting users' financial data is essential. Albanian businesses and regulators must invest in advanced cybersecurity and implement strict data protection standards to maintain consumer trust and reduce risks.

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"The emergence of Corporate Social Responsibility as a strategic choice for the evolution of business entities."

Ioannis Koukoumpliakos[1] **Grigorios Giannarakis**[2]

Lampros Sdrolias[3] **Stavros Kalogiannidis**[4]

1 Correspondingauthor, Department of Business Administration, University ofWestern Macedonia, Greece, jkoukoubliakos@gmail.com, ORCID:https://orcid.org/0000-0001-5112-2495

2Department of Business Administration, University ofWestern Macedonia, Greece ggiannarakis@uowm.gr

3Department of Business Administration, University of Thessaly, Larissa, Greece, sdrolias@uth.gr

3Department of Business Administration, University ofWestern Macedonia, Greece, stavroskalogiannidis@gmail.com

Abstract: The aim of this study is to highlight Corporate Social Responsibility (CSR) as a strategic choice for the evolution and development of business entities. The fact that CSR affects the reputation of businesses forces many of the companies to integrate CSR actions into their strategy in order to enhance the reputation of the company and satisfy consumers.

This study, utilizing the literature review, approached secondary sources of the international literature in order to cover the issue under investigation. Published studies on the issue under investigation were selected, scientifically enhancing the documentation of the study.

The findings of the study are particularly noteworthy because they offer new up-to-date information on Corporate Social Responsibility. In addition, they provide useful information to the business world in order to integrate Corporate Social Responsibility into their corporate strategy.

Keywords: Corporate Social Responsibility, corporate strategy, companies.

Introduction

The concept of Corporate Social Responsibility is a choice that involves a number of factors. Such factors are the environmental, social, ethical factors that we encounter during the operation of business entities (Reptsi and Koukoumpliakos, 2025).

The ultimate goal of Corporate Social Responsibility is to acquire an increased value for the business entity and for society as a whole.

Through the implementation of Corporate Social Responsibility, a healthy standard of living for local communities is achieved, while at the same time companies manage to operate efficiently (Hopkins, 2007).



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Literature review.

For more complete information on the above, it is advisable to initially present some conceptual approaches to the concept of Corporate Social Responsibility.
Initially, we identify that Corporate Social Responsibility actions focus on a series of actions and tactics applied by companies in order to coexist responsibly towards society, with respect to the environment and stakeholders (Carroll and Shabana, 2010)..
Initially Carroll (1991), with the formation of his pyramid, pointed out the levels of obligations arising from the operation of enterprises towards society. It thus concluded with the following obligations :

- Ethical obligations,
- Financial obligations
- Legal obligations
- Charitable obligations.



https://doublethedonation.com/pyramid-of-corporate-social-responsibility/ available 28-02-2025.

The European Commission (2011) then spoke about the responsibilities of companies during their production operation and the impact they cause to local communities.

The World Business Council for Sustainable Development (WBCSD) also pointed out the need for companies to be ethical and contribute to the overall economic development. At the same time, the living standards of the workforce of businesses and local communities would be optimized.

Dimensions of Corporate Social Responsibility

Corporate Social Responsibility is implemented through taking initiative on issues such as::

- the protection and preservation of the natural environment,
- providing support to vulnerable social groups and
- enhancing transparency in the way businesses are run.

Therefore, Corporate Social Responsibility is found in activities that businesses incorporate from legal obligations, ensuring ethics, safeguarding environmental resources and optimizing the quality of life of the local communities in which businesses operate (Dahlsrud, 2008).

The most important dimensions of Corporate Social Responsibility are the following:

- Social dimensions. Businesses that implement Corporate Social Responsibility support social groups and especially the most vulnerable groups. At the same time, they develop charitable activities relieving vulnerable populations. At the same time, they promote the continuous education and training of their staff, in order to be constantly informed and able to meet the demands of the times.
- Environmental dimensions. Companies that apply Corporate Social Responsibility support environmentally friendly actions by reducing their environmental footprint and develop new environmental tactics for their productive operation, such as the adoption of filters to limit emissions harmful to the atmosphere.
- Economic dimensions. The presence of transparent procedures in the handling of resources is considered as required in those companies that implement Corporate Social Responsibility. In addition, responsible businesses are bound by the observance of ethical rules, as well as by the equal treatment of stakeholders. Particular reference is made to the equal treatment of staff and business suppliers.

It is worth noting that many studies have linked CSR implementation with workforce job satisfaction (Mozes, Josman and Yaniv, 2011). For this reason, Corporate Social Responsibility must be disseminated through effective communication channels to the parties involved (Du, Bhattacharya and Sen, 2010). Therefore, it is imperative to communicate the company's vision (Chen, 2011). The annual posting of CSR activities (Holcomb et al., 2007), helps to enhance the company's image to consumers..



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Corporate Social Responsibility as a strategic policy for businesses

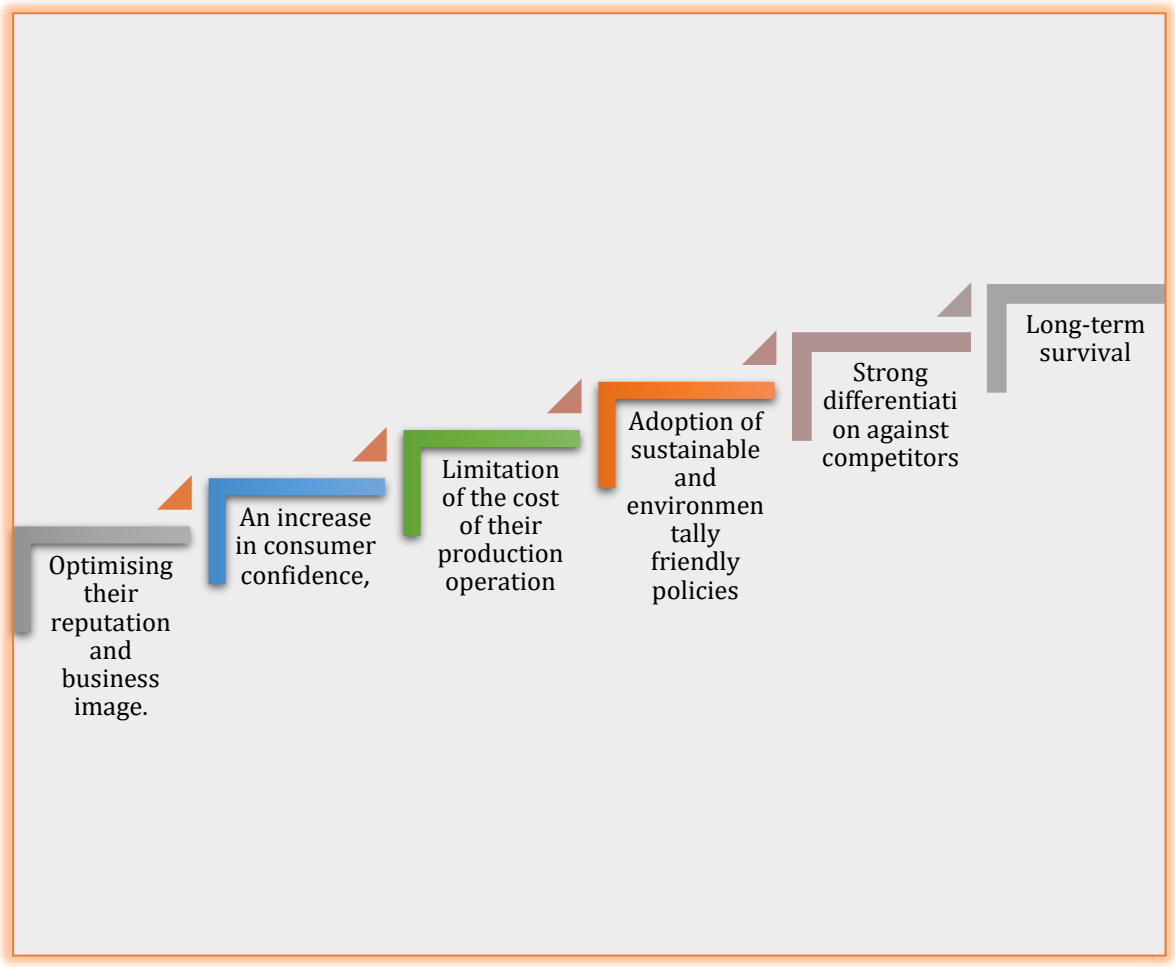
Many businesses adopt Corporate Social Responsibility as a strategic choice, because in this way

They manage to differentiate themselves and gain a competitive advantage from other companies.

More specifically, companies that include Corporate Social Responsibility in their policy, acquire significant advantages such as the following :

- Optimizing their reputation and business image. Consumers seek to reward socially responsible businesses.
- Increase in consumer confidence. Consumers who trust responsible businesses remain in their clientele for a long time.
- Strengthening staff relations with local communities. Feedback from employees and members of the local community helps businesses in the long run, because in this way employees develop both customer and public relations with the public outside working hours.
- Reduction of the cost of their production operation. The adoption of new technologies reduces the costs required by businesses to operate.
- Adopt sustainable and environmentally-friendly policies. The integration of technology in the operation of businesses contributes to the preservation of the natural environment.

- Strong differentiations vis-à-vis competitors. The above contribute to the formation of a competitive advantage of businesses over others.
- Resilience in times of crisis. Similarly, this helps businesses to be more resilient to extraordinary circumstances and to deal with crises. In addition, according to Galbreath's (2010) research, companies that implement Corporate Social Responsibility actions can and do recover immediately from crises of an economic nature, thus outperforming their competitors. (Galbreath, 2010).
- Long-term survival. The implementation of the above helps businesses to have a long-term horizon.



Addressing Challenges and Constraints

At this point it is appropriate to identify the fact that although Corporate Social Responsibility has a wealth of advantages, it also presents significant challenges. The most important of these are the following :

- Expensive costs in the beginning for adopting policies to maintain sustainability.
- Presence of strong resistance from senior management executives, which are more oriented towards economic benefits.
- Many consumers are skeptical, considering that companies promote misleading environmental advertisements.
- Many perceive Corporate Social Responsibility, a set of rules, ideas, behaviors, attitudes and policies that companies perform, building their connection with stakeholders (Tuan, 2012).

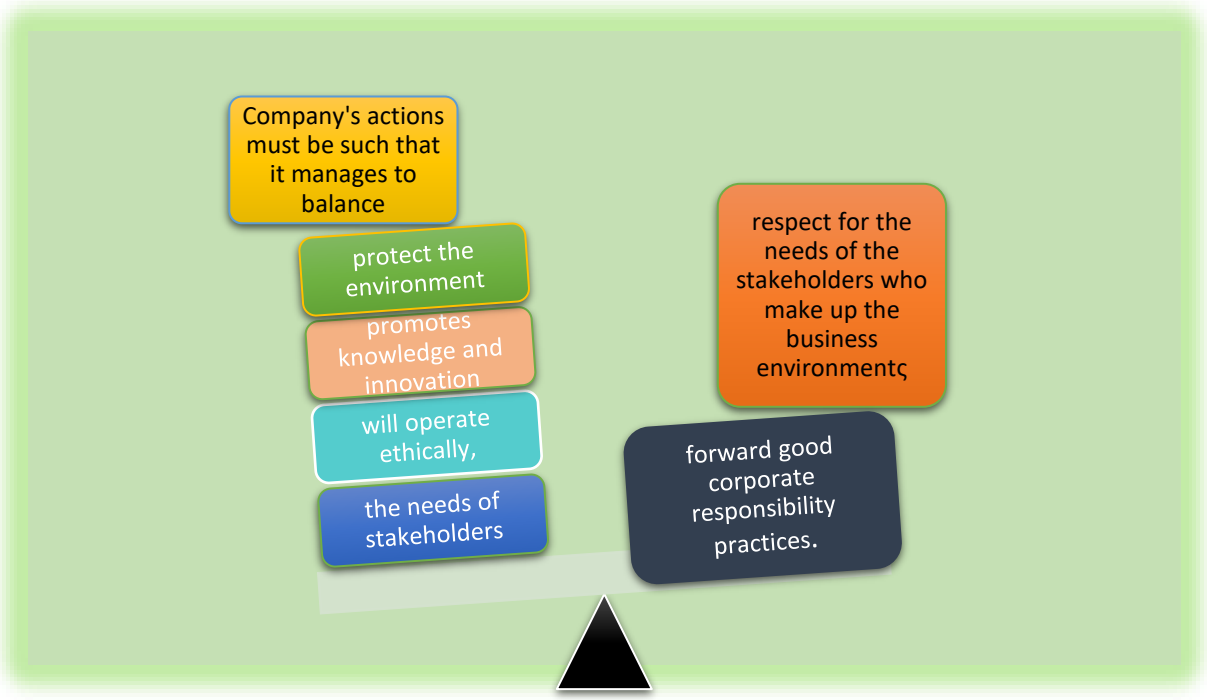
Conclusions

Corporate Social Responsibility has now progressed from the stage of voluntary actions to a strategic choice of businesses, in an effort to gain development, growth, prospects and a series of competitive advantages over their competitors (Porter and Kramer, 2011).

Any company that seeks to inspire a responsible attitude must incorporate Corporate Social Responsibility into its strategy.

It is imperative for companies to include Corporate Social Responsibility in their production operation, considering Corporate Social Responsibility as an integral part of it (Wołczek, 2011).

It is up to businesses themselves to successfully integrate Corporate Social Responsibility, with sincere intentions and disposition (Kotler and Lee, 2005). This implies transparent procedures throughout the work cycle, consistency, accuracy and substantial commitments to contribute to society and environmental protection (Visser, 2011).



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Are the Concepts of Sustainability and Circular Economy similar?

Doç. Dr. İsmail Bülent Gürbüz[1]

[1]Bursa Uludağ Üniversitesi, Ziraat Fakültesi, Tarım Ekonomisi Bölümü, bulent@uludag.edu.tr, ORCID: 0000-0001-5340-3725

Abstract: The concepts of circular economy and sustainability have lately gained momentum among scholars, theorists, academics, and practitioners. Although these concepts are considered necessary to solve many of the existing global environmental and social challenges (e.g., climate change, nature conservation and social equity), it seems there is no consistency relating to their content. Some scholars consider these two concepts identical, while others contemplate them as different. Several theoretical approaches have been presented to clarify the content of these two concepts and to provide effective ways to solve the social and environmental problems. In the contemporary global landscape, the environmental footprint left by human activities poses one of the most formidable challenges to the sustainability of our planet. This footprint, a comprehensive measure of the impact human actions has on the Earth's ecosystems, encompasses a wide array of dimensions including carbon emissions, material consumption, water use, and land alteration. The accelerating pace of environmental degradation, driven by rapid industrialization, urbanization, and an ever-growing global population, has led to an urgent call for a paradigm shift towards sustainable practices. The critical need to address this pressing issue has catalysed the exploration of innovative solutions aimed at mitigating the detrimental impacts of human civilization on the natural world.

Key Words: Green Deal, Carbon Footprint, Climate Pact, Sustainable Development, Ecological Transition

Özet: Döngüsel ekonomi ve sürdürülebilirlik kavramları son zamanlarda akademisyenler, teorisyenler, akademisyenler arasında çok popüler olmuş ve ivme kazanmıştır. Bu kavramlar mevcut küresel çevresel ve sosyal zorlukların çoğunu (örneğin, iklim değişikliği, doğa koruma ve sosyal eşitlik) çözmek için gerekli görülse de, içerikleriyle ilgili bir tutarlılık olmadığı görülmektedir. Bazı akademisyenler bu iki kavramı özdeş olarak görürken, diğerleri bunları farklı olarak düşünmektedir. Bu iki kavramın içeriğini açıklığa kavuşturmak ve sosyal ve çevresel sorunları çözmek için etkili yollar sağlamak amacıyla çeşitli teorik yaklaşımlar bile sunulmuştur. Çağımızda, insan faaliyetlerinin bıraktığı çevresel ayak izi, gezegenimizin sürdürülebilirliği için en büyük zorluklardan birini oluşturmaktadır. İnsan eylemlerinin Dünya ekosistemleri üzerindeki etkisinin bir ölçütü olan bu ayak izi, karbon emisyonları, malzeme tüketimi, su kullanımı ve arazi değişikliği gibi çok çeşitli boyutları kapsamaktadır. Hızlı sanayileşme, kentleşme ve sürekli büyüyen küresel nüfus tarafından yönlendirilen çevresel bozulmanın hızı, sürdürülebilir uygulamalara doğru bir paradigma değişimi için hızlı bir değişimi gerektirmektedir Bu acil sorunu ele almak ise, insanlık için dünya üzerindeki zararlı etkilerini azaltmayı amaçlayan yenilikçi çözümlerin araştırılmasıyla gerçekleştirilebilir.

Anahtar Kelimeler: Yeşil Mutabakat, Karbon Ayak İzi, İklim Paktı, Sürdürülebilir Kalkınma, Ekolojik Geçiş

1. INTRODUCTION

Globally, countries are trying to achieve sustainable development by establishing a balance between economic growth and a sustainable environment (Gurbuz et al., 2019). It is stated that economic growth causes environmental problems such as excessive carbon emissions, high ecological footprint and general climate change, and almost all countries face these problems (Waheed, 2023). This situation creates serious obstacles to the achievement of sustainable development goals and forces countries to adopt more sustainable strategies. The increasing environmental awareness in the world leads to the establishment of strict environmental regulations, especially in developed countries Gürbüz et al., 2023). In contrast, many developing countries prefer to implement environmental regulations more flexibly due to economic concerns. These different approaches further emphasize the importance of green growth strategies.

2. GREEN GROWTH

Green growth strategy, which represents a paradigm shift from traditional development models, has emerged as a fundamental component of sustainable evolution (Zhao et al., 2022). Green growth aims to secure the well-being of both current and future generations by aligning economic development with environmental sustainability. This strategy has the potential to provide lasting solutions to global environmental problems.

At the heart of the concept of sustainable development is the transition to a green economy. The green economy is characterized by low carbon emissions, resource efficiency, and social participation. It promotes economic growth and well-being while promoting sustainable consumption and production patterns.

Since traditional economic development models have a detrimental impact on the global and local environment, the transition from traditional economic development models to green economies and green economy development methods is of vital importance (Tasri and Karimi, 2014).

Green growth is a policy that aims to combine economic growth with ecological balance in response to changing climate conditions and environmental problems (Gürbüz et al., 2021). It tries to ensure that future generations live in the same conditions as today. In addition to the environmental dimension, sustainability is seen as a solution for economic growth and development, employment, income growth and poverty reduction (Ağaoğlu, 2023).

The green economy theory was first put forward by Malthus (1798). This theory is built on the concept that the traditional economic growth model is socially and environmentally unsustainable. It argues that we need to transition to a new economy that accepts natural barriers and ecological limits, while also meeting the demands of the poor and vulnerable (Idris et al., 2023).

This concept is similar to the idea of sustainable development accepted in developed countries, but many countries whose economies are still developing believe that environmental protection comes with long-term costs and are concerned that sustainable development may hinder economic growth. Green growth, unlike sustainable development, emerges as a way to promote economic growth and development by seeking a long-term balance between environmental risks and economic growth (Zhou et al., 2022). Therefore, green growth is considered an effective low-carbon framework and also a viable path towards sustainable development (OECD, 2011).

3. CIRCULAR ECONOMY

Integrating circular economy principles into traditional business models offers many benefits that go beyond sustainability. Circular economy practices focus on designing out waste and pollution, keeping products and materials in use, and renewing natural systems (Gurbuz and Ozkan, 2019). By adopting these principles, businesses can not only improve their environmental management, but also achieve significant economic gains and competitive advantages (Barros et al., 2021). For example; by reusing, renewing, and recycling products, companies can reduce their dependence on raw materials. Thus, companies can reduce costs and mitigate risks associated with resource scarcity and price fluctuations

In addition, circular economy integration encourages innovation in product design and business models. Bocken et al., (2016) emphasize that the transition from a linear to a circular approach requires the development of products designed for longevity, reparability, and upgradeability. This change encourages companies to continuously innovate, creating products that meet changing customer needs while minimizing environmental impacts. The shift to circular business models also opens up new revenue streams, such as offering products-as-a-service or subscription-based models that can increase customer loyalty and provide more stable revenue streams. In addition to the economic and innovation benefits, the circular economy also contributes significantly to achieving global sustainability goals. Khajuria et al., (2022) emphasize that circular strategies are aligned with the United Nations Sustainable Development Goals (SDGs), especially those related to responsible consumption and production (SDGs 12) and climate action (SDGs 13). By implementing circular practices, businesses can reduce their carbon footprint, reduce waste, and promote more sustainable consumption patterns. These practices not only help combat climate change, but also improve their corporate social responsibility profile, thereby increasing overall reputation and stakeholder trust.

The carbon footprint is based on sustainability and ecological concerns. Sustainability can be defined as the search for a balance between economic progress and the Earth's ecological capacity. This search for balance is related to the stabilization of the destructive relationship between the most complex system on earth, human culture, and the living Earth (Hawken et al. 2010). As Franchetti and Apul (2013) stated, the principle of "if you can't measure it, you can't manage it" has become valid not only for industrial production but also for the ecosystem. Therefore, measuring the emissions that cause ecological crises in order to be managed is a prerequisite for ensuring stability in the search for sustainability. Considering that the common language between human culture (especially industry) and the ecosystem is carbon, measuring this determinant is an important determinant in establishing balance between complex systems.

Carbon footprint is the carbon dioxide equivalent measure of greenhouse gas emissions caused directly or indirectly by a product or an action during its life cycle (Wiedmann and Minx,2008). The term carbon footprint is synonymous with "greenhouse gas inventory" (Franchetti and Apul, 2013). Greenhouse gases (GHG) are gases

that absorb and re-radiate heat in the atmosphere, thus keeping the atmosphere warmer than it should be. While there were six greenhouse gases until 2013, NF3 was included in the list of greenhouse gases after 2013 in line with the opinions of the Kyoto Protocol Committee. The duration of each greenhouse gas in the atmosphere and its effect on global warming are different (Brander and Davis, 2012).

In order to understand their power of influence, it is possible to talk about the CO_2 equivalent effects of other greenhouse gases with conversion in CO_2 units. Although the greenhouse gases that trigger global warming are not only carbon emissions, the carbon atom forms the basis of greenhouse gas compounds due to its high bonding capacity and chemical properties, and therefore it is expressed as carbon dioxide (CO_2) emissions in many discourses.

Carbon dioxide (CO_2) is an end product released as a result of the metabolism of carbon-containing nutrients. The atmosphere is homeostatic and contains a small amount of CO_2, approximately 0.03% (Odum and Barrett, 2016). However, it is also a gas that has a great effect on global warming. It is the most common greenhouse gas released by anthropogenic effects.

The atmosphere of the planet Mars consists of approximately 96% CO_2 gas, while on Earth this rate is only 0.03%. CO_2 is found in the atmosphere as part of the carbon cycle of the ecosystem. However, CO2 emissions released into the atmosphere as a result of burning fossil fuels containing carbon in order to meet the energy and production needs of the increasing population have increased significantly. Despite being found in such small amounts in the atmospheric structure, the main sources of CO_2, which constitutes 80% of greenhouse gases, are energy, transportation, electricity production and forest fires. The word carbon, which is used instead of the greenhouse gas inventory, is used because it is a dominant greenhouse gas emitted by human actions. The main reason for this is the combustion process. CO_2 is released in all energy production using combustion.

Therefore, combustion takes place in every process that provides industrial and energy supply. In this case, industrial and energy requirements are constantly increasing to meet the needs of the increasing population. In this constantly increasing cycle, unless production systems are decarbonized, industrial pollution, greenhouse gases accumulated in the atmosphere and the global climate crisis will reach an insurmountable dimension. Indeed, during the process we passed from industry 1.0 to industry 4.0, that is, compared to the pre-industrial period, the terrestrial ecosystem is facing a climate that is 1.2oC warmer and the oceans are facing a climate that is 0.8oC warmer. As long as the industry and energy sectors, which are responsible for 80% of atmospheric greenhouse gas compositions, do not transform, global warming effects will increase. The primary process for the transformation of sectors is the determination of the carbon footprint and the realization of improvement processes. Indeed, the prerequisite for the funding support envisaged to be provided to countries by the EU is based on the documentation of the carbon footprint.

The footprint metaphor forms the background of the footprint metaphor, the depth of which changes as a result of the pressure exerted by a living being on the ground according to its weight and the size of its feet (Akıllı et al., 2008). Environmental footprints are related to the boundaries of the entire ecosystem, and if changes in the threshold values of the ecosystem are not taken into account, they can cause intolerable changes in the biophysical processes of the natural environment. For this reason, the footprint approach is used as an indispensable indicator in the assessment of the ecological system (Hoekstra and Wiedmann, 2014). There are five main subcategories that constitute the footprint approach: (i) environmental footprint, (ii) social footprint, (iii) economic footprint, (iv) environmental, social ecological footprint and (v) composite footprint (Mızık and Yiğit Avdan, 2020). The carbon footprint is evaluated in the environmental footprint category and is one of the most prominent priorities in combating global climate change. There is no single standard for carbon footprint in the world, but carbon footprint calculations are carried out at different scales, including individual, product, institution/facility and country. Carbon footprint analysis is the measurement of greenhouse gas emission processes, origins, formation and amount. Carbon footprint is often used to determine greenhouse gas emissions resulting from the activities of a person or an organization. However, its origin is based on products and actions (Franchetti and Apul, 2013). Therefore, in addition to personal carbon footprints, services caused by products, institutions and organizations and national scale carbon footprints can also be determined.

There are various standards and tools for different scales in the process of calculating the carbon footprint. These tools cover the estimation of the greenhouse gas inventory originating from the activities of the relevant actions. Although carbon footprint calculations are action or product-based, they are all based on the IPCC and the Greenhouse Gas Protocol (IPCC 2007). In 1996, the IPCC National Greenhouse Gas Inventory Guide and the Institutional Greenhouse Gas Standards based on the IPCC Guide were published with the Greenhouse Gas

Protocol Initiative in 2001. Although the greenhouse gas or carbon footprint calculation tools are different, their basics are the same. The differences arise from the detailing dimension specific to the business and process.

Technology and habits that make daily life easier create individual carbon footprints. With the change of social life forms, habits and the development of technology, access to every desired commodity has created consumer capitalism. Although there is no standard method for individual carbon footprint calculations, the United Nations Environmental Protection Agency (EPA) estimates households' annual transportation (vehicle and airplane), heating and cooling energy consumption (natural gas, fuel, electricity, coal and wood) and waste amount with average carbon footprint calculation tools. On the other hand, carbon footprint at the product scale covers all processes serving individual consumption habits. Therefore, life cycle analysis (LCA) is performed for products. Life cycle analysis is the determination, reporting and management of environmental impacts from raw material extraction to production, shipment, use by the consumer and disposal after use in product and service management. ISO 14067:2018 (Carbon Footprint of a Product - CFP) standardization is used when determining the carbon footprint of products. For the carbon footprint of medium and large-scale industrial enterprises, private companies often develop different methods. Although the origin of these calculations is based on the IPCC National Greenhouse Gas Inventory Guide and Greenhouse Gas Protocols, different companies apply different methods for detailed studies. At the institution/organization scale, the International Organization Standardization (ISO), which includes international standardizations, is generally taken as basis.

4. CONCLUSION

Both concepts often use multidisciplinary or interdisciplinary approaches to better integrate non-economic aspects in development. These approaches often conclude that system design and innovation are the main drivers for achieving goals. They also emphasize not only the potential costs and risks, but also the importance of diversity in exploiting different opportunities for value creation. Both concepts see cooperation among stakeholders as not only desirable but also essential to achieve their expectations. Both concepts place great emphasis on legal regulations and, increasingly, on the conscious design of incentive structures to guide stakeholder behaviour and align it with policies. Private sector enterprises play a central role among the relevant stakeholders, as they have more opportunities and resources than any other actor. The implementation of more sustainable solutions lags behind expectations and technological capabilities. Furthermore, advances in material and production technologies are increasingly gradual. Therefore, researchers increasingly see business model innovation as the main path to the necessary socio-technical transformations.

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The Particularities Of Using Artificial Intellıgence In Payment Systems

LUCHIAN Ivan[1] **FILIP Angela**[2]

[1]PhD, associate professor, Moldova State University, ivan.luchian@usm.md, ORCID: 0000-0002-8683-7228

[2]1PhD, associate professor, Moldova State University, filip77@mail.ru, ORCID: 0000-0003-2359-860X

Abstract: Artificial intelligence (AI) is a technology that involves computer systems and is capable of performing complex tasks that are usually attributed to human reasoning. The importance of AI lies in its contribution to optimal decision-making, based on data analysis, producing improved results over time through the use of deep learning. The use of AI in payment systems is related to the application of machine learning algorithms, predictive analytics, natural language processing and other AI technologies to process, manage and secure the carried-out transactions. The areas of application of AI in payment systems mainly focus on the following: combating cyber fraud, customer acquisition through chatbots and virtual assistants, assisting in making lending and underwriting decisions, creating personalized offers, simplifying processing and settlements, and creating data-driven insights for innovation. Some experts see the importance of AI particularly in expanding digital payments, especially in accounts receivable and accounts payable processes. AI-based systems can also help automate invoice processing, payment matching and reconciliation, eliminating manual errors and accelerating the speed of payment processing. The main benefits of using AI in payment systems include: increasing payment processing efficiency, more accurate fraud detection, expanding high-quality payment flows, improving customer experience, and avoiding payment failures. Achieving these benefits leads to increased revenue from payment services and strengthening customer loyalty.

Key Words: payment; technology; artificial intelligence; machine learning

1. INTRODUCTION

Artificial intelligence (AI) is a set of technologies capable of simulating human intelligence and performing tasks commonly associated with intelligent beings. This capacity includes learning, reasoning, problem solving, perception, language understanding, and dynamic interaction. Particularly notable is the ability to analyze data on a scale beyond what humans can analyze, determine correlations, and develop models from which predictions about future states are made. Important features of AI are learning, reasoning, self-correction, and creativity. (Gujalwar), (*What is...*, n.d.), (Investopedia, 2025), (Craig et al.)

Currently, there is a global AI market, which according to Statista (2024) will amount to USD 243.70 billion in 2025 and USD 826.70 billion by 2030. And according to Markets And Markets (2024) the size of this market was $214.6 billion in 2024 and will grow to $1339.1 billion in 2030.

It is about applying AI within a global payments industry where, according to McKinsey experts, 3.4 trillion transactions worth $1.8 quadrillion were carried out in 2023 and which generated revenues of $2.4 trillion. (Bruno et al., 2024)

This demonstrates on the one hand the widespread use of AI in various fields, and on the other hand the existence of a solid potential of the respective industry for providing AI-related technologies to improve the functioning of payment systems.

The global payments landscape is currently undergoing significant societal and technological changes (Damen, 2023), (Akash Takyar):

- The increase in the volume of digital payments requires robust systems capable of handling high frequencies, ensuring the availability of payment services in real time. Experts from Statista (2024) estimated that the total value of digital payments will reach $20.7 trillion in 2025 and up to $36.8 trillion by 2029.
- Security concerns are driven by cyber attacks, which have become increasingly sophisticated. Hence, ensuring the security of payment systems is a priority concern.
- The user experience is driven by the demand for a simple and intuitive service, regardless of whether the payment is made online or in-store.

These problems require the implementation of artificial intelligence within payment systems in search of promising solutions to the challenges of the payment industry, while simultaneously creating new possibilities.

According to some specialists, the need to implement AI within payment systems was determined by the emergence of real-time payments and the approval of ISO 20022 messaging standards, predicting that this combination will make payments more efficient, secure, and sophisticated. (Gujalwar)

As payments become instant, payment service providers need to be able to immediately detect fraud, monitor transactions, and verify compliance. AI-powered solutions can meet this demand by quickly analyzing large amounts of data and identifying anomalies and potential threats faster than traditional systems. (Gujalwar)

The implementation of ISO 20022 has led to the introduction of a wave of new data into the payments industry, which is both structured and unstructured, encompassing everything from standardized transaction fields to supply chain information (invoices, purchase orders, PDFs and invoice images). Structured data allows systems to understand the meaning of each field, while unstructured data provides a source of information that requires complex processing. In this case, AI is important for managing this influx of data. Related algorithms can analyze and interpret unstructured data, extracting valuable insights and ensuring that no critical information is missed. The large amounts of data under ISO 20022 make it readily available, giving AI systems the material they need to learn and improve. The more data AI systems process, the more accurate and efficient they become. (Gujalwar)

The purpose of this article is to present a multidimensional presentation of the particularities of using AI in the functioning of modern payment systems.

2. MATERIAL AND METHODS

At the initial stage of the research, a study of expert views on the essence and problems of using AI in payment systems published on the Internet by various authors and specialized companies was conducted. As a result, a certain homogeneity of visions was discovered, with only certain particular expositions on the issues addressed. The next stage of the research involved the generalization and synthesis of the accumulated material, which was presented in this article.

3. RESULTS AND DISCUSSION

In the opinion of author Alexis Damen (2023), the use of AI in payment systems consists of "the use of machine learning algorithms, predictive analytics, natural language processing, and other AI technologies to process, manage, and secure digital transactions".

The use of AI in payment systems consists of the use of machine learning algorithms, predictive analytics, natural language processing and other AI technologies in the processing, management and security of payments. In any case, it is not related to replacing human intervention, but only to improving and automating processes. (Ha Dao Thu, 2024)

Unlike traditional payment methods, which rely on predefined procedures and manual checks, AI-based payment systems continuously learn from transaction data to detect fraud, personalize customer experiences, and automate tasks, which improves security, efficiency, accuracy, and adapts to new patterns and threats in real time. (Razorpay, 2024)

The use of AI in payment systems requires the application of several underlying technologies (Ha Dao Thu, 2024), (Martindell, 2024), (Razorpay, 2024):

- *Generative AI* algorithms that can generate new content by learning patterns from existing data and creating new resulting generative models. (John, 2024) Its application can refer to:
  - *Content Creation:* Uses Generative Adversarial Networks (GANs) and Variational Auto-encoders (VAEs) to create realistic text, images, and other outputs.
  - *Personalization:* Adjust payment experiences and marketing content to individual customer preferences.
  - *Enhanced Interaction:* Refine consumer interactions with responsive, context-aware responses, increasing their engagement and satisfaction.
- *Machine learning (ML)* is an information technology based on the development of algorithmic models trained on large data sets, which has the ability to adapt and self-improve over time without being explicitly programmed. The learning process is carried out continuously, allowing the model to make intelligent predictions or suggest decisions for solving certain tasks.

ML uses algorithms that analyze transaction data, market conditions, and other financial indicators to predict consumer behavior and cash flow requirements, allowing companies to maintain optimal liquidity levels, reducing the risk of liquidity shortages or excesses, and improving financial stability. This technology is also applicable to detect fraud. (Gujalwar)

ML can be used in particular for the following:

- *Fraud detection:* ML can analyze transaction patterns to determine anomalies and flag suspicious activity in real time.
- *Customer segmentation:* It is about classifying consumers based on behavior and preferences, contributing to the development of marketing strategies.

- *Natural language processing (NLP)* is the ability of a computer program to understand human language in spoken and written form. (Gillis et al.) NLP allows chatbots to handle customer inquiries, providing fast and automated assistance for payment issues.

Some particular forms of NLP application can be mentioned:

- *Voice-Based Transactions:* Customers can conduct transactions via voice commands, achieving a hands-free and convenient experience.
- *Chatbots:* NLP-based chatbots answer customer questions, process transactions, and provide 24/7 support, raising customer satisfaction levels.
- *Sentiment Analysis:* NLP can assist in analyzing customer feedback and sentiment, helping to improve payment services and address issues more effectively.

- *Neural network* is a set of algorithms designed to recognize the relationships underlying a data set through a process that simulates how the human brain works. (Chen, 2024) Neural networks can identify patterns and anomalies in large data sets, playing an important role in fraud detection.

- *Predictive analytics* is the use of historical data to forecast trends, future events, and potential scenarios, which can help make strategic decisions. (Harvard, 2021)

Predictive analytics can forecast payment transaction volumes based on historical data, helping payment service providers manage their resources and ensure smooth operations, especially during peak periods.

In predictive analysis, AI uses statistical techniques to examine historical customer information to predict their future behavior. This allows payment service companies to offer personalized options during checkout.

- *Biometric authentication,* according to LoginTC, represents “a cybersecurity process that verifies a user's identity using their unique biological traits such as fingerprints, voices, retinas, and facial features”. It can have the following forms of use:
  - *Facial recognition:* This technology authenticates users by examining facial features and complicating unauthorized access.
  - *Fingerprint scanning:* It is a fast and reliable method for authenticating mobile payments.
  - *Voice recognition:* It is an additional level of security by verifying voice patterns to ensure that only authorized persons complete transactions.

- *Data analytics* is the science of analyzing raw data to draw conclusions about that information. (Investopedia, 2024) The ways of using it can be:
  - *Pattern discovery:* Examine transaction data to identify the most valuable patterns, helping to make strategic decisions.
  - *Personalization:* Examines customer behavior data, enabling the offering of personalized services.
  - *Process improvement:* It determines inefficiencies in payment procedures, making transactions faster and more reliable.

Some specialists prefer to use the notion of *payment analytics*, considering the system (or systems) used to collect and analyze data related to the conduct of payments. It can help track a range of payment-related

metrics, including: payment types and methods; transaction amounts and values; transaction volume and velocity; chargeback rates, and more. (Simmons)

- *Blockchain* is a decentralized digital ledger, distributed database, or shared ledger, that stores records across a network of computers in a way that is transparent, immutable, and tamper-resistant. (Hayes, 2024) Blockchain technology is not a component of AI, but it frequently collaborates with AI in payment systems. At the same time, these technologies form a foundation for improving the speed, security, and intelligence of payment systems.

Certain particular cases of Blockchain application can be mentioned:

- *Secure authentication:* It involves using a decentralized digital ledger in which transactions are encrypted and linked in an immutable chain, thus increasing payment security and reducing fraud.
- *Smart contracts:* These are self-executing contracts, which automatically carry out and verify transactions when predefined conditions are met, thus minimizing the need for intermediaries.

AI offers the payments industry a range of benefits (Access, 2025), (Damen, 2023), (Martindell, 2024), (Razorpay, 2024):

- *Improving and increasing speed of payment processing.* AI can help speed up payment tasks and processes by leveraging its intelligent decision-making capabilities in the face of high levels of complexity. ML can assist payment processing with optimal payment routing, cost optimization, and sophisticated fraud detection. AI can improve authorization rates by optimizing payment requests and retries by adjusting transaction requests for included (or excluded) data, editing data formats, and more.

Payment processing using AI helps automate repetitive tasks, such as payment reconciliation. By reducing the time required to enter payment details and verify transactions, AI reduces manual intervention and error rates and minimizes operational delays, which increases the speed of payment processing. At the same time, by automating routine tasks, AI helps company employees focus on more complex and strategic responsibilities.

AI can perform real-time translations and conversations, which is important in cross-border transactions, where language barriers can slow down the process. Image recognition technology can also quickly verify the authenticity of documents and proof of payment, further accelerating the speed of transaction completion. (Gujalwar)

- *Improving customer service.* AI can predict evolving customer needs by analyzing past interactions, purchase history, and demographics, providing relevant recommendations or solutions through a personalized approach, which can result in a more engaging consumer experience. Also, the use of AI-powered chatbots and virtual assistants can provide 24/7 support, which can increase retention rates and strengthen customer loyalty.
- *Cost savings.* The use of AI can lead to substantial cost reductions for payment system participants through the following:
  - Reducing fraud-related costs, which can lead to significant savings in related costs;
  - Reducing operational expenses by automating routine tasks, contributing to better financial performance.
- *Fraud prevention and detection.* In this context, author Ashish Gujalwar states: ”A recent industry-wide survey revealed that 94% of senior payments professionals believe AI and ML are increasingly used to improve fraud detection. This widespread confidence and conviction is indicative of the significant advancements and proven success of AI in the payments industry over the years. Moreover, as AI continues to evolve and mature, future innovations will further enhance security, efficiency, and customer experience.”

ML technology is capable of analyzing large amounts of transaction data in real time, which allows it to identify suspicious activities and flag potentially fraudulent transactions.

Ensuring transaction security through the use of AI can be achieved by:

- Detecting fraud through continuous monitoring and real-time analysis of transactions in which AI can identify unusual transaction patterns and take preventive measures;
- Improving authentication processes by implementing biometric recognition and multi-factor authentication with the help of AI, which significantly strengthens the security of payment systems.

Uses of ML to detect anomalies and cybersecurity threats by analyzing network traffic and user behavior patterns. This enables a rapid response to potential breaches, minimizing damage and improving overall system security. ML models are constantly evolving, implementing new data to refine their fraud detection capabilities.

By adapting to new threats to payment systems, AI reduces financial losses, improves compliance, and strengthens customer trust by minimizing false positives that could affect honest users.

- *Advanced monitoring and Issue detection.* Implemented in equipment maintenance, AI continuously analyzes sensor data to identify wear and potential failures before they occur, helping to initiate preventive repairs.

- *Delivering better customer experiences, and avoiding payment failures.* AI is improving customer support by providing intelligent self-service tools that reduce the need for manual intervention. Other applications of AI in payment processing also include chatbots that can handle billing requests, providing instant solutions to common issues such as incorrect charges or failed payments.

- *Increase in sales revenue.* Implementing AI helps increase the chances of successful payments and improve authorization rates, which leads to higher revenues and strengthened customer loyalty.

Speaking about changing payment systems thanks to AI, the following key areas of use should be mentioned (Gujalwar), (Razorpay, 2024), (Takyar):

1. *Fraud prevention and detection.* AI in payment systems can quickly analyze data to find and flag suspicious transactions and prevent fraud before it occurs. ML algorithms can perform real-time analysis of transaction data to identify complex patterns and anomalies that indicate fraudulent activity. For example, ML can detect irregular spending, such as large purchases or transactions from unexpected locations, and alert payment service providers. These systems are also able to continuously learn and adapt to new forms of fraud, providing dynamic protection against evolving threats. Payment service providers can integrate AI-based solutions into their infrastructures to reduce false positives and increase overall transaction security.

2. *Client support, personalization and customer experience.* NLP-powered virtual assistants can handle complex tasks related to account management, payment processing, compliance issues, and more. These systems provide immediate and accurate responses based on existing policies and documentation, reducing the workload of support teams and allowing them to focus on high-value interactions with customers. By interpreting user behavior and preferences, AI can suggest personalized payment options, discounts, and promotions.

3. *Automation of payment processes.* AI simplifies the execution of tasks such as invoice management, payment scheduling, and payment reconciliation, allowing human resources to focus on more complex responsibilities.

4. *Risk management and credit scoring.* AI analyzes different data, including transaction history, spending patterns, and social behavior, to generate accurate credit scores and perform risk assessments, which can help financial institutions decide whether or not to approve financing for a particular applicant.

5. *Know Your Customer (KYC).* AI-powered systems ensure Know Your Customer (KYC) compliance by cross-checking information with databases and detecting discrepancies, which speeds up the onboarding process and ensures regulatory compliance, while reducing the chances of fraud and identity theft. AI technologies streamline the KYC process by automating complex corporate documents and identity verification. These systems can authenticate business licenses, financial reports, and other documents, cross-checking them with multiple data sources to ensure compliance with anti-money laundering and counter-terrorism financing regulations.

6. *Risk assessment.* AI improves risk assessment by integrating and analyzing disparate data sets, including financial statements, transaction histories, and real-time market data. Predictive analytics and neural networks provide a detailed risk profile for each counterparty, enabling more informed lending decisions and more effective risk exposure management, optimizing portfolio performance and minimizing defaults.

7. *Transaction analysis.* AI-powered tools provide deep insights into payments, identifying trends and patterns that can reveal potential inefficiencies in transaction processing or risks, including detecting early signs of payment delays or discrepancies. This approach increases transaction management efficiency, improving operational resilience and customer satisfaction.

8. *Intelligent routing.* These systems use ML algorithms to optimize the processing of large-scale account-to-account payments across multiple payment networks. By analyzing real-time historical data such as network

fees, processing times, and currency conversion rates, intelligent routing systems can dynamically adjust routing paths, ensuring efficient transaction processing.

9. Liquidity management. ML-based solutions provide advanced liquidity management based on the analysis of transactional data, market conditions and other indicators, which allows predicting cash flow requirements. All this allows companies to maintain optimal liquidity levels, reducing the risk of liquidity shortages or excesses and improving financial stability.

10. Integration and mapping. Financial institutions often need to convert new data formats to standard formats such as ISO 20022, which requires extensive manual coding and configuration. AI and ML can streamline this process by learning from incoming messages and predicting how different fields should map to payment elements.

The following businesses can benefit from AI-assisted payments (Martindell, 2024), (Razorpay, 2024), (Takyar):

- *Ecommerce.* AI offers opportunities to improve e-commerce. First, there is the opportunity to increase cart size by analyzing browsing and purchase history, suggesting additional products, and offering personalized discounts. AI, by analyzing the behavior, preferences, and purchase history of buyers, provides personalized product recommendations. AI can also help simplify the checkout process by integrating different payment methods and automating the checkout process. E-commerce platforms can also use chatbots to assist buyers during the checkout process.

- *B2B (business-to-business).* AI-powered invoice processing can minimize data entry errors, accelerate timely payments, improve payment data accuracy, and reduce the risk of human error, strengthening business relationships. ML can match incoming payments to outstanding invoices, help reduce the burden of manual payment reconciliation, and identify potential payment delays, such as disputes or misformatted payment data.

- *Subscription.* AI can help improve customer satisfaction, reduce churn rates, and boost recurring payment conversion. For example, companies can implement an ML algorithm that can detect customers who regularly miss their monthly payments and send automated reminder emails. AI can help companies manage subscription churn by analyzing customer behavior and usage patterns to predict when they might churn, allowing them to take proactive steps to retain them. AI automates recurring payments, ensuring timely subscription renewals and improving cash flow.

- *Software-as-a-Service (SaaS).* AI can improve personalized marketing in SaaS by analyzing large amounts of consumer data to develop personalized marketing strategies, which can help improve customer engagement and drive sales. And automating recurring tasks like invoicing, data entry, and answering customer questions frees up staff to focus on more important tasks. Predictive analytics can also predict customer behavior and help SaaS companies develop an effective strategy. In addition, AI can detect cybersecurity threats in real time to prevent potential data breaches.

Experts Mark Westbrook (2024) and from Razorpay (2024) draw attention to certain risks related to the use of AI in payment systems:

- *Data and privacy*. If AI uses inaccurate or incomplete data, it can lead to wrong predictions and decisions. Therefore, ensuring data quality is a critical aspect of implementing AI in payment systems.

- *Fraud and security*. There are findings that cybercriminals are increasingly using AI. This is, for example, to generate spam emails, phishing attacks or fake websites. So in addition to keeping data safe, work must also be done to demonstrate to customers that the technologies used by payment service providers are safe and authentic. Also, strict measures are needed to ensure data confidentiality and security, including the risks of unauthorized access, possible breaches and misuse of data.

- *Poor operative training*. AI cannot be considered an absolute replacement for human teams. It needs human oversight to ensure it operates correctly and ethically. It is important that payment teams are well-trained in what AI can do, what it should do, and perhaps more importantly, what it should not do.

- *Over-reliance on machines*. There is a possibility that AI solutions may not work as intended or may malfunction in the early stages, which could lead to disruption of the payment service provider's business. Therefore, it would not be rational to place excessive emphasis on AI at the beginning. For this reason, humans and AI machines should work together.

- *Bias and legal consequences*. There is a significant likelihood that AI algorithms will inherit biases that lead to discriminatory outcomes. This is particularly true in financial transactions, which disproportionately affect certain demographics. Given the need to ensure fair and equal treatment of all customers, these biases can raise ethical concerns and create legal issues.

- *Customer adoption*. AI is still viewed with caution by many customers, especially when it comes to soliciting sensitive personal and financial data. This is where user review and testing is important so that users can gain trust in AI tools and feel more comfortable.

- *Regulatory compliance*. AI helps ensure regulatory compliance through automated monitoring and reporting. However, incorporating AI into payment systems is associated with significant regulatory issues. Payment service providers must develop an AI strategy that outlines acceptable practices, incorporate pre-launch assessments, and maintain ongoing compliance checks.

- *Cost of Implementation*. The costs of implementing AI within payment systems can differ significantly depending on the sophistication and features of the solution.

4. CONCLUSION

AI represents the technological ability of information systems to simulate human thinking. AI has a multitude of technological forms as well as application areas. It is playing a growing role in the payments ecosystem, enabling a new era for the payments industry. AI offers a number of benefits to payment systems. It promotes increased payment processing speed, operational efficiency, security and personalization of services. It streamlines transaction routing, provides real-time insights into transaction patterns and enables payment service providers to make data-driven decisions quickly. AI provides innovative solutions at different stages of the payment process, automates routine procedures and improves accuracy. AI has the potential to reduce fraud rates, ensure compliance with regulations, simplify existing workflows and increase customer convenience, which will enhance the competitiveness of payment service providers. At the same time, it is still premature to talk about the complete replacement of payment service providers' staff with AI solutions. On the contrary, the implementation of AI requires maximum caution and undertaking complex risk management measures.

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Current Global Trends In Insurance Market Development

Luchian Ivan[1] **Gherjavca Svetlana**[2]

[1]PhD, associate professor, Moldova State University, ivan.luchian@usm.md, ORCID: 0000-0002-8683-7228
[2]PhD, lecturer, Moldova State University, svetlana.gherjavca@usm.md, ORCID id: 0009-0002-2994-8412

Abstract: The global insurance market is an industry where insurance products are bought and sold on a global scale. According to some experts, this constitutes an ecosystem that encompasses a wide assortment of services, from life and health insurance to property, casualty and specialty solutions, such as cyber insurance. The purpose of this article is to examine these trends in the global insurance market in detail. The research was conducted by studying reports from specialized companies and opinions of specialists published in open access on the Internet. The global insurance market is in the process of permanent development. The global insurance system is under the influence of a complex of objective factors. In particular, the adherence of a growing number of insurance companies to the concepts of sustainable economy and green economy is remarkable. The global insurance business is developing through various InsurTech solutions, such as Artificial Intelligence and Machine Learning, to streamline processes and improve customer experience. The development of new business models and the offering of personalized products take place continuously. Advanced analytics is applied to dynamically segment customers and their needs, model behaviors, adjust policies, optimize business strategies, and identify new market opportunities. Population aging has become an important issue globally. Global climate change will inevitably negatively affect the insurance industry by increasing losses caused by natural disasters.

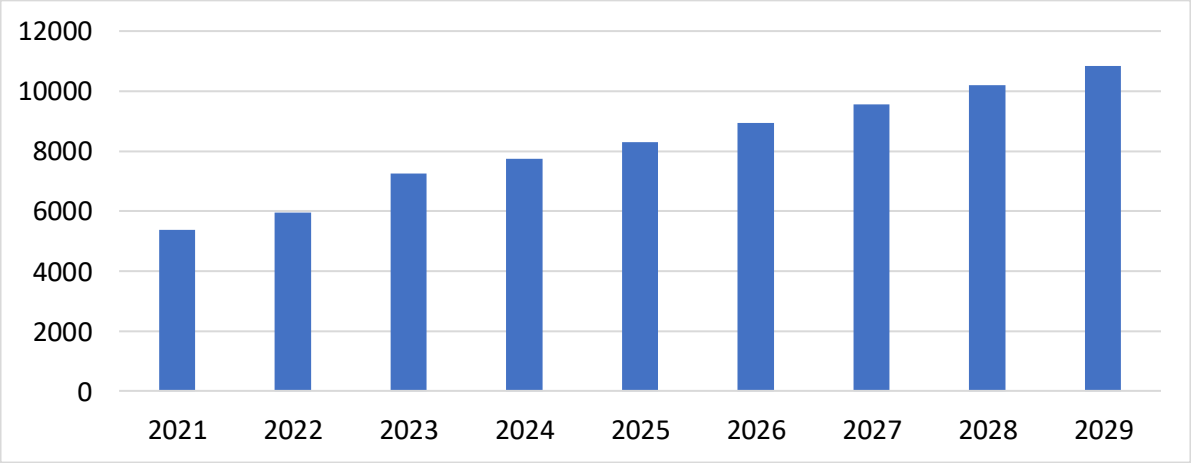
Key Words: trend; insurance; growth; climate; technology

1. INTRODUCTION

The global insurance market is a complex industry consisting of regulations, relationships, mechanisms and participating entities designed to ensure the trading of insurance products with worldwide distribution.

The analysis of reports presented by specialized companies allows us to highlight certain expansive trends. (Figure 1)

Figure 1. Dynamics of the global insurance market size (in billion U.S. dollars)



Sources: (Business Wire, 2022), (Market Research, 2023), (Research and Markets (b), 2024), (The Business Research Company (a), 2025)

Thus, in 2021 the size of the examined market amounted to $5376.9 billion and reached the level of $7751.0 billion in 2024. And the forecast level for 2025 is $8307.0 billion and $10832.9 billion in 2029, assuming a compound annual growth rate (CAGR) of 6.9%.

The global insurance market constitutes a specific segment of the global financial services market.

If we proceed from the estimates of Benchmark International (2024), this amounted to $31.1 trillion in 2023 and $33.5 trillion in 2024, then the global insurance market held the respective share of 23.2% and 23.3%. And based on the forecast of the global financial services market growing to $44.9 trillion by 2028, the share of the insurance

market will decrease to 22.7%. This is due to the fact that the growth rate of the global insurance market (6.9%) is lower than that of the global financial services market (7.6%).

The upward trend in the analyzed market will also be transmitted to its core segments. (Table 1)

Table 1. Dynamics of structural changes in the global insurance market

Segment	Segment size (in billion U.S. dollars)			CAGR (%)
	2024	2025	2029	
Global life insurance market	3928.2	4269.0	5905.7	8.5
Global property insurance market	1991.4	2166.7	3068.6	9.1
Global health insurance Market	1949.8	2117.4	2787.7	5.9

Sources: (The Business Research Company (c), 2025), (The Business Research Company (d), 2025), (Imarc Group, 2025)

The global life insurance market represents the largest segment of the global insurance market, with a share of 49.9%. A relatively high average annual growth rate (8.5%) is expected by The Business Research Company ((d), 2025) in this insurance sector, starting from $3928.2 billion in 2024 to $5905.7 billion in 2029.

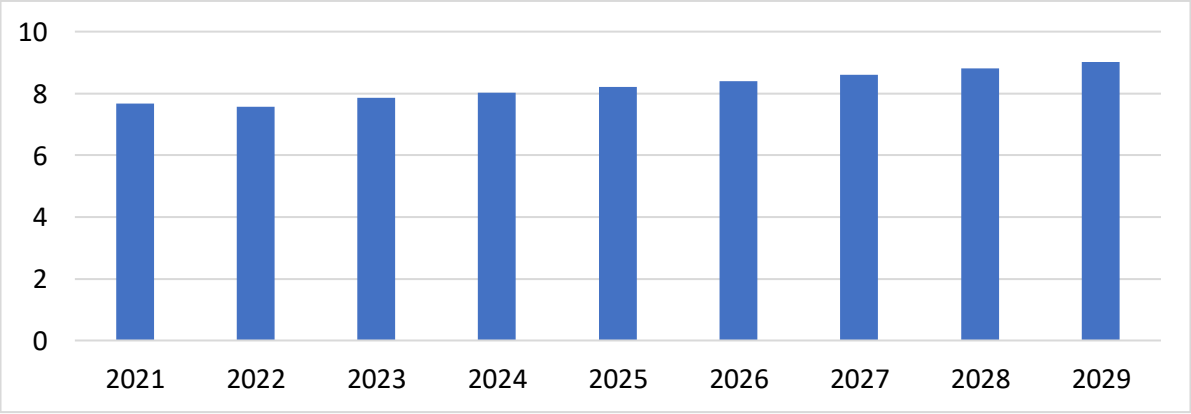
The global property and casualty insurance market ranks second in terms of market share (25.3%), but has the highest average annual growth rate (9.1%). The forecast of The Business Research Company ((c), 2025) demonstrates an increase in market value from $1991.4 billion in 2024 to $3068.6 billion in 2029. As an alternative view, experts from Polaris Market Research (2024) predict that the respective market will grow from $2000.1 billion in

2024 to $3794.8 billion by 2032, with a CAGR of 8.3%.

The global health insurance market has a share of 24.8% and the lowest CAGR (5.9%). (Imarc Group, 2025) According to Imarc Group forecasts (2025), the value of this market may increase from $1949.8 billion in 2024 to $2787.7 billion in 2029. At the same time, expert Bhushan Pawar (2025) assessed the size of the global insurance market at $2.14 trillion in 2024 and predicted an increase from $2.32 trillion in 2025 to $4.45 trillion in 2032, representing a CAGR of 9.7% during that period.

During the analysis period, an increase in the value of gross written premiums worldwide is forecasted. (Figure 2)

Figure 2. Dynamics of the value of gross written premiums worldwide (in trillion U.S. dollars)



Source: Statista (2025)

According to Statista (2025), during the period 2021-2029, the aforementioned indicator will increase from $7.7 trillion to $9.0 trillion, ensuring a compound annual growth rate of 2.0%.

The Allianz Global Insurance (2024) report worldwide collected premiums of €6,2 trillion in 2023, highlighting their structure by insurance branches:

- Life insurance - €2620 billion (42,3%);
- Property and casualty insurance - €2153 billion (34,7%);
- Health insurance - €1427 billion (23,0%).

According to forecasts presented by Statista (a) (2024), the volume of gross premiums written in the field of life insurance worldwide will amount to $3.6 trillion in 2025 and will increase to $3.8 trillion in 2029, registering a CAGR of 1.6%. And according to the vision of specialists from the Swiss Re Institute (2024), total global life insurance premiums could reach $4.8 trillion by 2035, up from $3.1 trillion in 2024.

For global property insurance, the company forecasted growth in gross written premiums from $744.7 billion to $875.2 billion during the period 2025-2029 (Statista (c), 2025), with a CAGR of 4.1%.

For global health insurance, Statista ((b),2025) published a forecast of gross written premiums increasing from $2.50 trillion in 2025 to $2.83 trillion in 2029, with a CAGR of 3.1%.

The purpose of this article is to examine the basic trends in the development of the global insurance market.

2. MATERIAL AND METHODS

At the initial stage of the research, reports from specialized companies (Allianz Group, Benchmark International, The Business Research Company, Business Wire, Fortune Business Insights, Market Research, Polaris Market Research, Research and Markets, Statista, Swiss Re Institute) were examined to analyze the dynamics of market values and premiums collected both in total and broken down by basic segments. Following the observation of the market expansion process, its determining factors were studied. Then, the views of experts published on the Internet on the development trends of the insurance market at a global level were researched, after which their synthesis was carried out and they were presented in this article.

3. RESULTS AND DISCUSSION

The conducted research allows highlighting the factors driving the expansion of the global insurance market, divided into basic segments:

- *The global life insurance market*. The main growth factors in the global life insurance market are: the offer of personalized solutions, increased concerns in certain regions regarding longevity, wealth transfer, estate planning, incentives in various countries for health and well-being, changing consumer preferences in connection with the revision of concepts regarding the quality of life. (The Business Research Company (d), 2025)

- *The global property and casualty insurance market ranks*. The growth is due to the frequency and severity of natural disasters, increased regulatory requirements and compliance challenges, the globalization of risks, changes in consumer behavior (in particular, the focus on resilience and business continuity), and deepening technological risks. (The Business Research Company (c), 2025)

- *The global health insurance market*. Important factors for expansion will be: the increase in chronic diseases and viral infections; the increase in the number and average age of the global population; the increase in the number of road accidents; the increase in the costs and number of provided medical services; the promotion of health insurance by the authorities of many countries. Likewise, it is worth mentioning the expansion of the range of health insurance plans offered to policyholders tailored to their personal needs and preferences. Also of great importance is the emergence of mobile health insurance applications based on advanced technologies such as artificial intelligence (AI), the Internet of Things (IoT), big data analysis and predictive analytics. (Imarc Group, 2025)

The analyzed period is characterized by a multitude of trends related to the evolution of the global insurance market, and we would like to begin our examination of them with *the development of sustainable and green insurance*, which expresses the desire of the global insurance industry community to share the intention of the global corporate community to harmonize its economic interests with social and environmental ones.

UNEP FI's Principles for Sustainable Insurance state the following: "Sustainable insurance is a strategic approach where all activities in the insurance value chain, including interactions with stakeholders, are done in a responsible and forward-looking way by identifying, assessing, managing and monitoring risks and opportunities associated with environmental, social and governance issues." (UNEP FI)

Regarding green insurance (also known as eco-friendly), in the interpretation of Bibi Zaheenah Chummun (2023), "this is a cover type that assists protecting the environment/ecology and addressing climate change".

The implementation of green insurance was an expansion of insurance activity through the offer of ecological and sustainable products by insurers, as well as attracting sustainability-oriented customers. (Adesona et al.)

This is a specific market niche, which according to Business Research Insights (2025) is valued at $4.4 billion in 2024 and is forecast to grow to $17.9 billion by 2033, with a CAGR of 15.6%.

It is worth noting that green insurance offers are differentiated across different market segments (Adesona et al.):

- *Green motor vehicles insurance* is related to the insurance of motor vehicles, which contribute to improving the ecological environment by reducing the emission of greenhouse gases.
- *Green insurance for homes* is designed to support the use of renewable materials or energies in homes or buildings and alternative construction practices.
- *Green insurance for businesses* brings together green commercial property insurance products aimed at businesses that use green materials and energies in their buildings and surroundings.

For 2025, according to KPMG, insurers intend to invest in sustainability. 44% of insurance CEOs believe that sustainability programs improve financial performance. (Katz, 2024)

A specific feature of the development of the insurance industry has become the *promotion of embedded insurance*, which refers to the integration of insurance into the purchase of a product or service. (Payset, 2024)

Estimates by Research and Markets (2024) speak of a global volume of gross premiums written on the embedded insurance market of $156.1 billion in 2024, which could increase to $703.4 billion by 2029, representing a CAGR of 35.1% for the respective period. (Research and Markets, 2024)

Globally, life insurance policies have become more affordable due to technological advances, improved underwriting processes, and increased competition among insurers, which have become important factors in promoting embedded insurance solutions. (Research and Markets, 2024)

Embedded insurance allows third-party providers and developers to embed insurance services into their customers' purchases through application programming interfaces (APIs), which in turn can help insurers analyze data and develop the right policy to sell. APIs also allow customers to choose their preferred channel (computer, laptop, mobile device or call center). Embedded insurance can be delivered in various ways: as additional coverage for a product or service at the time of purchase, as coverage included in the price of the basic offer or as an additional benefit for customers when bundled with other services. Embedded insurance requires partnerships between insurance companies and other companies, such as retailers, travel companies or car-sharing services. (Endava)

The use of artificial intelligence (AI) has become a modern feature of the implementation of technical progress in many areas of human activity, including insurance.

First of all, it is about *the use of predictive AI*, which is method of data analysis capable of predicting and anticipating future needs or events related to a company's activity. (Verteego)

Modern insurance operates on the basis of a gigantic volume of data that can be collected through various software solutions. This information allows AI models to analyze big data, identify trends and predict potential risks for both policy sellers and policyholders. (Katz, 2024)

Secondly, it is about *automation in claims processing*, which allows insurers to quickly verify the claim and automatically route the information through the internal information system for the necessary decision-making, informing customers about the progress of their claim. (Veenendaal)

The claims review process can be accelerated by implementing technologies such as Machine Learning (ML) and Robotic Process Automation (RPA), which allow the automation of important steps from document verification to claim validation and, ultimately, final payment. Of course, the digitalization of insurers' activities also has certain important risks, such as those related to the protection of confidentiality and data security, implementation risks caused by integrations with legacy systems, and failure risks, which need to be managed. (Katz, 2024)

Thirdly, an example of integrating AI-based tools into the insurance business is *PolicyGPT*, which is a solution designed to provide customers with the necessary information about their insurance policies through natural language communication with a chatbot. (Research And Markets (b), 2024)

One of the important global trends is *the promotion of personalized insurance*, which is expected to offer customers a relevant and personalized omnichannel engagement throughout the lifecycle. It is based on technologies such as data analytics, AI and automation. (Insurely, 2023)

Personalized insurance is made possible by leveraging technological advances such as the cloud, big data, and APIs, which enable insurers to determine customer needs and deliver insurance solutions that customers actually want. This level of personalization can also enable insurers to make product recommendations and use personalized chatbots, which can provide customers with personalized, real-time support throughout the policy lifecycle. (Insurely, 2023)

Some experts specifically talk about *hyper-personalization in the insurance field*.

According to Idomoo, hyper-personalization "is a form of personalization that leverages data and often artificial intelligence (AI) to deliver highly customized experiences to individuals."

Similarly, Idomoo experts mention the main types of hyper-personalization: customized products; dynamic pricing models; personalized communication.

Insurance personalization is closely linked to *open insurance*, which consists of providing services and data to partners, communities and startups, to create new services, applications and business models. Open insurance involves the combination of open API architectures integrated into insurance applications, access to which allows data sharing between different insurers, startups, banks, insurance technologies (InsurTechs) and other organizations. (MJV, 2019)

In this case, InsurTech refers to insurance technology related to the use of innovative technologies to improve and automate the traditional insurance industry. (CFI)

Open insurance creates opportunities for personalized product offerings that go beyond traditional insurance. In this case, it becomes possible to give customers access to their insurance data, which allows them to make decisions about purchasing insurance products, manage coverage, and find better rates or more suitable insurance. (Insurely, 2023)

By applying APIs, insurers can implement personalized solutions and update them in real time. By leveraging customer data, insurers can offer personalized tools to assess potential risks and recommend ways to reduce them. (Insurely, 2023)

Personalized insurance may begin with the introduction of policies based on the use of *telematics*.

This is related to the use of communications and IT to transmit, store and receive information remotely over a specific network from devices placed on objects. (Scarpati, 2023)

Currently, sensors can monitor environmental conditions, such as humidity and temperature, equipment condition, and location-specific risks, to adjust policy coverage in real time. Wearable devices can monitor the safety and fatigue levels of workers in different fields, allowing insurers to offer premiums tailored to the individual behavior of each of them. (Katz, 2024)

Telematics collects and transmits real-time data from various devices, such as vehicles or other equipment, using GPS, sensors, and communication networks to obtain data and track location. It also requires the application of technologies such as AI and machine learning (ML), which analyze data and predict trends. In auto insurance, for example, telematics can track the speed and behavior of drivers, allowing insurers to develop fully tailored payment models based on the vehicle's driving style, as well as encourage safe driving. In the construction industry, telematics can monitor heavy machinery operation, fuel consumption, maintenance schedule compliance, engine operating hours. This data allows for objective risk assessment, adjustment of premiums depending on equipment usage and performance, and determination of potential problems before they escalate into costly breakdowns or accidents. (Katz, 2024)

The application of Internet of Things (IoT) connected devices in insurance is of interest.

IoT is the network of physical objects, in which sensors, software and other technologies are embedded to connect them and organize the exchange of data with other devices and systems via the Internet. (Oracle)

Today, IoT-enabled devices effectively assist building managers by continuously monitoring a building's critical systems, such as heating, cooling, humidity, electricity, and water. This technology helps insurers assess risk, adjust policies, and tailor pricing based on risk factors. It also helps prevent claims. (Katz, 2024)

It is worth mentioning *the development of cybersecurity insurance (cyber insurance)*, which is a product designed to mitigate the risk of cybercrime activity, such as cyberattacks and data breaches. It is about protecting corporate clients from the consequences of Internet-based risks that affect IT infrastructure, information management and information policy. (Fortinet, 2023)

Fortune Business Insights (2025) estimates the global cyber insurance market to be worth $20.9 billion in 2024 and is set to grow to $120.5 billion by 2032, with a CAGR of 24.5%.

Contributing factors for this growth are (Fortune Business Insights, 2025):

- Progressive digitalization of economic, financial and social life;
- Increasing cases of cyber-attacks and data breaches at businesses.

At the same time, this market is experiencing a rapid increase in the costs of insurance policies and a reduction in coverage limits, which is considered an impediment to the development of the said market.

According to experts from Research and Markets ((b), 2024), *the spread of peer-to-peer (P2P) insurance* can be considered a global trend. It is an innovative insurance product based on the principle of pooling insurance premiums from participating individuals, thus creating a collective fund that can be used to compensate for possible future losses, and the remaining funds are then distributed among the participating individuals. The expected effects of implementing this innovation are the reduction of premiums and general expenses compared to traditional insurance products, the simplification of processes and increased business transparency.

A specific niche of the expanding global insurance market is that of *on-demand insurance*, which is a flexible, personalized, short-term insurance model for various needs, which offers customers the opportunity to purchase coverage instantly and for certain periods or events using digital platforms. (The Business Research Company (b), 2025)

The Business Research Company ((b), 2025) estimated the on-demand insurance market at $5.5 billion in 2024 with a growth forecast to reach $6.3 billion in 2025 and $11.0 billion in 2029, at a CAGR of 14.8% for the period 2025-2029.

This growth is largely linked to the spread of smartphone and Internet use, increasing consumer demand for convenience, acceptance of digital distribution channels for insurance products, regulatory changes enabling digital insurance, and increasing skills in digital financial services. (The Business Research Company (b), 2025)

An important issue is *the increase in global losses caused by natural disasters*.

In 2024, according to Munich RE (2025), these amounted to $320 billion, compared to an inflation-adjusted amount of $268 billion in 2023. Of this volume, approximately $140 billion in 2024 and $106 billion in 2023 were insured. It follows that in 2024 the volume of uncovered losses constituted 56.3%, and in 2023 - 60.4%. The level of total natural disaster losses and insured losses were considerably higher than the inflation-adjusted averages of the last ten and 30 years. These are total losses, respectively, $236 and $181 billion. The same is true for insured losses, which amounted to $94 and $61 billion, respectively.

Emerging from this process, an important imperative for the insurance industry is to develop solutions for managing climate change risks.

Another problem for the examined market is *the rapid aging of the global population*.

Experts from the World Health Organization (2025) have forecast that the number of people aged 60 and over globally will increase from 1.1 billion in 2023 to 1.4 billion by 2030.

This process is increasing the demand for healthcare services, including frequent medical check-ups, medications, and treatments for age-related conditions. This in turn is leading to a corresponding grow in demand for health insurance policies tailored to meet the specific needs of older people. (Research And Markets (b), 2024)

4. CONCLUSION

The global insurance market encompasses all relationships, participants and infrastructure elements oriented towards the sale and purchase of insurance products. This market is continuously growing both in general and in terms of core segments and specific niches. This growth is driven by a number of fundamental factors, such as the increasing severity of natural disasters, the aging population, and the sharing of the concepts of sustainable and green economy. Also of increasing importance is the influence of technological factors such as big data

analysis, demand for personalized insurance products, digitalization of insurance service providers, application of AI and IoT, development of Insurtech startups, increased use of open insurance, on-demand insurance and peer-to-peer insurance models. In the near future, it is foreseeable that the integration of AI-based chatbots for customer service will spread, blockchain technology will be implemented, insurance will expand to new markets, cybersecurity insurance will be strengthened, and partnerships between traditional insurers and technology companies will be promoted.

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Albanian Political Parties at the Dawn of Political Transition

Juljan Myftari [1]

[1]julian.myftari@unitir.edu.al

Abstract: The Albanian communist dictatorship was likely the most oppressive communist regime in Europe. This paper will analyse the manifestos of political parties formed at the dawn of the new pluralist political system. We will examine the manifestos of the Party of Labour of Albania (Then Albanian Socialist Party), the Democratic Party of Albania, the Albanian Republican Party, and the Agrarian Party of Albania, delving into their ideological stance and the main themes of their electoral manifestos. The main themes to analyse include their relationship to the economy, politics, international relations, and various social and economic issues. We will analyse whether there are apparent ideological differences between the parties or if they were positioned in a vague and flawed ideological zone.

1. Introduction

31 March 1991 is an essential date for Albanian history. It marked the first pluralist elections after decades of communist dictatorship. Albania was the latecomer in the 1989 wave of democratisation in Europe (Chiodi, 2012). Albanians had a very short history of political pluralism during the 1920-1925. Throughout their history, Albania was under the Ottoman Empire, followed by a nationalistic autocracy led by Ahmet Zogu from 1925 to 1939. Zogu, who became king of Albania in 1929, prohibited other political parties. During World War two, there were at least three political forces: The communists, The Nationalists and the "Balli Kombëtar" forces. Under the war conditions, they became belligerent antagonists, giving rise to an internal armed conflict. Communists won World War II in Albania and identified no need for pluralism. Instead, they were based on standard communist education and indoctrination (Klosi, 2000, p. 19). They established a monopartite system typical in communist countries. Indeed, this was one of the harshest communist regimes in Europe. Even in the 80-s, when in several other European communist countries, some alternatives emerged to the communist incumbents, in Albanian, there were no political or social alternatives until 1990.

It is to be noted that till the end of the system, not many intellectuals were dissident of the regime or required political pluralism openly. They primarily required some reforms to the existing communist system. It was on 11 December 1990, after student protests, that the communist regime was forced to end the monopartite system. The central committee of the Labour Party decided to allow political pluralism, and the next day, the first opposition party was formed. The Democratic Party of Albania was established on December 12, 1990. The democratic party was the first alternative to the communist party and has, since its beginning, been one of Albania's two main political parties. Democratic Party was positioned at the right centre of the political spectrum in Albania, although its ideology was not so well defined as a right-wing party. The Republican Party Was the second opposition party established on 10 January 1991. It was declared a right-wing party, chaired by a notorious Albanian writer and ex-member of the communist party, Sabri Godo. Another political party was the Albanian Agrarian Party. It declared itself a "democratic and independent political organisation of the centre of the political spectrum." (APA Manifesto 1991, p. 1)

2. Background of the 31 March 1991 Elections

These were Albania's first multiparty system elections in more than 75 years. They were held only four months after the communists allowed a pluralist system in Albania. All the opposition or alternative parties to the Albanian Labour Party had only a few months to prepare their manifestos and other activities leading to the election day. Therefore, their campaign was limited, and their resources were incomparable to the incumbents. The atmosphere was tense since Albania's experience with alternatives was limited (Biberaj, 200). The law election favoured the Labour Party with a majoritarian system, and the only media in the country largely favoured the Labour Party. That clean majoritarian system divided the country into 250 electoral zones. The results gave a victory to the communists, who took 67 per cent of the votes and won a large majority in the parliament seats. The Democratic Party performed well in the large cities. Ramiz Alia, the communist leader, lost the electoral race to an almost unknown Democratic Party candidate in Tirana, the capital of the country. Meanwhile, in the rural areas, the communist victory was overwhelming.

3. Thematic Manifest Analysis

Data from the manifestos indicates that they were relatively brief compared to today's standards., with the Agrarian Party having the most extended manifesto and the Republican Party having the shortest one (Table 1). This may also be due to their short political experience and time to prepare for the election. In the subsequent analysis, we will follow two levels of unit measures. The first analysis unit is the "Code", and the second analysis is the "Theme". A code is the smallest analysis unit. Codes are quasi-sentences that deal with a specific topic. More than 90 codes are used to code the manifestos analysed for this paper. Codes usually lean toward left or right political ideology. For example, a code that supports the free market or privatisation of the economy shows the party's right political and ideological stance. Instead, a quasi-sentence that supports welfare expansion leans toward a left ideological ideology. Other codes, like support for the "National Way of Life", lean toward right nationalism. Other codes are more centred or depend on specific circumstances, such as support for the rural population or support for technological advancement. In the paper's appendix, the reader can find a table (Table 1, Appendix) where the codes of the Manifesto Project are categorised according to their possible political ideology leaning. Nevertheless, the list is imperfect since it does not consider many facets of left or right ideologies and specific Albanian political transition circumstances.

Themes are broader categories than codes. They comprise different codes that relate to their shared genus concepts. We will follow themes by grouping the thematic map codes following the original Manifesto Project scheme. There are seven themes: External Relations, Freedom and Democracy, Political System, Economy, Welfare and Quality of Life, Fabric of Society and Social Groups. Each of them contains codes that lean to the left and others that lean to the right. Eventually, it is problematic to tell if the prevalence of one theme in a manifesto shows a specific ideology. For each political party under analysis, we will report the 10 most used codes, and, on the right of the table, the ranked frequency of the themes found in each manifesto.

Table 3 General Manifestos Data

Manifesto	Page Length	Coded Segments
Party of Labour of Albania (PLA)	9	113
Democratic Party of Albania (DPA)	8	206
Albanian Republican Party (ARP)	4	96
Agrarian Party of Albania (APA)	12	19

Labour Party (Socialist Party)

The Labour Party's (PLA) most common code (Table 2) pertains to Political Authority. This code is typically associated with right-wing ideologies but can also be found in both extreme left and extreme right parties. This occurrence was somewhat to be assumed, taking into consideration that the communists governed in a totalitarian way for almost five decades, and they pretended to have done it most appropriately. They still relied on their "glorious" past to win the elections. However, from a more objective perspective, it seems inappropriate for the communist party to pretend such authority in Albanian politics, considering they have just been forced to allow a pluralist system, and the communist system was crumbling. Despite the recent decline, the Labour Party's manifesto starts with the following statement: "The history and the present time give the PLA the legitimate and the moral right to express its say and call support for its candidates and programme" (PLA Manifesto 1991, p. 1). This shows that the opening of the manifesto is a revocation of the "glorious" role the "Party" has played in the modern history of Albania. The Labour Party had not stepped down its self-perception as the leader of the Albanian society. Even at the end of its regime, pretending to have yet the moral superiority and the moral right to address the people and to have their vote. The second most coded quasi-sentence is a favourable reference to the national way of life. It, again, is usually a right-wing code. Although the communists believed their party represented all of Albania, they frequently referred to both the nation and their party as overlapping entities.

The general theme most present in the manifesto is the economic domain. In the manifesto, we can read: "The PLA economic programme profoundly plans in recent new conditions realisation of its principal aim to which it is devoted, -taking care of People, of his wellbeing, creation of necessary condition for fulfilling material and spiritual demands of people" (PLA Manifesto 1991, p.3). It seems that the communists thought that even with the drastic economic crisis that the next year would lead to a "near economic collapse" (Korovilas, 1998, p. 399), they could reform and lead to an economy that could fulfil all the people's needs, even though their previous efficiency led to this drastic change.

Table 4 Labour Party Manifesto

Labour Party (PLA)	**Frequency**	**Per cent**		**Frequency**
Code -total	**113**	**100.0**	**Themes**	**Code Frequency**
Political Authority: Positive	21	18.6	Economy	25
National Way of Life: Positive	9	8.0	Political System	22
Agriculture and Farmers	8	7.1	External Relations	18
European/Regional Integration: Positive	6	5.3	Freedom and Democracy	14
Controlled Economy: Positive	6	5.3	Social Groups	13
Constitutionalism: Positive	5	4.4	Fabric of Society	13
Democracy	4	3.5	Welfare and Quality of Life	8
Welfare State Expansion	4	3.5		
Technology and Infrastructure: Positive	3	2.7		
Freedom and Human Rights: Positive	3	2.7		

The second most coded theme in the communist party is related to the political system that deals primarily with its internal need for reformation and political efficacy. More interestingly, the fourth most frequent theme in the PLA manifesto is related to Freedom and Democracy. In this regard, their manifesto declared: “As an initiator and leader of many democratic reforms, it [the PLA] should fight firmly that present-day” process advances increasingly” (PLA manifesto 1991, P.2). Even though the communists were forced by student protest, and the sharp economic crises, they continue to claim that the reform was their initiative for the interest of the people and that without them these changes were not possible,

Democratic Party

The Democratic Party's (DPA) main code is the code that deals with agriculture and farmers. This code is by far the most coded theme in the democratic manifesto. This is plausible if we consider that 67 per cent of the Albanian population at the time lived in rural areas (Hana et al.,2005, p. 184) and agriculture has been historically important to the economy of Albania (Pata et al., 1994, p. 84). Although this code may be linked to right-wing ideology, as the economy of this group is based on private land ownership, in Albania during the 1990s, this association is largely a result of the social and demographic characteristics of the country rather than the political leanings of the party. In the table of frequency of the codes, we also observe many economic codes that are typical liberal right-wing economies, like support for privatisation or a free market economy. The Economic Orthodoxy code is another typical economic right-wing in the top ten DPA codes. A left-wing code present in the DPA is the need to expand the welfare state.

Table 5 Democratic Party Manifesto

Democratic Party	**Frequency**	**Per cent**	**Categories (Total coded considered)**	**Frequency**
Total	206	100.0		
Agriculture and Farmers	69	33.5	Social Groups	89
Labour Groups: Positive	12	5.8	Economy	53
Political Authority: Positive	11	5.3	Welfare and Quality of Life	17
Privatisation: Positive	9	4.4	External Relations	15
Economic Goals	9	4.4	Freedom and Democracy	13
Economic Orthodoxy: Positive	8	3.9	Political System	11
Welfare State Expansion	7	3.4	Fabric of Society	8
Non-Economic Demographic Groups: Positive	7	3.4		
Free-Market Economy: Positive	6	2.9		
Freedom and Human Rights: Positive	6	2.9		

While the Agriculture and farmers code is part of the social groups' theme, this is the most present theme in their manifesto. The second most coded theme is Economy. In a typical right-wing stance, the manifesto declares: "Taking all urgent legal and economic measures for helping creation of small enterprises from individuals or groups in all economic spheres" (DPA Manifesto 1991, p.2). At that time, the Albanian economy was state- and collective-based, and only some months ago, the regime permitted minimal private services.

Republican Party

The most coded quasi-sentence in the Republican Party (ARP) manifesto was again the Agriculture and Farmers code. As said, it is related to Albania's socio-economic reality, where the rural population had the highest population share. The second most coded is associated with Freedom and Human Rights Positive, and the third one is the Democracy Positive code. The ARP manifesto focuses most on the rights and democracy of the four analysed. Going down the list, we have again positive mentions of constitutionalism.

Table 6 Republican Party Manifesto

Republican Party	Frequency	Per cent	Categories (Total coded considered)	Frequency
Total	**96**	**100.0**		
Agriculture and Farmers	28	29.2	Social Groups	31
Freedom and Human Rights: Positive	8	8.3	Freedom and Democracy	23
Democracy Positive	6	6.3	Economy	21
Constitutionalism: Positive	6	6.3	External Relations	7
Economic Goals	6	6.3	Fabric of Society	7
National Way of Life: Positive	4	4.2	Political System	4
Political Authority: Positive	3	3.1	Welfare and Quality of Life	2
Technology and Infrastructure: Positive	3	3.1		
Military: Positive	3	3.1		
Labour Groups: Positive	2	2.1		

The analysis of broader themes confirms that apart from the usual social group themes, it has a higher frequency due to the focus on the rural population; the second most coded theme is freedom and democracy, surpassing the economic theme and other themes. In this regard, in a typical sentence for this manifesto, we can read: "We will ensure the respecting of human rights in conformity with modern international conventions" (ARP manifesto 1991, p. 1). This emphasis on freedoms and rights distinguishes the Republican Party from the communist Labour Party.

Agrarian Party

In the case of the Agrarian Party (APA), the most coded quasi-sentences deal with agriculture and farmers again. This is to be intuited from the party name. However, this party frequently mentions other groups, in its second most coded topic. In these codes, the Agrarian Party Manifesto stress their focus on ethnic minorities, elders, women and children. Also, we note that this party focus on privatisation of the economy. It asserts that "transferring ownership from the state to individuals is crucial in overcoming the economic crisis" (APA Manifesto, 1991, p. 7). In its top ten code, topics are also equality positive and environmental protection that are not present in the other party's manifestos and typical of centre-left parties.

Table 7 Agrarian Party Manifesto

Agrarian Party	Frequency	Per cent	Themes	Frequency
Total	**189**	**100.0**		
Agriculture and Farmers	27	14.3	Social Groups	47
Non-Economic Demographic Groups: Positive	12	6.3	Economy	45
Privatisation: Positive	11	5.8	Freedom and Democracy	32
Freedom and Human Rights: Positive	10	5.3	Welfare and Quality of Life	31

Welfare State Expansion	9	4.8	Fabric of Society	14
Equality: Positive	8	4.2	External Relations	13
Technology and Infrastructure: Positive	8	4.2	Political System	11
Environmental Protection: Positive	6	3.2		
1033.00	5	2.6		
Democracy	5	2.6		

Analysing broader themes of the APA manifesto, we realise that social group and economy are the two most frequent themes. However, essential themes are also freedom and democracy, welfare, and quality of life.

Discussion and Conclusions

The March 1991 elections were the first pluralist elections in Albania after the Second World War. Albania had minimal experience with liberal democracy and pluralism, which posed critical limitations in those elections. The communist incumbent won those elections by a good margin over the Democratic Party. Notably, the communists had superior structural means and media coverage compared to other parties. Of the parties we analysed, the most focused on democratic freedoms and liberties was the Republican Party, followed by The Agrarian. Party. The other two parties, the Democratic Party and the Labour Party focused less on democracy and freedoms and more on the economy. In any case, the Labour Party was the worst case, having fewer democracy-coded quasi-sentences. In three cases, the most coded quasi-sentences were related to agriculture and farmers, showing a realist focus on the country's primarily rural population. Also, the economy was among the two most important themes in all parties except for the Republican Party and the most important theme for the Labour Party. As expected, all the party's codes were from both political leans. Obviously, no party had only left or only right codes. We find right-leaning codes in the Labour Party and left-leaning Codes in the Democratic Party and the other parties. Nevertheless, the Labour Party was the most authoritative party, and the Republican Party was the most focused on rights and freedoms. In the Democratic Party, we find right-wing liberal economic codes also, authoritative codes, and more left-wing welfare codes.

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Website of the Manifestos:

https://visuals.manifesto-project.wzb.eu/mpdb-shiny/cmp_dashboard_dataset/#

List of Manifestos* (According to the title found on the webpage)

1. Albanian Socialist Party –75220 – 1991-03
2. Democratic Party of Albania –75624—1991-03
3. Albanian Republican Party –75722 –1991-03
4. Agrarian Party of Albania –75810-1991-3

Appendix

* In this case we are using the titles of manifestos as found on the online database and not the exact party's names.

Table 1

	Possible Code ideological Leaning*		
Theme	**Left-Wing**	**Centre -Context Dependent**	**Right-Wing**
1. External Relations	Anti-Imperialism, Peace	Internationalism, European/Regional Integration	Foreign Special Relationships: Positive, Military: Positive Foreign Special Relationships: Negative, Military: Positive
2. Freedom & Democracy	Freedom & Human Rights (Can also be liberal-libertarian-right-wing), Direct Democracy, Representative Democracy: Positive	Democracy: Positive, Constitutionalism: Positive	Democracy: Negative, Constitutionalism: Negative
3. Political System	Decentralisation, Political Corruption: Negative	Governmental & Administrative Efficiency	Centralisation, Political Authority
4. Economy	Economic Planning, Market Regulation Corporatism, Keynesian Demand Management, Controlled Economy, Nationalisation, Marxist Analysis, Anti-Growth Economy, Sustainability	Economic Growth, Technology & Infrastructure	Free-market economy, Incentives, Economic Orthodoxy, Protectionism: Positive, Protectionism: Negative Protectionism Positive
5. Welfare & Quality of Life	Environmental Protection, Equality, Welfare State Expansion, Education Expansion	Culture	Welfare State Limitation, Education Limitation
6. Fabric of Society	National Way of Life: Negative, Traditional Morality: Negative, Multiculturalism: Positive	Civic Mindedness Law & Order: Positive	National Way of Life: Positive, Traditional Morality: Positive, Multiculturalism: Negative
7. Social Groups	Labour Groups: Positive, Minority Groups: Positive, Non-Economic Demographic Groups: Positive	Agriculture and Farmers: Positive (Can also be right-leaning)	Labour Groups: Negative, Middle Class & Professional Groups: Positive,

* The ideological categorization of the codes does not adhere strictly to a leftist or rightist approach, nor is it contextualized within the political history of Albania during the early transition period and should utilized only as approximate guide.

The Role of Land Use Payments in Promoting Sustainable Land Management and Circular Economy in Albania

Klea Nikolla[1] **Etleva Dashi**[2]

[1]Agricultural University of Tirana, Albania (ORCID iD: 0009-0007-4407-0376)

[2]Agricultural University of Tirana, Albania (ORCID iD: 0000-0002-6524-8467)

Abstract: Land Use Payments play a vital role in sustainable land management by incentivizing landowners to adopt environmentally friendly practices. These payments contribute to biodiversity conservation, soil protection, water quality improvement, and carbon sequestration, aligning with circular economy principles that emphasize waste reduction, resource efficiency, and ecosystem regeneration. While LUPs have been successfully implemented globally, their integration with circular economy strategies in Albania remains underdeveloped.

This study explores theoretical frameworks, including the Economic Theory of Land Use, Externalities, Market Failures, and Payments for Ecosystem Services (PES) frameworks, to analyze how financial incentives drive sustainable land use.

Albania faces challenges such as land fragmentation, weak policy enforcement, and climate variability, which limit the effectiveness of Land Use Payments (LUPs) and Payments for Ecosystem Services (PES) initiatives. While there are efforts to promote sustainable land use, the integration of circular economy principles remains inadequate. Additionally, the economic valuation of ecosystem services is still an underexplored aspect of Albania's policymaking, making it difficult to fully assess the financial and environmental benefits of sustainable land management practices. Strengthening policy frameworks and aligning them with resource efficiency and conservation strategies is essential for improving land sustainability efforts in the country.

Keywords: Land Use Payments, Sustainable Land Management, Circular Economy, Payments for Ecosystem Services, Environmental Sustainability

1. INTRODUCTION

The concept of Land Use Payments involves a system where land owners and users are compensated for the management of their land to attain specific public environmental benefits. Under the land use payments system, land owners are encouraged to practice land management to protect natural resources and support a sustainable environment including through waste reduction, recycling, and resource recovery (Wunder, 2015). There are various types of payments used under the land use payments system, including the use of direct financial payments, through tax incentives to the land owners and users and subsidies. Implementation of LUPs is critical in the improvement of ecosystems including improvement of water quality and the reduction of carbon emissions while ensuring economic growth.

Sustainable Land Management (SLM) plays a critical role in the preservation of natural resources, ensuring productivity, and promoting economic growth with minimal harm to the environment. Abouelhamd (2020) articulates that sustainable land management is vital in the attainment of environmental benefits including the promotion of soil conservation, preservation of natural habitats and protection of biodiversity. The practice of sustainable land management also accrues economic benefits including improved livelihoods associated with increased agricultural productivity (Andreeva, 2022). Promoting sustainable land management has long-term benefits in the promotion of social well-being. Often, by protecting biodiversity, the practices also work towards improving the quality of social life such as reducing health risks through cleaner air and water, consequently promoting the quality of social life.

Various research synthesizes the concepts of economic services, land use payments (LUPs), and circular economy principles in relation to sustainable land management (SLM). Yimer (2015) links economic services in the context of sustainable land management to the benefits accrued from better land management including agricultural productivity. However, unfavourable land management characterized by soil and land resource degradation undermines the economic benefits of ecosystem services. The link between Land Use Payments(LUPs) with sustainable land management is often through the payments for ecosystem services (PES). According to Granado-Diaz et al. (2024) using the result-based approach in land use programs is important as it encourages land users and owners to embrace sustainable land use practices consequently ensuring the protection of the ecosystem and sustainable land management. The principles of circular economy significantly contribute to possible sustainable land uses by ensuring resource efficiency by the farmers and land users. Bruere et al. (2018)

suggest that ensuring sustainable land management efforts is essential in promoting resource efficiency, promoting biodiversity conservation and ensuring food security in a circular economy.

2. HEADING

2.1. Economic Theory of Land Use

Various theories can be used to explain the idea of land use as a function of economic factors. David Ricardo, under the classical theory, explained land rent as the price paid for the use of land, and that the rent, as a reward for owning land increases with population growth (Bidard, 2014). Van and Murshed (2012), similarly, highlight the Bid-Rent theory, by William Alonso, which postulates that the price and demand for land use increases based on the distance from the central business district. Land close to the central business district is likely to drive up prices compared to land that is farther from the CBD. The Von Thunen theory on the other hand also explains the agricultural land use as being determined by the cost of input prices and the cost of output prices (O'Kelly, 1996). Often, the land use economic theories play a critical role in understanding patterns of land use during policy making.

Externalities involve costs or benefits associated with economic activities to third parties, such as Pollution. On the other hand, Market failures involve the disruption of the distribution of goods and services in an economy. Externalities and market failures as significant in land use decisions. According to (Bator, 2024), Market Failures where the allocation of goods and services is not efficient, market failure is likely to occur. However, an understanding of the role of market failures and externalities on land use helps policymakers to create policies that will ensure balanced and equitable land use.

2.2. Circular Economy Principles in Land Management

Roleders et al. (2022) describe the concept of circular economy as an economic model aimed at the minimization of waste and promoting sustainability. The circular economy is hinged on various core principles including waste minimization through designs aimed at reducing waste and pollution. Resource-saving is the other important basis of the circular economy. Indeed, the idea of resource efficiency involves the practice of resource optimization throughout their lifecycle, including the practice of product repair, refurbishment and eventually recycling (Joensuu, 2020). Similarly, the concepts of circular economy are based on the basis of regeneration. The idea of regeneration of resources involves the practice of replenishment and restoration of natural resources through product reuse and recycling aimed at enhancing human wellbeing. The concepts of circular economy can be utilized in various applications including ensuring sustainability in land management. Indeed, the research by Bongiovanni and Lowenberg (2004) articulates that land use management can be used to address negative environmental impacts through sustainable agricultural practices such as precision farming. Similarly, Priyadarshini and Purushothaman (2020) postulate that sustainable land use practices such as reforestation are vital in the promotion of natural resource regeneration which is the underlying principle of the circular economy. Certainly, land use management practices based on the principles of circular economy help in enriching soil fertility through the promotion of reuse of resources including the use of organic waste to ensure enrichment of the soil.

Undoubtedly, other applications of the circular economy principles include enhancement in the provision of ecosystem services. Ali and Kamraju (2023) suggest that ecosystem services can be understood as the natural benefits accruing from nature and are necessary for human survival and well-being. Some of the important ecosystem services attained from nature include soil fertility and quality water. Breure et al. (2018) articulate that soil fertility can be attained under the principles of circular economy through agricultural practices promoting the reuse of organic waste. Similarly, quality water is an essential ecosystem service, and under the principles of circular economy, water efficiency could be promoted through the use of water-efficient techniques including water harvesting, and recycling. Also, the reduction of the greenhouse effect and the mitigation of climate change can be attained under the circular economy through promoting carbon sequestration practices including encouragement of reforestation. Certainly, sustainable development goals can also be attained through the promotion of circular economy principles in agricultural practices. For instance, soil fertility can be enhanced through the promotion of the reuse of organic waste, which will lead to enhanced soil fertility and increased food security (Schoeder, 2019). Similarly, the principles of circular economy can ensure clean water by promoting water recycling practices.

2.3. Ecosystem Services and Land Use Payments

Ecosystem services involve any positive human benefits accrued from ecosystems including wildlife, plants and microorganisms, aimed at ensuring human wellbeing. The ecosystem services can be classified into four categories including provisioning services, regulating services, cultural services, and supporting services. According to Wang et al. (2020), provisioning services involve benefits provided by nature including food obtained from forests, or oceans. The regulation services include benefits attained through regulation such as moderating natural phenomena. For instance, attaining clean water through water purification. Wendland (2010) asserts that cultural services are benefits obtained through interaction with nature, and include non-material benefits such as creativity, and the spread of knowledge through interaction with nature. The supporting services, also include services vital for ensuring the production of other services such as water cycling, and soil formation.

Ecosystem services play a critical role in watershed areas to ensure improved environmental health. Aguilar et al. (2018) articulate that ecosystem services play a critical role in water quality as the flora and fauna in the watershed areas act as natural filtration measures as well as ensuring nutrient cycling. The vegetation around the watershed areas is vital in ensuring regulation services such as soil conservation through control of soil erosion.

The analysis of the economic valuation of ecosystem services can be used to highlight the financial benefits of the ecosystems. Certainly. Various theoretical approaches can be utilized in the determination of the financial benefits of ecosystem services. For example, The Cost-Benefit Analysis Method can be used to compare the costs and benefits of ecosystems before implementation (Saarikoski, 2016). The financial benefits need to outweigh the costs of decision-making during policymaking. The other method of valuation involves the contingent valuation approach, where surveys are conducted to determine the values of the non-market ecosystems such as water quality and quality of air. Often, hypothetical scenarios are used to portray possible expectations. Similarly, the market-based instrument is the other valuation method that can be used to determine the benefits of ecosystems, and it involves using economic incentives to motivate conservation(Whitten, 2013).

Indeed, utilizing the land use payments approach is vital in encouraging the practice of sustainable farming and addressing possible issues in land use changes such as externalities.

Selinske et al. (2017) articulate that, LUPs incentivize sustainable practices by acting as a financial incentive to landowners and farmers towards practising sustainability. Similarly, the sustainable practices resulting from financial incentives lead to the internalization of externalities including the attainment of social-environmental goals (Bellver-Domingo, 2016). For instance, land use is likely to promote negative externalities such as deforestation, however, financial incentives will promote sustainability by encouraging reforestation. Some of the LUPS practices include the use of carbon credits and water quality trading vital in balancing the socioeconomic and environmental impacts of land use.

2.4 PES and Land Use in Albania

Albania has a total land area of approximately 28,000 Km2, with a considerable proportion of this land occupied by forest approximately 29% of the total land area. Arable land comprises of 21%, which comprises a very significant sector in the country (Index Mundi (n.d). Additionally, the agricultural land in Albania comprises of 41% with the permanent cropland comprising of 4.5%. The country's forest area comprises of 29%. The nationally protected areas comprise of 8% of the total land area (USAID, n.d). This is quite a significant proportion of protected area, which indicates the country's commitment to proper use of and sustainability measures. Various approach and systems have been adopted to protect and preserve watershed areas, among them being the land use payment systems. These systems, particularly the PES has shown global interest as a cost-effective that means improve ecosystem management by rewarding farmer or local residents for their efforts in providing Environmental services of value to societies (Zilberman, 2007).

In the same breath, the land use payment systems are not a new concept in Albania. This approach is considered as a management concept in Albania (Forest Europe, n.d). The land user in the watershed areas is expected to maximize profit through compliance with all involved stakeholders, and observing their social responsibility. However, in situation where the benefit is not realized, the land managers may be hesitant to adopt and implement social responsibility initiatives to protect the habitat. As such, the Albania has adopted the payment for ecosystem services (PES) schemes as a means of achieving the land use balance (Pojani, 2019). It is a win-win approach, designed to address the pressing issues of land degradation, which has been considered as a major

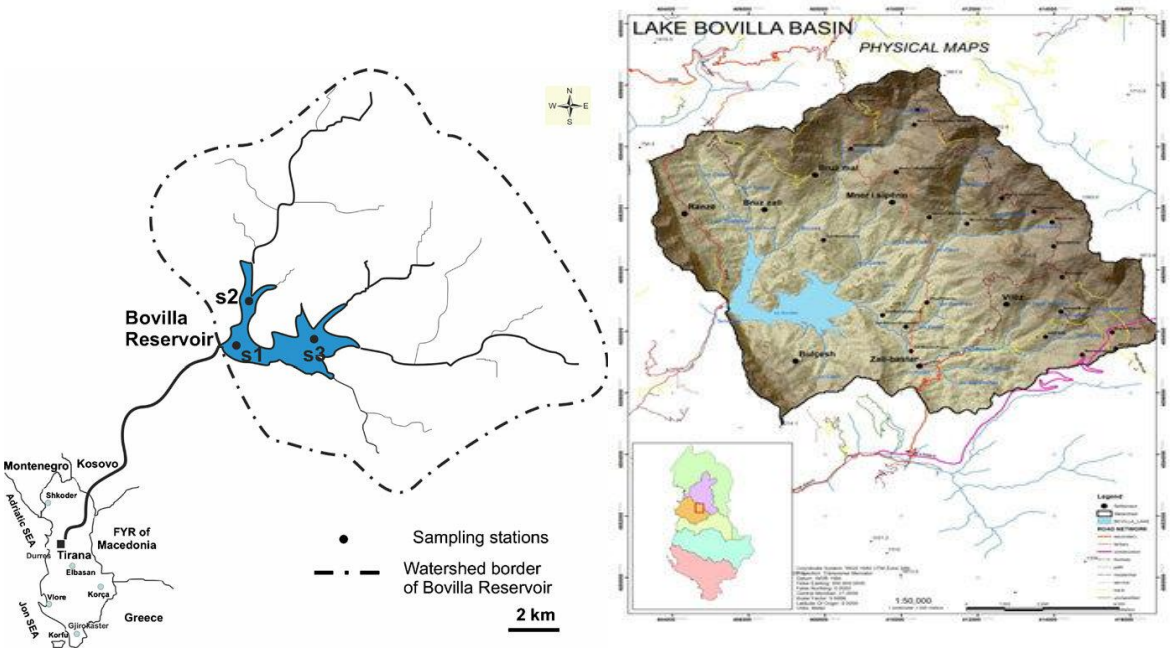
problem of natura resource management in Albania (Baloshi et al., 2019). These efforts are being significantly championed in Albania, inline with the global increased knowledge of ecosystem services. It is carried out as a direct, contractual and conditional payments, which is made by the environmental services beneficiaries, to farmers of local land owners and users. The payments are done as a reward for their efforts in adopting practices that ensure the ecosystem conservation and rehabilitation (Wunder, 2005).

Bovilla Watershed in Albania

Albania has been classified among the red zone by the European Environmental Agency (European Environment Agency (n d). this category of erosion is considered very undesirable because it has adverse effects on the efforts towards conservation of water and soil. Among these regions is the Bovilla watershed, which has been considered as highly prone to erosion. Inferring from Borrelli et al., (2017), approximately 68% of surface in the Bovilla watershed is considered as a hotspot or hot erosion site where the land loss exceeds 10 tonnes/ha /year which is considered as a tolerable soil loss.

The high level of soil erosion experienced in this area is due to the inappropriate land use. These improper land use stimulates soil erosion, which in turn generates sediments and pollutants, which are later deposited on the Bovilla reservoirs. This erosion is critical considering that the community around, particularly the Tirana city, gets its household water from there. There are various consequences of soil erosion and sedimentation in the Bovilla reservoir. The major negative effect is that the sedimentation has degraded water quality by increasing turbidity, complicating water treatment processes for safe consumption (Baloshi et al., 2019). Figure below shows the map and soil erosion extent of the Bovilla watershed. Another negative effect is that the sediment buildup lead to a reduction in the reservoir's storage capacity, directly impacting its ability to meet the growing water demands of the population. Further, the pollutants transported through eroded soils pose risks to public health and ecological systems. This emphasizes the urgent need for erosion control measures.

Figure 1: Bovilla watershed area



Source: Baloshi et al. (2019)

3. CONCLUSION

There is an increasing global concern for environmental protection and the adoption of sustainability practices, particularly in regions facing significant ecological challenges. Sustainable land management has become a critical priority, as it directly impacts ecosystem services essential for biodiversity conservation, climate regulation, and human well-being (Zhang, & Wen, 2008). Land use practices have significant and generational economic, environmental, and social implications. These effects are particularly pronounced in ecologically sensitive regions like the Bovilla watershed in Albania. While protected areas are essential for conserving biodiversity and maintaining ecosystem services, their effectiveness depends on aligning conservation efforts

with the socio-economic needs of local and national communities. On the other hand, farming sustainably is the main factor that forces land users to change their land use to maximize profits. Sustainable land use is critical for maintaining ecosystem services essential for human well-being and biodiversity conservation. There's a growing recognition of the need to incentivize landowners and land users to adopt sustainable practices. This process needs to be related to the SDGs 2030. In Albania, however, there is limited robust economic research that have analyzed and assessed the annual net benefits of sustainable land use in watershed areas. This gap in knowledge has always hindered the development of evidence-based policies and mechanisms to incentivize sustainable practices.

In Bovilla watershed, land users, particularly farmer are faced with competing priorities. They include the need to maintain household incomes through current land-use practices versus the imperative to transition toward sustainable practices that safeguard long-term environmental health (Cani et al., 2017). The previous unsustainable practices, driven by short-term profit maximization, have led to soil erosion, sedimentation, and water quality degradation. These have threatened both ecological integrity and local livelihoods (Gjoka et al., 2024). The sedimentation of the Bovilla reservoir, which is a critical source of drinking water for Tirana, illustrates the urgency of addressing these challenges through sustainable land management.

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The Imposition Of Environmental Taxes And The Principle Of Sustainable Develpoment: Necessity Or Not?

Konstantinos G. Parcharidis[1]

[1] Lawyer, Doctor of Tax Law and Public Law, Faculty of Law, Democritus University of Thrace, e-mail: kostasparchar1@yahoo.gr

Abstract: In the scope of application of Tax Law in the modern market, taxes or fees are imposed on the exercise of economic activities with the aim of protecting the environment (environmental taxes), which has a direct impact on the market economy and the rights of taxpayers. It follows, in other words, that environmental protection has emerged as a more specific manifestation of the concept of "public interest", which limits the rights of taxpayers. The principle of proportionality, which balances and harmonizes the conflicting legal goods: a) environmental protection with b) economic freedom and property, operates as a "limitation of restrictions". More specific manifestations of the above principle are considered to be the principle of sustainable development, which incorporates the concept of proportionality already by definition, and the "polluter pays" principle, which embodies the principle of proportional tax equality. The purpose of the proposal is to highlight the appropriateness, necessity and effectiveness of the imposition of environmental taxes, under the strict condition that its imposition does not unduly affect and does not excessively limit the "hard core" of the individual rights of taxpayers, which have an impact on the market economy. In order to achieve the above purpose, a research was conducted on judicial decisions of the Hellenic courts and the ECJ, as well as on hellenic and foreign bibliography.

Keywords: Environmental taxes, principle of sustainable development, "polluter pays" principle.

1. INTRODUCTION

My present contribution attempts to shed light on a contemporary field of Tax Law, both in Greece and worldwide, which is the imposition of environmental tax burdens. This is considered important, for the reason that the imposition of financial burdens – whether in the form of taxes, or in the form of fees or other charges – as well as the imposition of related sanctions by the Public (Tax) Administration, on the grounds of environmental protection as a reason of “public interest”, raises various issues and concerns. The most basic legal concern that arises is whether the imposition of environmental taxes in general is compatible with the effective exercise of taxpayers’ rights. This is because the latter are limited by the imposition of these taxes for the protection of the environment. Obviously, it is desirable and necessary to take measures to protect the environment, but are the measures taken, which are usually economic (fiscal), appropriate and necessary to ensure, on the one hand, the environment and, on the other hand, the unhindered exercise of taxpayers' rights? What, then, is the limit of restricting taxpayers' rights through the imposition of environmental tax burdens? The above reasonable questions are attempted to be answered by this presentation in the light of Greek Tax Law, taking into account, however, the general principles of Environmental Law, which, in principle, should be, first of all, universally accepted.

In this article, in addition to the introduction (1), where the legal issue is delimited, the basic legal concepts of environmental taxes and the principle of sustainable development, their operation and their purpose (2) are developed. This is followed by the development of the issue of the limitation of taxpayers' rights by the imposition of environmental taxes, with particular reference to the "limitation of the limitation" of the aforementioned rights (3) and finally, the presentation is completed with the conclusions (4) and references.

2. ENVIRONMENTAL TAXES AND THE PRINCIPLE OF SUSTAINABLE DEVELOPMENT: CONCEPT, FUNCTION AND PURPOSE

This section (2) develops the concept, function and purpose of the two basic elements of this article, namely environmental taxes (2.1.) and the principle of sustainable development (2.2.). The above is necessary in order, through the clarification of the concepts, the reference to their function and the explanation of their purpose, to highlight the concern mentioned in the introduction of this (1) and developed in the following section (3), regarding the necessity or not of restrictions on the individual rights of taxpayers. This section therefore functions as a "bridge" between the aforementioned two sections, so that the transition from one to the other can be smooth, without creating "logical leaps" or semantic misunderstandings.

2.1. Environmental Taxes

According to the provision of paragraph 1 of article 24 of the current Greek Constitution, the environment is explicitly protected (see court decisions: Supreme Court 1075/2024, 539/2024, 1725/2023, 1110/2023, 290/2023, 111/2023, 10/2022 in plenary session, 9/2022 in plenary session, Council of State 1972/2020, 520/2014 in plenary session), as is also the case at EU level with the provisions of articles 191 et seq. TFEU and art. 37 of the Charter of Fundamental Rights of the EU. The above constitutional provision, among other things, stipulates that:

> *"The protection of the natural and cultural environment is an obligation of the State and a right of everyone. For its preservation, the State has an obligation to take special preventive or repressive measures within the framework of the principle of sustainability. […]".*

Based on the science of Constitutional Law, the right to the environment, as reflected in the above constitutional provision (article 24 par. 1 sub-section a), is considered a "third generation" right, namely a "right of solidarity", following the "first generation" rights, which are individual and political rights, and the "second generation" rights, which are social rights (Chrysogonos & Vlachopoulos, 2017, p. 81-82). In this context, it is argued that the State is obliged to take the necessary measures for the "preventive protection of the environment" (Remelis, 1989, p. 27). One of the above preventive measures in favor of the environment and its a priori protection is the imposition of environmental taxes, which is part of the exercise of a "green" tax policy of the State.

Environmental taxes can be defined as those taxes whose basis on which they are imposed is a physical object, the existence or use of which has a negative effect, that is an adverse impact on the environment (Lazaretou & Krinis, 2019, p. 1156). These taxes are imposed by the State on a product or service whose existence, use (of the product) or action (of the service) has a harmful consequence on the environment and for this reason their imposition can be considered as a quasi-"penalty", in order to somehow offset the adverse consequences with the economic benefits that the State will derive from the collection of environmental taxes. It is argued that the aforementioned "green"/environmental policy through taxation should be neutral: environmental taxes should not increase or decrease the total amount of taxation, but the tax burden on society should remain unchanged and therefore, the tax policy in question should be fiscally neutral, and their imposition should be accompanied by a corresponding reduction in the mandatory financial burdens and/or contributions of society, namely the reduction of income tax from work, but also the reduction of social security contributions (Lazaretou & Krinis, 2019, p. 1157).

From the above function of environmental taxes, it follows that the purpose of their imposition is to reduce pollution and the consumption of natural resources (Lazaretou & Krinis, 2019, p. 1156). Their imposition and collection aims to enhance environmental awareness and "green" behavior of consumers (Parcharidis, 2025, p. 301). This is also reflected in the strengthening of the "green" economy, especially through investments in the field of renewable energy sources, where the State aims to develop the economy by exercising an environmental tax policy. Therefore, in order to promote such "ecological investments", the State provides tax exemptions and imposes reduced taxation compared to other ("non-ecological") businesses. Therefore, "green" businesses and "ecological" investments in general seem to be treated by the State, in the context of exercising its tax policy, more favorably compared to other "non-green" and "non-ecological" businesses and investments (Parcharidis, 2025, p. 302).

It should be noted that the imposition and collection of environmental taxes brings several advantages compared to other taxes. More specifically (for more details, see Parcharidis, 2025, p. 304 et seq.):

- Environmental taxes are considered to be the most proportionate, for the reason that, with respect to income tax and their general economic behavior, they are less distortive (see Withana et al., 2014, p. 48 et seq.). Environmental taxes incorporate the environmental cost into the price of services and goods, without burdening the entire society, but rather the one who uses services or goods that have harmful effects on the environment, and only then is the consumer burdened with the relevant tax or fee and not other taxpayers, in application of the "polluter pays" principle (see European Environment Agency, 1997, p. 6).
- At the same time, tax avoidance is quite difficult for them. This is because when integrating the environmental cost into the price of the service or product, then only with the use of the service or the purchase of the product, such as the purchase of a plastic bag and the imposition of the relevant fee, will the taxpayer be directly burdened and the possibility of tax avoidance will be more difficult (Lazaretou & Krinis, 2019, p. 1157).
- Finally, according to EU studies (European Environment Agency, 1997, p. 5 et seq.) it is observed that environmental taxes are cost-effective: they have managed to achieve the environmental objectives for which

they were established at a reasonable cost, such as, for example, the taxes on leaded fuels, nitrogen oxides and sulphur dioxide in Sweden, the taxes on toxic waste in Germany and on water pollution in the Netherlands, etc.

2.2. Principle of Sustainable Development

The principle of sustainable development is enshrined in the provisions of art. 24 par. 1 sub-paragraph b', as well as art. 106 par. 1 sub-paragraph a' of the current Greek Constitution. The principle of sustainable development is defined "as that development which satisfies the reasonable needs of contemporary generations without compromising the ability of future generations to satisfy their own needs" (Parcharidis, 2025, p. 292). The Greek courts emphasize the principle of sustainable development, that first of all, it is necessary to preserve the "natural capital" of the State, in order for it to be transferred in its entirety to future generations, so that there is the required equality in the satisfaction of needs between generations (see Council of State 1443/2016, 700/2016, 207/2016, 161/2000, LAW). Subsequently, the Ministry of Foreign Affairs of Greece explains the above term as follows:

> *"Sustainable development concerns the balancing of different and often competing needs at the environmental, social and economic level. It responds to the satisfaction of the needs of the present, without compromising the capabilities of future generations to satisfy their own needs. Coordinated actions are, therefore, needed to build a sustainable future for people and the planet, with primary objectives: the eradication of poverty, the change of unsustainable patterns of production and consumption, and the protection and management of natural resources for economic and social development"* (Ministry of Foreign Affairs of Greece, 2019, p. 6).

Thus, the content of the right in question in article 24 par. 1 of the Greek Constitution is both the protection of the environment as a legal good (2.1.), but also the preservation of appropriate conditions that allow the human personality to develop freely, under conditions of decent living for both present and future generations (Chrysogonos & Vlachopoulos, 2017, p. 604, Remelis, 1989, p. 36-38, Parcharidis, 2025, p. 291). The basic individual conceptual legal elements that constitute the content of the principle in question are: the prevention of environmental damage, in order to ensure continuity for future generations, the maintenance of environmental development through the effective action of the State organs, whose action should be carried out with balance and harmony between the interests of both sides (State-citizen), as well as economic development to be carried out with appropriate means to the extent that is absolutely necessary without excessive consumption of natural resources (Tachos, 2006, p. 80-81, 87-89). It, therefore, follows that the principle of sustainable development is a complex concept, encompassing both economic development and environmental protection (Parcharidis, 2025, p. 293). It falls within the legislative function to weigh the above, namely the need for environmental protection, on the one hand, and unhindered economic development, on the other, taking into account the principle of proportionality. However, already from the formulation of its definition as above, it seems that the element of proportionality is included in it. This is because the above constitutional principle is the one that balances and harmonizes the claims, on the one hand, to promote economic development and at the same time the claim to protect property and economic freedom and, on the other hand, the claim to protect the environment, within the framework of the operation of the formal equivalence of the provisions of the Constitution (Parcharidis, 2025, p. 291, Papakonstantinou, 2018, p. 687. See also court decisions by the Council of State no. 1911/2020 and 1772/2020).

The purpose of sustainable development is therefore to meet the needs of the present without compromising the ability of future generations to meet their own needs (Halim & Rahman, 2022, p. 1-11, O'Hare et al., 2022, p. 1-8, Mosquera Valderrama, 2020, p. 1-21). In our time, a new framework for sustainable development is being promoted. This is achieved by integrating sustainable development into all areas of sectoral policies and in its three dimensions: (a) social, (b) economic and (c) environmental (which, the last dimension, is analyzed in this proposal in relation to the imposition of environmental taxes), as follows from the "17 Sustainable Development Goals" of the United Nations, in accordance with the "2030 Agenda for Sustainable Development" and promoting the interconnection and coherence of legislative and policy frameworks linked to the sustainable development goals (United Nations, UN Regional Information Centre, 2017, OECD, 2017, p. 90, graph 3.2., Savvaidou, 2020, p. 212, Parcharidis, 2025, p. 295).

The achievement of these goals can be implemented through an appropriate tax policy, so that by collecting revenue, it is possible to achieve the necessary public spending (Savvaidou, 2020, p. 213, Parcharidis, 2025, p. 296). This tax policy does not aim to increase taxation, but rather to more fairly distribute the tax burden among taxpayers, to broaden the tax base and to improve the proper functioning of the Tax Administration (Long &

Miller, 2017, p. 13, Mathieu-Bolh, 2017, p. 135 et seq.), such as ensuring the taxation of profits from business activity in the place where "economic value is created" (Savvaidou, 2020, p. 214), the adoption of the OECD action plan to combat tax base erosion and profit shifting abroad (OECD, 2013, p. 14 et seq., ICC, 2018, p. 4). These goals, therefore, are not achieved by imposing more taxes, but by more effective and fairer taxation. This, in turn, will enhance the taxpayer's sense of security towards the State, influencing the choices of individuals who have an impact on the economy, enhancing justice and economic development and at the same time, creating financial resources with which to finance activities supporting sustainable development goals (Savvaidou, 2020, p. 221, Savvaidou, 2019, p. 387 et seq., Parcharidis, 2025, p. 300).

3. THE LIMITATION OF TAXPAYERS' RIGHTS FOR ENVIRONMENTAL PROTECTION: WHAT, IN THE END, IS THE LIMIT OF THE LIMITATION?

This section (3) examines the protection of the environment as a more specific manifestation of the concept of public interest, which limits the individual rights of taxpayers (3.1.), in particular the right to property (art. 17 of the Constitution) and to participation in the economic life of the State (art. 5 of the Constitution, economic development). This limitation is often achieved through taxation, especially in our time with the imposition of environmental taxes and fees. However, this limitation of the said individual rights cannot be absolute, but should be set within certain limits (3.2.), i.e. the "hard core of the right" should not be affected and the principle of proportionality should be respected, as a "limitation of limitations" of the taxpayers' rights. Due to the particularity of environmental taxes - namely that they aim at protecting the environment, the protection of which is also a right of every citizen - the method of harmonizing constitutional provisions is considered more accurate, as it is applied, for example, in art. 17 of the Constitution, which protects property, with art. 24 of the Constitution, which protects the environment, without excluding the parallel application of the principle of sustainable development, which was analyzed in detail in the above subsection (2.2.).

3.1. Environmental Protection as a Reason of "Public Interest" and Restriction of Taxpayers' Rights

As follows from the above, the legislator aims to protect the environment through the adoption of appropriate and necessary legislative measures (imposition of environmental taxes), such as, for example, energy taxes (ECJ, C 201/08, *Plantanol GmbH & Co. KG*), transport taxes (European Commission, 2010, p. 12), as well as taxes on polluting activities and the exploitation of natural resources (Yildiz, 2017, p. 367-384, Steiner Brandt & Tinggaard Svendsen, 2014, p. 1-9), which restrict the rights of citizens and, in this case, taxpayers (such as the free development of economic activity) on the grounds of environmental protection as a reason of public interest, such as health protection.

In Greece, the tax legislator deemed it necessary to impose specific environmental taxes and/or fees on products, activities and/or services that cause harm to the environment. Thus, the following were established for the protection of the environment, among others: (a) the vehicle registration fee, (b) traffic fees, (c) the special tax on luxury goods, (d) the single airport modernization and development fee (TEAA), (e) the special consumption tax on energy products and electricity, (f) the special fee on energy products and electricity, (g) the special fee for reducing gas pollutant emissions (ETMEAR), (h) the special landfill fee, (i) the environmental fee on plastic bags of art. 6 of Law 4496/2017. By imposing the above environmental financial burdens, either in the form of a tax or a fee, free economic development is restricted, as well as the right to property, because anyone who uses the items and services listed in the above legislation is obliged to bear the financial burden for their use (Parcharidis, 2025, p. 307).

3.2. The Harmonization Between Environmental Protection and Ensuring the Substantial Exercise of Taxpayers' Rights

As previously stated, invoking the need to protect the environment as a reason of public interest, taxpayers' rights are limited, such as the right to property and free participation in the economic life of the country, resulting in taxpayers suffering harm, which in many cases is extensive and/or excessive, especially in the case where a business (industry) is taxed unfavorably "for reasons of environmental protection". A counterbalance to this unfavorable tax policy could be the application of the principle of sustainable development, in the above sense and function (2.2.), taking into account that the very concept of sustainable development is the one that contains the element of proportionality (Parcharidis, 2025, p. 292), as well as the harmonization of legal goods that seem to conflict, namely individual property and the environment (Parcharidis, 2025, p. 294).

More specifically, the harmonization between environmental protection and ensuring the effective exercise of taxpayers' rights occurs, according to the author, with the application of the principle of sustainable development. The legislator himself proceeds to the appropriate balancing between the need for environmental

protection and the factors related to the economic freedom and development of the Country, the utilization of national wealth, economic and regional development, as well as economic freedom and the security of employment (Remelis, 1989, p. 35), in the light of the principle of proportionality, as not exceeding the "absolutely necessary measure for the satisfaction of the intended public interest objective", as ruled by the decision no. 710/2020 of the Council of State in plenary session. A more appropriate and effective means of balancing could be considered (environmental) taxation, provided that it is fair and the principle of proportionality is respected as a "limitation of limitations" of the individual rights of taxpayers.

It is accepted (Papakonstantinou, 2018, p. 690) that the above principle weighs the legal goods at stake (individual property and environment) and balances the conflicts between constitutional rights, in application of the principle of proportionality. At the core of the constitutional principle of sustainable development is the principle of proportionality, in the sense that economic development must take place in such a way that environmental goods are not damaged, but also that the "environmental reserve" is preserved for future generations (Remelis, 1989, p. 37, Papakonstantinou, 2018, p. 692). This means that economic freedom with the aim of economic development and the exercise of the right to property are limited to the point where a minimum of "natural capital" (Council of State 161/2000) remains for future generations. In this way, the "formal equivalence" of constitutional provisions is applied, where the claims for both the promotion of economic development and the protection of the environment are weighed, based on the content of the principle of sustainable development (Parcharidis, 2025, p. 294). In other words, based on the principle of proportionality, weighings of the legal goods at stake -that are equally protected by the Constitution- are made, with "the imperative of the greatest possible harmonization of their content, depending, of course, on the specific circumstances of each case" (Papakonstantinou, 1989, p. 693). By applying the principle of sustainable development, the interpreter of the Constitution moves from the assumption of the "conflict" of the legal goods protected in the Constitution, such as the protection of the environment against property or economic development, to a new assumption of "harmonization" of formally equivalent constitutional provisions, where it is not possible to exclude a provision of the Constitution on the grounds that it is contrary to other principles or provisions of the Constitution, but a balance is sought between the restriction of an individual right and the public interest (Tachos, 2006, p. 71). Thus, some constitutional legal goods do not prevail over others, but the aim is to connect and harmonize the legal goods of the Constitution that are at stake (Parcharidis, 2025, p. 294). This is done within the framework of applying the principle of proportionality/fair balance, as applied in this case with the principle of sustainable development (Parcharidis, 2025, p. 294-295, Papakonstantinou, 2018, p. 692-693).

A particular aspect of the principle of proportionality, as a limit to the above restrictions, in addition to the principle of sustainable development, which already includes the concept of proportionality by definition, is also found in the legal principle "the polluter pays", which is also provided for in art. 191 par. 2 TFEU. This principle means that the person, who is responsible for environmental pollution, also bears the cost of avoiding and eliminating the environmental damage that he has caused or may cause (Koutoupa-Regakou, 2008, p. 63). Therefore, the imposition of financial burdens, usually in the form of taxes or fees, not only aims to attribute the cost of this harmful action to the environment, but is also an effective means of protecting the environment and highlighting the causal connection between the person who is responsible for the damage and the causing of environmental damage (Parcharidis, 2025, p. 308). This (the imposition of environmental taxation) has the effect of restricting the right to free economic development of the taxpayer, especially large enterprises, to the point that the "untouched core" of this taxpayer's right is not affected. Based on the above principle, it is considered by the author that an effective way of protecting the environment is to impose environmental taxes and fees, depending on the damage caused to the environment, and thus, the application of the principle of proportionality in environmental taxation becomes evident through the principle of "the polluter pays" (Parcharidis, 2025, p. 308-309). This position is also confirmed by the earlier case law of the ECJ (ECJ, C-293/97, *The Queen*), which ruled that: "the polluter pays principle is an expression of the principle of proportionality". Furthermore, if there is pollution from different causes, those responsible are liable according to the degree of their participation in it. Therefore, when imposing the tax burden (e.g. a fine), the percentage of participation and responsibility of the "polluter" must be taken into account, so that the proportional burden can be attributed to him and the fine can be imposed, depending on his participation in the pollution, in accordance with the principle of proportional equality in public burdens, according to article 4 par. 5 of the Constitution, in order to achieve a "fair balance" between the conflicting legal interests (Parcharidis, 2025, p. 309).

4. CONCLUSIONS

According to the principle of sustainable development, as stated above, the existence of environmental taxes is a necessity for the preservation of the natural environment for future generations, as well as for the promotion of economic development. This, however, is subject to the condition that the principle of proportionality is observed, i.e. the more harmful an act is to the environment, the greater the tax burden should be and vice versa. In order to protect the environment, the imposition of environmental taxes on specific economic activities is considered appropriate and necessary. With the same reasoning, tax sanctions of an environmental nature are also imposed in cases of environmental offenses (according to the "polluter pays" principle). Consequently, the imposition of "green" and fair taxes can be considered an appropriate and effective means to strengthen environmental protection. Therefore, it would not be strange to say that contemporary Tax Law is a "green" Law, in the sense of the tendency for prominent environmental protection and perhaps it would not be an exaggeration to speak today of a "Tax Environmental Law" (see Parcharidis, 2025, p. 719).

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The Role of Financial Derivatives and Funding in the Global Financial Crisis: A Critical Analysis of Securitization, Leverage, and Market Supervision

Kyriaki Efthalitsidou[1] **Konstantinos Spinthiropoulos**[2]

Nikolaos Sariannidis[3] **Vezou Marina**[4]

[1]Corresponding Author, Department of Business Administration, University of Western Macedonia, GR50100 Kozani, Greece, E: aff01633@uowm.gr

[2]Department of Management Science and Technology, University of Western Macedonia, GR50100 Kozani, Greece, E: kspinthiropoulos@uowm.gr

[3]Department of Accounting and Finance, University of Western Macedonia, GR50100 Kozani , Greece, E: nsariannidis @ uowm.gr

[4]Department of Management Science and Technology, University of Western Macedonia, GR50100 Kozani, Greece, E: mvezou@uowm.gr

Abstract: The global financial crisis of 2007-2008 was one of the most significant economic downturns in modern history, with far-reaching consequences. This paper explores the role of financial derivatives, securitization, credit default swaps, and excessive leverage in the crisis. The study highlights how the widespread use of collateralized debt obligations (CDOs) and mortgage-backed securities (MBS) contributed to market instability, while inadequate supervision and rating agency failures exacerbated systemic risks. Additionally, the lack of transparency in over-the-counter (OTC) markets and the speculative use of derivatives amplified financial losses. The paper also discusses the regulatory measures implemented post-crisis to mitigate similar risks in the future. The findings underscore the necessity for stronger oversight and responsible use of financial derivatives to prevent future crises.

Keywords: Financial Derivatives, Global Financial Crisis, Securitization, Credit Default Swaps (CDS), Collateralized Debt Obligations (CDOs),Funding Liquidity Crisis, Market and Risk Management.

1.Introduction

The financial crisis of 2007-2008 exposed significant weaknesses in global financial markets. The collapse of Lehman Brothers, widespread mortgage defaults, and systemic failures underscored the role of complex financial instruments in amplifying risks. This paper examines the role of financial derivatives, funding mechanisms, and the regulatory environment in shaping the crisis. The research aims to answer the following questions:

- How did financial derivatives contribute to the crisis?
- What role did securitization and funding strategies play in market instability?
- How did regulatory failures exacerbate the crisis?

2.Literature review

The first signs of the global financial crisis appeared in 2006. From 2004 to 2006, the intervention interest rate in the US increased from 1% to 5.25%, which led to a decline in the housing market. At the same time, house prices in the US stopped their upward trend. Household bankruptcies that had taken out low-credit-rated mortgages (subprime) began to increase when interest rates were rising. Most of these loans had been securitized and sold in mutual funds to other banks and investors around the world (Nikolaos & Nikitas, 2022) Also, the Fitch rating agency warned in December 2006 that a large number of borrowers with subprime mortgages would face problems in 2007 when their contracts were renewed at new market rates(ÇAM, 2014). At the same time, Owit Mortgage Solutions, a bank in California that lent mainly to the subprime market, filed for bankruptcy.

The following year, British bank HSBC announced a $10.5 billion capital loss (impairment) due to losses at its US subsidiary Household Finance Corporation, which it had purchased in 2003, while in early April, US mortgage bank New Century Financial filed for bankruptcy. UBS was also forced to close its Dillon Reed hedge fund after losses of $125 million. In June 2007, investment bank BearStearns was forced to capitalize with $3.2 billion a hedge fund of its own that had invested in subprime mortgages and had shown large losses, while in July it

announced that two of its own hedge funds had lost 90% of their value, approximately $1.4 billion. Ratings agencies Standard & Poor's, Moody's and Fitch followed suit, announcing that they would review the previous ratings of approximately $18 billion in subprime loans for possible downgrades. As a result, many products based on subprime loans were downgraded from AAA to A+, a four-notch move that had not happened often before.

Banks, on the other hand, began to announce write-offs of securities from their portfolios in 2008, as the securities related to subprime loans proved to be "toxic". In mid-March, the sixth largest investment bank in the US, Bear Sterns, accepted its absorption by JP Morgan with a significant part of the acquisition being financed by the Fed, as Bear Sterns' only alternative was bankruptcy(Lo, 2012). There was also a strong problem in the global market with the sharp increase in oil and raw material prices(Zetter, 2022).

Inflation in the Eurozone reached 4%, while in the USA it exceeded 5%. As for oil, a barrel was sold for 147.27 dollars on the New York market and the price of the euro exceeded 1.6 dollars. Finally, the mood in the stock markets was negative and the Dow Jones fell from 13,000 points in mid-May to 11,000 in July. This was followed by the strong tremor of the two pillars of the American mortgage market: Fannie Mae and Freddie Mac, where, while it had initially been decided to provide financial support, they were subsequently nationalized. The largest interest rate cuts in history followed, where in America and Japan interest rates almost went to zero, while the market's interest rate crisis appeared in mid-October when one bank refused to finance the other ((Nikolaos & Nikitas, 2022)).

On Monday, September 15, 2008, the historic investment bank Lehman Brothers collapsed with a $60 billion loss, as it used deceptive accounting techniques to cover up the tragic picture presented by its financial figures. Its accountants temporarily hid $50 billion of troubled assets from its books. The tactic was called "Repo 105," according to which Lehman allegedly used repurchase agreements to reduce the leverage on its balance sheet.

According to analysts, then-US Treasury Secretary Henry Merritt "Hank" Paulson(Acemoglu et al., 2016), the chairman of the US Securities and Exchange Commission (SEC) Charles Christopher Cox and then-New York central banker Timothy Franz Geithner deliberately let it fail. On Thursday, September 11, Lehman's head Richard S. Fuldjr tried to sell it. When Wall Street closed on Friday, September 12, Paulson, who was convinced that Lehman could not proceed, took matters into his own hands. On Monday, September 15, 2008, the day on Wall Street began with two shocking news: the bankruptcy of Lehman Brothers and the salvation of Merrill Lynch, with its sale to Bank of America(Lo, 2012) (SCATES, 2021).

After the news broke, European stock markets recorded losses, with the London Stock Exchange having the largest share, which closed with a percentage change downward of 4.08%. There were also consequences for the price of oil, which fell as concerns arose that the growing economic problems at a global level would cause a further reduction in energy demand, causing investors to turn to other sectors. The European Central Bank responded by channeling 30 billion euros into the eurozone interbank market to support the markets. At the same time, ten major banks created a fund of 70 billion dollars from which they could draw if they were at risk of liquidity problems(Nikolaos & Nikitas, 2022).The following banks participate in this "anti-bankruptcy" fund:

- Bank of America
- Citibank
- Goldman Sachs
- JP Morgan Chase
- Merrill Lynch
- Morgan Stanley
- Barclays
- Deutsche Bank
- Credit Suisse
- UBS

(Nikitas, 2013)(Toorajipour et al., 2022)

3. Methodology

This paper employs a qualitative research approach, analyzing existing literature, financial market reports, and regulatory frameworks. A case study of key financial institutions (e.g., Lehman Brothers, Bear Stearns, and AIG) provides insight into the crisis dynamics. Secondary data sources, including reports from the Bank for International Settlements and the Federal Reserve, supplement the analysis.

4. The Role of Securitization and Derivatives in the Crisis

4.1 Securitization and Mortgage-Backed Securities (MBS)

Securitization allowed financial institutions to bundle mortgage loans into tradable securities, fueling excessive risk-taking. The issuance of subprime mortgage-backed securities increased, leading to a housing bubble. When interest rates rose, defaults surged, triggering a chain reaction of financial instability.

"Collateralized debt obligations, or CDOs , are structured financial instruments created through the process of securitization and are at the heart of the recent global financial crisis." (Tang et al., 2021).Specifically, collateralized debt obligations are financial instruments that are secured by a portfolio consisting of various loans, mortgages, bonds, or other financial assets, or a combination of all of these.The global financial crisis emerged and expanded due to globalization, the opening of markets, and innovative financial products for risk management and transfer through securitization (Toorajipour et al., 2022).

At that time, financial institutions provided many mortgage loans with particularly favorable terms for borrowers. Then, these loans were pooled and divided into categories based on credit risk and securitized(Henke et al., 2020). When the securitization process takes place, each financial institution pools the necessary cash flows, which come from various loans, and then creates securities that transfer the flows coming from the original securities to investors, except for an amount that is retained. In order to purchase these securities, investors must first pay the capital required to the financial institution. This process separates the issuance of the loan from its financing, that is, the loan may be issued by the bank but financed by the investor, to whom both the cash flows and the credit risk are transferred (Eksi & Filipovic, 2020).

Also, it is common for banks to transfer securitized assets off-balance sheet. This happens if we consider that the bank in question is obliged to return a part of its liquid assets, which will not be used to grant loans. The available liquid assets have to do with the amount of the loan, bonds and other illiquid forms of debt that appear on its assets. Therefore, in order for the bank to be able to release its funds and grant more loans, it transfers the loans, bonds and other illiquid forms of debt that appear on its assets to a special purpose vehicle through securitization. In this way, the bank succeeds in granting as many loans as possible with its own funds(Krasadakis, 2020).

When securitization and the transfer of credit risk to third parties are carried out, then banks can grant loans even to borrowers who are impossible to repay, as their annual income is small. Granting loans to such borrowers indicates an irresponsible attitude, having as a direct result a noticeable increase in the number of mortgage loans, an increase in demand in the housing market, an increase in housing prices, as well as an increase in the number of securitisations (Tang et al., 2021).

For a long time, borrowers paid for their loans, lenders received the profits from mortgage loans in the form of packages, and investors in turn had a favorable return on the securitized securities they held. For the most part, the process worked effectively and the conditions helped real estate prices to have a continuous upward trend. This event was a trigger for many businesses to take out mortgage loans to benefit from both the purchase and resale of the house at a higher price. The result of all this was to create an excessive supply of new homes that could not be sold. Also, the increase in interest rates in late 2005 to address the risk of high economic growth brought very high inflation.

The increase in unsold homes was also contributed to by the increase in interest rates and real estate prices, as a result of which the income of the economically weaker was not sufficient to repay their loans. Consequently, there was not much demand in the housing market, resulting in a decrease in house prices and a simultaneous increase in non-performing loans, thus directly affecting securitizations, which began to record significant losses(Nikolaos & Nikitas, 2022).

In all of this, guaranteed debt obligations played a leading role, which helped to make securitization more functional by simultaneously incorporating more forms of securities issued with securitization and allowing for the redistribution of the original credit risk, as well as the diversification in the organization and arrangement of payment flows. Guaranteed debt obligations mainly include mortgage-backed securities. Their performance depends mainly on the course of the real estate market, which is why their development was significant because there was an upward course of real estate in the market as well as high returns.

However, secured debt obligations declined significantly with the outbreak of the global financial crisis in 2007. Since then, according to (Stutzer, 2014), " *investors increasingly began to avoid structured finance products*

because the perception prevailed that the value of the underlying collateral had been eroded". Also, with regard to secured debt obligations including mortgage-backed securities, there was a fear that with the spread of the crisis it turned into a panic. Finally, (Tagliani, 2009) argues that the global financial crisis had a negative impact on secured debt obligations. Investors considered the financial crisis to function as a failure of the system to manage the impending risks effectively. Thus, investors became more cautious regarding the ability of banks and financial institutions in general to address risk using structured financial products.

In conclusion, it should be noted that the sales of guaranteed debt obligations were carried out, causing large losses to financial institutions and hedge funds . Up until that point, guaranteed debt obligations may have been a good investment, but later this investment was considered by many to be disastrous.

An important factor in the financial crisis is the complexity and difficulty of evaluating guaranteed debt obligations. It is a fact that many organizations purchased guaranteed debt obligations without having the ability to check their credit performance or to calculate the expected cash flows from the underlying asset. Also, the rating agencies were not aware of the financial situation and generally the reliability of the borrowers with regard to their obligations and solvency.

In order to assess the reliability and solvency of borrowers, rating agencies studied data from previous years. However, these data were not correct since in that period there was a real estate boom, the repayment of loans was certain and there was no credit risk at all. Unfortunately, the rating agencies did not take seriously the fact that at some point the upward trend of real estate would stop and then the problem of credit risk would become noticeable.

At the same time, they also believed that if a number of independent loans were pooled into a financial product, such as guaranteed debt obligations, then there could be diversification of risk since they believed that it was impossible for a large part of the borrowers not to repay their obligations at the same time. However, it should be noted that there was no diversification, as the independent loans had to do with mortgage loans and at the same time the financial products were exposed only to the housing market. The rating agencies did not pay much attention to this fact, with the direct result that when the real estate market changed course, the ratings did not correspond to reality and were constantly revised.

In addition, investors and financial institutions began to lose confidence in rating agencies due to incorrect ratings and delayed downgrades of securities related to subprime mortgages. Exiting the market is the only option if investors and financial institutions no longer have confidence in the ability of guaranteed debt obligations to properly structure contracts, as well as in the ability of rating agencies to accurately assess the risks included in guaranteed debt obligations or other financial products ((Jarrow & Chatterjea, 2019)

It is equally important to mention that rating agencies played a decisive role in the global financial crisis. Many argued that there was a client relationship between rating agencies and issuers of financial products. As a result, the financial products issued were rated at a much higher rate than they actually deserved. For example, each financial institution that wishes to issue guaranteed debt obligations should choose the appropriate rating agency, which on the one hand will give the best rating and on the other hand will be in its interest to give the best rating both to win the client - issuer and to reap the benefits of the advisory services provided and the continuous supervision regarding the structure of the issued guaranteed debt obligation.

4.2 Credit Default Swaps (CDS) and Collateralized Debt Obligations (CDOs)

CDOs and CDS were intended to hedge credit risk but were widely used for speculative purposes. The over-the-counter (OTC) trading of CDS created an opaque market, making it difficult to assess systemic risk. The interconnected nature of these instruments spread financial contagion across global markets.

Data from the Bank of Greece indicate that " *Credit default swaps, or CDS , are derivative products that are linked to the credit risk of specific underlying assets, usually bonds and loans, and function as a type of collateral for the buyer of such a product, as the seller of the product undertakes, in return for a premium, to compensate the buyer in the event of default by the issuer of the underlying asset. These contracts are a tool for transferring the credit risk of a reference asset from one investor to another without transferring ownership of the asset."*

The needs of each counterparty shape the terms and content of credit default swaps, which operate primarily in over-the-counter markets.

In addition, credit default swaps are particularly useful as they protect users from credit risk. They are mainly implemented by banks in order to effectively address credit risk and avoid liquidity problems if some borrowers have difficulty repaying their loan obligations. Recently, it has been observed that the value of credit default swaps has increased without, however, a corresponding increase in the value of the bonds issued.

In a credit default swap agreement, there is a protection buyer and a protection seller. The buyer pays the seller a premium at regular intervals and for the duration of the contract or until a credit event occurs. On the other hand, the seller is obliged to compensate the buyer if a credit event specified in the agreement occurs. According to the International Association of Exchanges and Producers, credit events are the following:

- Bankruptcy
- Inability to pay
- Refusal to accept debts
- Downgrade
- Restructuring

The reference entity is defined as *"the debtor of the debt, which can be a company, a credit institution or a state".* In addition, the price of the premium is significantly affected by the interest rate differential expressed in basis points. It is expected that the greater the difference between interest rates, the greater the premium, i.e. the periodic amount paid by the buyer to the seller. The interest rate differential is also affected by the solvency of each borrower. For example, if a country is classified as insolvent, then because there is a high risk of non-repayment of its obligations, lenders demand a higher interest rate, resulting in an increase in the interest rate differential.

5. Funding and Liquidity Crisis

The crisis led to a severe liquidity crunch as interbank lending froze. Banks reliant on short-term funding faced insolvency, necessitating massive government bailouts. Institutions such as Freddie Mac and Fannie Mae required state intervention to stabilize markets. The failure of Lehman Brothers intensified investor panic, leading to global financial turmoil.

The lack of oversight and opacity in the over-the-counter markets resulted in financial institutions operating without control, to the point of holding positions in credit default swaps worth billions of dollars without having the funds they needed in case of need. Credit default swaps were created with the ultimate goal of making the financial institution operate more efficiently. The credit risk in this case is transferred from an investor who does not want to take it on to someone else who does. However, because there is no supervisory authority, credit default swaps have not been able to help the financial system function better.

In addition, it should be noted that the credit default swap market operated in such a way that fictitious amounts were created both at their nominal and net value. For this reason, many investors, in order to limit the risk of bankruptcy, transferred the risk to other investors through "naked" credit default swaps. They believed that they would effectively deal with bankruptcy. However, the parties involved to whom the risk was transferred were many, resulting in the creation of a large fictitious amount relative to the nominal value of the credit default swaps.

Studies have shown that although credit default swaps were created to help the financial system, ultimately due to the lack of supervision and a strict regulatory framework that would regulate and prevent the pathologies of these markets, they did not work in the most effective way, even reaching the brink of collapse and forcing governments to spend large sums of money to save them. All they managed to do in the end was to transfer the burden to taxpayers. To address this situation, credit default swaps were used for speculative purposes, the uncontrolled issuance of credit default swaps by investment banks and of course "naked" credit default swaps. The European Union, regarding "naked" credit default swaps, voted to ban them, allowing the trading of only those that cover the legitimate insurance interest and this under certain conditions. At the same time, the capital adequacy and solvency of each issuer should be checked in order to pay compensation if a credit event occurs. The above measures may be a positive development, but they were taken with a very long delay, causing great harm and losses to the economy.

Derivatives were developed to help participants in cash markets to manage the risks that affect the value of their products. However, a product is never the same, as it may provide security for one investor and a means of speculation for another. If the risk of a derivative is hedged by ownership of the underlying product, i.e. the

producer's position is covered, then these derivatives provide protection against an imminent loss and are used as hedging instruments. Conversely, if the investor does not cover the producer's position, i.e. if he does not own the underlying product but only the derivative, then only the latter is considered a speculative instrument(Jarrow & Chatterjea, 2024).

We distinguish the following types of derivatives:

- Derivatives that are settled by paying the value of the contract and receiving the underlying product with physical delivery
- Derivatives that are settled in cash without the need for physical delivery or receipt of the underlying product, nor the payment of the total amount either at the beginning or at the end of the contract(Jarrow & Chatterjea, 2019).

It should be noted that derivatives belonging to the first category do not include any type of leverage and are used to hedge risk. The profit or loss of the buyer or seller results from the difference between the contract price and the current price of the underlying product in the cash market at the expiration of the contract. As for derivatives belonging to the second category, these include high leverage and are used on the one hand for hedging and on the other hand for speculation. In this case, in order to achieve the desired transaction, a small amount proportional to the value of the underlying product must be deposited at the beginning of the contract(Chance & Brooks, 2010).

Also, the first category includes investors who seek to eliminate the risks of future price fluctuations in futures contracts, while the second category includes investors who are not interested in the physical product but who at the same time seek to benefit from the risks and price fluctuations by both buying and selling.

“The monetary settlement and margin, which characterize derivatives, contribute to the creation of leverage and attract speculators to derivatives markets. The use of derivatives for speculation and insufficiently institutionalized and supervised organized derivatives markets are key causes for the emergence of financial crises.” ((Jarrow & Chatterjea, 2024))

6.Regulatory Failures and Responses

Weak regulatory oversight allowed excessive risk-taking. Rating agencies failed to accurately assess the risk of securitized assets, leading to misleading investment decisions. Post-crisis regulatory measures, including the Dodd-Frank Act and Basel III reforms, sought to enhance financial stability by increasing transparency, limiting leverage, and improving risk assessment frameworks.

"Leverage is when a derivative acts like a lever, meaning that maximum return can be achieved with little effort." A characteristic feature of leverage is that it is particularly attractive to speculators and at the same time has the potential to cause significant turbulence in the global market(Senani et al., 2022).

Based on research that has been conducted, it is proven that a large part of fictitious funds has been accumulated on the balance sheets of banks, in the form of derivative contracts, risking the dissolution of the entire banking system. On the other hand, banks and investment houses, although they are significantly responsible for the global economic crisis, are supported by the respective governments of the states in order to save themselves, resulting in them having more and more power. Their leverage has increased significantly and thus the positions they hold in derivatives are much larger compared to their real funds(Mamun et al., 2020).

According to studies, the most important element of all is that these derivatives are created, traded, changed hands and spread to investors even outside the organized markets of investment banks without the necessary control and with procedures that are not renowned for their transparency. Data from the Bank for International Settlements published in May 2013 showed that the value of all types of derivatives traded outside the organized markets is estimated at approximately 632.579 trillion dollars, of which:

- The $489.703 trillion has to do with derivatives that involve changes in interest rates.
- The $67.358 trillion is foreign exchange contracts
- The $25.069 trillion are the premiums for the risk of debt default, in short, the bets on the bankruptcy of companies or countries.
- The $2.587 trillion relates to contracts in commodities and other precious metals.
- The $41.611 trillion refers to the value of other types of derivatives.

Considering the fact that the gross international product reaches 60 trillion dollars annually, we understand that the value of derivatives traded outside organized markets is at least ten times greater. (Senani et al., 2022) states that *"derivatives markets are characterized as economic weapons of mass destruction, which contain deadly risks for the global economy".*

7. Lessons Learned and Policy Recommendations

The policy recommendations are the above:

- Enhanced Market Transparency: Stricter regulations on derivative trading and improved disclosure requirements are essential.
- Stronger Regulatory Oversight: Institutions such as the SEC and Federal Reserve must enforce proactive risk management.
- Limits on Leverage: Implementing caps on leverage ratios can mitigate systemic risk.
- Improved Risk Assessment Models: Financial institutions must adopt better models to evaluate credit risk and market exposure.

According to the theory, liquidity is regulated based on the monetary policy exercised through the central banks of the states. However, global liquidity has been significantly affected by the modern era where various innovative financial products prevail, creating various methods of money. In our time, derivatives and securitization of claims play an important role. In particular, we should mention that with the use of securitization, the regulations on the adequacy of banks' capital are violated and more loans are granted and, in general, more liquidity is channeled into the market. Also, in many cases where securitized bonds are integrated with derivative products, there is a large amount of leverage(Charles W.L. Hill, 2021).

As we mentioned, the financial system, with the help of derivative leverage, managed to create liquidity without giving much importance to the role of governments and central banks, which are to control the amount of money in circulation through monetary policy in order to ensure balance between the markets and the economy(L, 2021). However, this fact creates a major problem in the global economy, being in fact the most important cause for the outbreak of the global financial crisis(Abdow & Ariri, 2018).

Conclusions

The financial crisis highlighted the dangers of excessive risk-taking, weak regulatory oversight, and the misuse of financial derivatives. While post-crisis reforms have strengthened financial regulations, continued vigilance is necessary to prevent future crises. Responsible derivative use and effective supervision are critical to maintaining market stability and economic resilience.

Modern businesses operate in an environment where there are continuous changes and many risks. The factors of the external environment combined with economic instability have resulted in a large increase in business risk, which of course businesses are called upon to face in order to be sustainable. Derivative products within the business environment are particularly useful, as they enable effective risk management and hedging. Thus, businesses can invest, which they could not do without the existence of derivatives. A business grows and increases its value by effectively managing risk, reducing the volatility of cash flows and limiting the fluctuation of profits. When risk and uncertainty do not prevail, business units have the ability to calculate their future expenses and generally organize their economic activity.

Derivatives have spread rapidly because they cover diverse needs and effectively transfer risk to third parties who are willing to take it on. It is a fact that derivatives can be beneficial in a rising, falling or even stable market. " *By using strategic derivative positions, complex positions can be created that can meet the needs and expectations of any type of investor, from the most conservative to the most risky. Furthermore, derivatives do not require or require a minimal initial investment compared to other types of contracts that have similar behavior in the changes that occur in market conditions."*

However, in addition to the advantages that derivatives have, there are also many risks that are mainly due to the way they are used by their holders. The reasons that caused the capital losses in recent years are related to the high risk-taking, the insufficient understanding of the functioning of the derivatives market by investors, the inadequacy of the supervisory authorities and the lack of an organized regulatory framework, which would regulate the derivatives market more effectively. The misuse of derivatives is clearly seen from the spread of the recent financial crisis.

In conclusion, we conclude that derivative products can be useful for investors and offer significant benefits to investors in businesses and in the economy in general, but they should be used correctly by traders. Derivative products carry many risks, which apparently were not taken seriously and were the biggest cause of the financial crisis. It is important, therefore, that those involved in the derivatives market pay special attention to their proper use, understand their operation and assume the imminent risks. At the same time, governments must create a strong regulatory framework that will regulate and prevent market pathologies while strengthening the role of supervisory authorities so that speculators do not act in the market without control. Finally, the negative consequences that derivative products had will function in an instructive way so that the same mistakes are not repeated again.

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ESG Compliance for Competitiveness in the Hospitality Sector: The Role of CSDDD in Transforming Sustainability Practices Across CEE Hotels

László Péter Juhász[1] **Dr. Anna Dunay**[2]

[1] John von Neumann University Doctoral School of Management and Business Administration, Budapest Metropolitan University Tourism Institute, ljuhasz@metropolitan.hu, ORCID: 0009-0002-4535-1106

[2] John von Neumann University Doctoral School of Management and Business Administration, dunay.anna@nje.hu, ORCID: 0000-0003-0254-9243

Abstract: This study investigates the European Union's Corporate Sustainability Due Diligence Directive (CSDDD) and its implications for the hotel industry in selected Central and Eastern European (CEE) countries. The research explores how the directive reshapes corporate governance and operational structures through legally binding sustainability and ethical business obligations. Unlike voluntary corporate social responsibility (CSR) frameworks, the directive enforces compliance, imposing due diligence responsibilities on companies and their supply chains, with a particular focus on human capital, labour rights and sustainable business practices.

A comparative analysis assesses corporate sustainability regulations across selected CEE countries (Hungary, Austria, Czech Republic, and Poland), evaluating the extent to which national legislation aligns with the Corporate Sustainability Reporting Directive (CSRD) and the CSDDD. The study identifies strengths, gaps, and challenges in the adaptation process. A secondary research of case study approach illustrates how hospitality enterprises in different CEE countries adjust to evolving regulatory requirements and integrate due diligence measures into their business operations.

Findings reveal considerable variation in legislative readiness and enforcement mechanisms across the region. Some countries have proactively introduced due diligence requirements, while others face regulatory fragmentation, resource constraints, and weak enforcement structures. These disparities impact the hotel sector in multiple ways, influencing business strategies, stakeholder engagement, and investment priorities. Small and medium-sized enterprises (SMEs) in hospitality face additional barriers, as compliance obligations increase administrative burdens and financial pressures.

Despite these challenges, the study demonstrates that the CSDDD presents opportunities for hotel businesses in the CEE region to enhance transparency, strengthen risk management, and improve competitiveness in global markets. Policy recommendations highlight the necessity of harmonised regulatory frameworks, capacity/legislative deregulation initiatives (Omnibus), and financial support mechanisms that enable a seamless transition to compliance. Cross-border collaboration and knowledge-sharing platforms emerge as essential components for ensuring consistent and effective implementation across different jurisdictions. Additionally, industry-wide initiatives such as the World Sustainable Hospitality Alliance's Universal Sustainability Key Performance Indicators (KPIs) introduce standardised Environmental, Social, and Governance (ESG) metrics, equipping hospitality businesses with tools to measure and improve their sustainability performance. These KPIs assist hotels in benchmarking progress, aligning with global sustainability standards, and addressing evolving regulatory expectations. Furthermore, sustainability certifications such as Green Key and Good Travel Seal play a crucial role in enabling hotels to demonstrate their commitment to environmental and social responsibility. Achieving these certifications validates the commitment to brand credibility, attracts eco-conscious travellers, and secures a competitive advantage in an increasingly pro sustainability-driven market. Integrating universal ESG metrics with internationally recognised certifications allows hospitality businesses to increase their competitiveness, improve operational transparency, strengthen investor confidence and ensure compliance with evolving regulatory requirements.

Through a comparative perspective on regulatory preparedness and corporate adaptation, this study advances the discourse on sustainability governance within the hospitality industry. The findings provide actionable insights for industry and researchers, contributing to the development of a resilient, compliant, and competitive hotel sector in Central and Eastern Europe.

Keywords: Sustainability, Competitiveness, CSDDD, Hotel industry

1. INTRODUCTION

The European Union's push towards a sustainable future has gained significant momentum with the introduction of the Corporate Sustainability Due Diligence Directive (CSDDD) in 2022, coming into effect in 2024 and transposition in EU countries until 2026 (pre-Omnibus). This directive represents a significant shift in the regulatory landscape, imposing binding environmental, social, and governance requirements on large companies operating within the EU, with the aim of driving responsible business practices and transforming corporate sustainability commitments into tangible action (European Union, 2024). This ever-evolving sustainability landscape, also shaped by the EU's ambitious climate goals and the United Nations' Sustainable Development

Goals, has placed immense pressure on businesses to reevaluate their environmental and social impact (Álvarez-Risco et al., 2020). Within this context, the CSDDD emerges as a potentially transformative regulatory instrument, composed to redefine sustainability standards and practices across the European Union, with significant implications for businesses operating in the EU and as well in Central and Eastern Europe (CEE).

ESG criteria have become central to corporate strategy and reporting across Europe, driven by ambitious policies like the EU Green Deal. It sets the EU's overarching sustainability agenda, including the goal of climate neutrality by 2050, and has prompted a wave of legislation on corporate ESG disclosure and conduct. Key among these is the Corporate Sustainability Reporting Directive (CSRD), the proposed CSDDD, and the EU Taxonomy Regulation for sustainable activities.

For the methodological framework, a mixed-methods approach was used. It was designed to capture both the macro-level regulatory context and the micro-level industry responses within the CEE hospitality sector. The methodology is structured around two core components. A detailed comparative analysis and a secondary research-based, multiple short case study investigation. The comparative analysis forms the foundational layer, systematically dissecting the regulatory landscapes of four strategically selected Central and Eastern European nations (Hungary, Poland, the Czech Republic, and Austria). This analysis examines the national transposition of key EU sustainability directives, with a particular focus on the CSRD and the anticipated CSDDD. The comparative element will specifically scrutinise the nuances in national legislative approaches, identifying variations in the scope, stringency, and timelines of implementation, as well as the designated enforcement mechanisms within each country. This component relies on a comprehensive review of publicly accessible national legislation, official government policy documents, regulatory agency reports, and expert legal analyses to ascertain the degree of alignment with EU directives and the overall level of regulatory preparedness across the selected region.

Complementing this macro-level perspective, a multiple short case study approach is strategically employed to explore the practical realities of sustainability integration within the hospitality sector itself. Acknowledging the inherent limitations of primary data collection at this juncture, particularly concerning nascent CSDDD implementation and commercially sensitive due diligence practices, these case studies sensibly utilise secondary research methodologies. The core strategy here is to examine publicly available information pertaining to hotel sustainability certifications, notably Green Key, EU Ecolabel, Green Globe, and Good Travel Seal and to utilise these certifications as carefully considered proxies for the adoption of broader sustainability practices and the implementation of underlying ESG risk management processes within individual hotel operations. While fully recognizing that reliance on secondary data and proxy indicators presents certain analytical constraints, this approach is justified by the exploratory nature of the current research phase and the pragmatic need to derive initial insights from readily accessible sources. The case studies, therefore, will be critically analysed to discern patterns in certification uptake, identify common sustainability initiatives, and infer broader trends regarding the integration of ESG considerations within the operational strategies of CEE hospitality enterprises.

Crucially, the chapter will culminate in a comparative overview that synthesizes the findings from both methodological strands. This overview will contrast the regulatory preparedness identified through the legal analysis with the industry responses and trends observed in the case studies, highlighting both convergences and divergences across the four countries. Furthermore, the chapter will explicitly consider the role and potential application of standardised Key Performance Indicators (KPIs) for measuring and reporting ESG performance within the tourism and hospitality sector. Specifically, it will discuss the relevance and potential utility of frameworks such as the World Sustainable Hospitality Alliance's Universal KPIs, evaluating their suitability for adoption within the CEE context and exploring how such standardised metrics can facilitate greater transparency, comparability, and continuous improvement in sustainability performance across the region.

In due course, this integrated mixed-methods approach, combining rigorous legal analysis with insightful case study explorations, is designed to provide a comprehensive yet nuanced understanding of the evolving sustainability landscape within CEE hospitality, directly addressing the core research questions concerning comparative regulatory preparedness, industry adaptation strategies, and the pathways towards a more sustainable and resilient future for the sector.

2. ANALYSIS OF EU ESG FRAMEWORKS AND NATIONAL TRANSPOSITION IN CEE COUNTRIES

To summarise the status and unique elements of CSRD (and related frameworks) in each country, the table below provides a high-level comparison.

Table 1: CSRD and CSDDD Transposition Status as of December 2024.

Country	CSRD Transposition Status	Notable National Features	CSDDD (Due Diligence) Transposition Status
Hungary	Completed – ESG Act passed Dec 2023, effective Jan 2024	Unified ESG Act covering reporting + ESG service providers; thresholds in HUF (≈ EU sizes); supervisory authority designated (Ministry of Economy & SZTFH. Penalties to be set by decree.	Preparatory stage – Ministry of National Economy to draft; no timeline yet.
Poland	Completed – Legislation adopted Dec 2024, in force Jan 2025	Transposition aligns fully with CSRD; thresholds in PLN (slight variance from EUR). Raised threshold for "small" entities (~€7.5m assets) to limit scope. Enforcement via amended Accounting Act (fines for non-compliance).	No information published yet – will act once CSDDD is final. Expected by 2025–26 via amendment or new law.
Czech R.	Phase 1: The requirements for companies already reporting under the previous Non-Financial Reporting Directive (NFRD) were transposed and took effect on 1 January 2024. Phase 2: The extension of reporting obligations to the remaining in-scope companies is still pending. Full transposition is now expected later in 2025.	Under the current Phase 1 framework, the Czech approach applies only the minimum CSRD requirements with no significant gold-plating. The upcoming Phase 2 legislation is anticipated to align fully with the CSRD once adopted, though its final scope remains to be confirmed.	The Czech Ministry of Justice is developing a dedicated due diligence (CSDDD) draft law. The draft is expected to be finalized around mid-2025, although delays remain possible given the current political climate.
Austria	Pending – Draft law introduced, expected 2024/25 (missed Jul 2024 deadline)	Will amend Accounting/Audit Acts, using higher SME size thresholds (per Accounting Dir. Art 3(13)) to avoid overloading smaller firms. First CSRD reports due 2025. Transition clause exempts FYs starting before law effect.	No draft yet – anticipated post-2024 adoption of EU directive. Government committed to due diligence principles; likely implementation by 2026.

Source: Author's own table, information from (Accountancy Europe, 2025), (Ropes & Gray, 2025), (Wolf Theiss, 2024), (Linklaters, 2025), (Roedl, 2024), (Kinstellar, 2024a&b).

The countries in the region adhere to the common EU framework, but with variations in timing, scope, and enforcement. CSDDD implementation is significantly less advanced. Hungary's process is in the preparatory stage, with the Ministry of National Economy responsible for drafting, but no firm timeline established. Poland's position is to await the final EU directive before proceeding, with implementation expected by 2025-26 through legislative amendment or a new law. The Czech Republic is further along, with the Ministry of Justice drafting a dedicated due diligence law, expected to be finalized around mid-2025, though political factors may cause delays. Austria anticipates implementation after the EU directive's adoption, likely by 2026, demonstrating a commitment to due diligence principles (Accountancy Europe, 2025), (Ropes & Gray, 2025).

EU sustainability legislation provides a common framework, but each Member State transposes directives into national law with some variation. Below we detail the implementation of the EU Green Deal's related ESG reporting initiatives – notably CSRD, CSDDD, and the EU Taxonomy – in Hungary, Austria, Poland, and the Czech Republic.

A crucial observation is the incorporation of unique national elements. Hungary's unified ESG Act, and the adjustments of financial thresholds in both Hungary and Poland, illustrate this. These deviations highlight the flexibility afforded to member states during transposition ("gold-plating"), allowing for adjustments based on

national economic contexts (Accountancy Europe, 2025). It's also important to note that while not in full scope of this paper, but some countries like Belgium have limited the information required from SMEs in the value chain, others, such as Denmark have expanded on the CSRD scope. (Ropes and Gray, 2025).

2.1 Hungary

Hungary has formally aligned with the Green Deal's climate objectives. Notably, in 2020 Hungary passed a climate protection law committing to net-zero emissions by 2050. This national strategy (the "National Clean Development Strategy 2050") operationalises Green Deal goals domestically.

Hungary's comprehensive ESG Act (Act CVIII of 2023), enacted in December 2023 and effective January 2024, signifies a proactive stance, as the first comprehensive Hungarian law on corporate sustainability reporting. This unified act covers reporting and regulates ESG service providers, demonstrating a holistic approach. It integrates CSRD requirements into the national framework, mainly via amendments to the Accounting Act. It's noteworthy that the Hungarian legislation places specific emphasis on local subsidiaries of multinational corporations. Even if a foreign parent company produces a consolidated ESG report compliant with EU standards, Hungarian subsidiaries are not exempt from preparing and certifying their own reports locally. The Supervisory Authority for Regulated Activities (SZTFH) is designated to monitor and enforce ESG compliance in Hungary. The ESG Act consolidates various ESG obligations that were previously scattered in EU and domestic sources. It applies primarily to large companies (meeting two of the following: >HUF 10 billion total assets, >HUF 20 billion turnover, >250 employees) as well as certain SMEs of public interest (e.g. listed SMEs). In effect, formerly voluntary sustainability reporting becomes mandatory, using the European Sustainability Reporting Standards (ESRS) and "double materiality" assessments. Companies must publish an annual sustainability report alongside financial reports and obtain external assurance. Notably, Hungary's transposition slightly localises thresholds in forint and introduces a parallel domestic ESG regime: the ESG Act also covers ESG service providers (consultants, certifiers, rating agencies) through an accreditation system. Non-compliance can trigger fines (detailed penalty scales are to be set by decree). Overall, Hungary's approach "gold-plates" EU rules by unifying them under a single law and extending oversight to ESG-related services, aiming for coherent enforcement. (Schoenherr, 2024), (Wolf Theiss, 2024), (Hungary, Act No. 108 of 2023).

CSDDD, which will require large companies to conduct human rights and environmental due diligence, is not yet in force at EU level, but Hungary has begun preparations. It is expected that the Ministry of National Economy will draft the transposition, but as of early 2025 no concrete proposal or timeline is public. Hungarian companies therefore await further guidance, though large multinationals are advised to start reviewing their supply-chain due diligence in anticipation of the CSDDD (Kinstellar, 2024b).

The EU Taxonomy Regulation (an EU regulation, directly applicable) has been in effect in Hungary since 2020, requiring financial institutions and large public-interest companies to disclose the environmental sustainability of their activities. Under the new ESG Act/CSRD implementation, in-scope companies must report Taxonomy-aligned turnover, CapEx, and OpEx, a practice which Hungarian law explicitly supports. Indeed, Hungarian authorities have promoted sustainable finance, the National Bank of Hungary introduced green finance programs, and compliance with the EU Taxonomy and Sustainable Finance Disclosure Regulation is seen as part of the new reporting obligations. While no separate Hungarian law was needed (the Taxonomy is directly applicable), the national framework encourages companies in all sectors (including tourism) to classify their activities against the Taxonomy's criteria, improving transparency for investors (PwC Hungary, 2024).

2.2 Poland

Poland, as an EU member, is committed to EU climate and ESG goals, though it faces unique challenges due to its coal-dependent energy sector. The government has embraced the Green Deal objectives with caution. Poland's Energy Policy 2040 and other strategies aim for a fair transition, and the country ultimately endorsed the EU's 2050 climate neutrality target. Sustainable tourism is recognised in Poland's strategies, but the emphasis is often on balancing environmental goals with economic development (IEA, n.d.).

Poland's transposition, finalized in December 2024 and effective January 2025, aligns closely with the CSRD. One notable local tweak is the calibration of size thresholds, because the EU criteria are fixed in EUR, Poland's law sets them in PLN, yielding slight differences due to currency conversion. Moreover, Poland chose to raise the financial thresholds for the "small companies" category (likely referring to the exemption or simplified regime for small unlisted entities). The threshold for small undertakings was increased to ~PLN 34 million in assets and

PLN 68 million turnover (approx. €7.5m and €15m). This means slightly fewer Polish entities will be classified as large or medium, thereby focusing reporting duties on truly significant companies. The Polish implementation, an amendment to the Accounting Act, includes penalties for non-compliance (Linklaters, 2025). The reporting will be phased, Large public interest companies from 2024, large enterprise (over 250 employees and/or 50 million euro in turnover and/or 25 million euro in total assets) from 2025, listed SMEs from 2026. Enforcement provisions in Poland include fines for non-compliance as per the Accounting Act (updated to include sustainability reporting), these can involve financial penalties and public statements of non-compliance, ensuring companies take the new rules seriously (Roedl, 2024).

Poland has yet to transpose the CSDDD. The likely lead agency will be the Ministry of Economic Development and Technology or the Ministry of Justice (responsible for company law). As of now, Poland has not published any draft law or timeline for it. Given that many large Polish companies (and multinationals operating in Poland) will fall under CSDDD due to their size, this upcoming directive is on the radar of Polish business associations. It is expected that once the EU directive is final, Poland will move to adopt it, possibly by 2026, integrating it into national law on corporate due diligence or creating a dedicated act (Roedl, 2025).

The EU Taxonomy Regulation is directly applicable in Poland, influencing both financial institutions and corporates. Polish banks and investors are increasingly asking companies for Taxonomy-related data as part of lending and investment decisions. Under CSRD implementation, Polish companies in scope must report the proportion of their activities aligned with the Taxonomy's environmental objectives. Poland has shown support for sustainable finance via initiatives like the Polish Sustainable Finance Platform, which works on a roadmap aligning Poland's financial system with EU Taxonomy standards (Wardyński & Partners. 2024). For the tourism industry (hotels, travel companies) in Poland, this means that while there is no Poland-specific taxonomy, companies may benefit from aligning their operations (energy usage, building standards, etc.) with EU criteria to access green funding and meet investor expectations.

2.3 Czech Republic

The Czech Republic endorses the Green Deal goals, although implementation has been gradual. The Czech government's Climate Policy includes targets consistent with EU 2030 and 2050 commitments, and there's growing attention to sustainable tourism (e.g. eco-certifications for accommodations, promoting low-carbon travel). However, the transition is tempered by the Czech Republic's industrial economy and energy mix (Ministry of the Environment of the Czech Republic, 2021).

The Czech Republic has taken a two-phase approach to CSRD implementation, which unfortunately led to delays. Phase 1, effective January 2024, targets entities previously covered by the Non-Financial Reporting Directive (NFRD). Phase 2, extending to a broader range of companies, is anticipated later in 2025, with the legislative process currently underway amending existing legislation. The Czech authorities have outlined enforcement measures that are notably strict. The Tax Office is the supervisory authority, and fines for failing to prepare a sustainability report can reach up to 6% of the company's assets (and 3% of assets for other reporting offenses). These are substantial penalties, underscoring the Czech commitment to credible ESG reporting. The Czech Ministry of Finance initially planned for the second phase which amendments aim to fully align with CSRD and will remove any interim discrepancies (one minor difference so far was a broader definition of which insurance companies count as public-interest entities) to be transposed through the Accounting Act, but this has reportedly been delayed. Czech companies will rapidly need to comply, with the largest firms likely expected to publish CSRD-compliant reports by 2025 (covering FY 2024) or as soon as legally practicable (Kinstellar, 2024a).

The Czech Republic has started preparing for the due diligence directive. The Ministry of Justice is designated to lead the transposition, developing a draft act specifically for CSDDD compliance. Current plans suggest a draft could be ready by mid-2025. It is envisioned as a separate legislation with only minor tweaks to existing laws, meaning the Czech approach might be a standalone "Human Rights and Environmental Due Diligence Act". However, this timeline is uncertain, especially with parliamentary elections on the horizon which may interrupt the legislative process. For now, Czech companies await clarity, though many are aware of the need to start mapping supply chain risks in anticipation (Kinstellar, 2024a).

The EU Taxonomy is in force in Czechia and affects companies and financial market participants similarly as elsewhere in the EU. Under existing Czech law, companies that had to do non-financial reporting (and soon those under CSRD) must report Taxonomy alignment for environmental objectives. The Czech National Bank and capital markets regulator have encouraged ESG transparency, and Czech businesses seeking investment are mindful that

investors look at Taxonomy-aligned revenue and spending. There is no additional Czech-specific taxonomy regulation (EY 2024). The government and industry bodies have been educating companies (including those in tourism) on how to apply the EU's taxonomy criteria – for instance, a hotel chain measuring what portion of its building refurbishments qualify as "sustainable investments" under the Taxonomy. This common EU framework thus penetrates the Czech market through the reporting obligations and sustainable finance incentives.

2.4 Austria

Austria strongly supports the Green Deal and has set even more ambitious climate targets nationally. The government's programme targets climate neutrality by 2040, a decade ahead of the EU's 2050 goal. Policies under the Austrian "#mission2030" and other initiatives align with EU objectives on renewable energy, emissions reduction, and sustainable tourism development (Austrian Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology, 2024.)

Austria implemented the prior Non-Financial Reporting Directive (NFRD) via the 2017 Sustainability and Diversity Improvement Act. The CSRD's broader requirements, however, missed the July 2024 transposition deadline, making Austria one of 17 Member States to receive a formal notice from the European Commission for delay. While a draft law ("Nachhaltigkeitsberichtsgesetz" - NaBeG) is under political consultation, the original July 2024 deadline has been missed. Austria's approach largely mirrors the CSRD, with some adjustment of thresholds. The local law plans to utilise the higher financial thresholds for defining "small and medium-sized undertakings" allowed by the EU Accounting Directive. In practice, this means slightly higher cut-offs in EUR for determining which companies must report, to avoid overburdening smaller firms (Ropes & Gray, 2025). During the legislative transition, Austria also included a provision that if a company's financial year began before the new law's effective date in 2024, it would be exempt from CSRD-based reporting for that year. First CSRD reports are anticipated for 2025, applying to financial years beginning after the law's enactment. Enforcement will be handled through updates to the Accounting Act, Auditing Act, and Companies Act, with penalties likely similar to existing financial reporting fines (Austria is expected to set sanctions to meet the CSRD's "effective, proportionate and dissuasive" standard). As of this analysis, Austrian companies know that from the 2025 reporting cycle (covering FY 2024 for large entities), sustainability reports aligning with ESRS will be required, bringing Austria fully into line with EU standards (ICLG, 2025).

Given Austria's proactive stance on sustainability, the government is anticipated to integrate CSDDD obligations (on human rights and environmental due diligence in supply chains) into national law possibly via an amendment to existing corporate or human rights legislation. However, no official draft exists yet, and Austria's implementation will likely coincide with the EU's timeline (expected transposition by 2026). Companies operating in Austria, especially large tourism enterprises sourcing internationally, should begin aligning with the forthcoming due diligence requirements (Schoenherr, 2025).

As an EU regulation, the Taxonomy applies directly in Austria. Austrian companies that fall under CSRD/NFRD have already been disclosing their alignment with the Taxonomy's climate objectives since 2022. Austria's financial market regulator (FMA) and stock exchange have provided guidance to ensure that investors receive Taxonomy data. Additionally, Austria's national sustainable finance roadmap encourages firms to improve their Taxonomy alignment to attract green investments (DLA Piper, n.d.). The tourism sector in Austria, being significant, is also touched by Taxonomy indirectly. For example, hotel developers seeking green loans must show that new buildings meet Taxonomy climate criteria. While no separate national law is needed, Austria supports the Taxonomy through policy, reinforcing that sustainable tourism operations (e.g. energy-efficient hotels, eco-friendly transport services) will be favoured in financing and reporting.

2.5 Omnibus Package

Moreover, the recently proposed and EU Commission accepted Omnibus I package (2025) introduces measures that ease some of the compliance burdens. For instance, the Omnibus proposal raises thresholds and delays effective compliance dates for certain companies, meaning that only larger companies (e.g. those with over 1,000 employees and higher turnover) will be immediately required to meet the full set of obligations. It also streamlines reporting requirements, reducing the number of data points and simplifying administrative processes which may enable hospitality businesses to reallocate resources toward innovation, efficiency improvements, and sustainable practices. In essence, while the CSDDD does impose significant operational and financial demands, it simultaneously opens a pathway for the hospitality sector to enhance its sustainability

credentials, secure its operational resilience, and achieve a competitive advantage in a rapidly evolving market. This dual approach of compliance and strategic transformation could ultimately bolster the sector's long-term growth and global positioning. With many fragmented criticism and favour in place, the decision is due to the upcoming EU Parliament vote on the Omnibus I package late 2025 (European Commission, 2025)

3. HOSPITALITY SECTOR OVERVIEW IN SCOPE OF CSDDD

The hospitality sector represents one of the most globally interconnected and economically significant industries, contributing substantially to employment, GDP, and international trade. However, this sector's reliance on complex supply chains and subcontracting arrangements makes it particularly susceptible to sustainability-related challenges. In this context, the CSDDD will place the hospitality industry under intensified scrutiny, with firms required to address human rights violations, environmental degradation, and governance gaps throughout their operational ecosystems (Mares, 2024).

A defining characteristic of the hospitality industry is its extensive use of outsourcing for services such as housekeeping, catering, and maintenance. These outsourced functions often involve subcontractors operating in precarious labour markets, where working conditions may fall short of international standards (Mak, 2022). Furthermore, the prevalence of franchising models in the sector compounds the challenge of regulatory compliance, as franchisors typically exert limited direct control over the employment practices and sustainability policies of franchisees (Vandorpe & Raedschelders, 2024). The CSDDD addresses this issue by extending due diligence obligations to encompass third-party business relationships, effectively holding parent companies accountable for the practices of their affiliates and subcontractors (Elshof, 2024).

Labour-related vulnerabilities within the hospitality sector are particularly pronounced in regions where informal employment is widespread. Seasonal work, a hallmark of the industry, often results in temporary contracts with limited legal protections for employees. This employment model increases the risk of exploitative practices, such as wage theft, inadequate health and safety measures, and a lack of grievance mechanisms. The CSDDD mandates that companies implement accessible grievance mechanisms and ensure that workers in their supply chains have avenues for reporting abuses without fear of retaliation (Sampaio, Sebastião, & Farinha, 2024). This requirement aligns with international labour standards, including those set by the International Labour Organization reinforcing the directive's commitment to social justice (ILO, 2023).

Environmental sustainability is another critical dimension of the CSDDD's relevance to the hospitality industry. Hotels, resorts, and conference centres are major consumers of energy and water, contributing significantly to carbon emissions and resource depletion. The directive obliges firms to develop and implement climate transition plans, which must include concrete targets for emissions reduction, waste management, and sustainable resource use (World Resources Institute, 2024). For example, initiatives such as the installation of energy-efficient systems and the adoption of renewable energy sources have become integral to meeting these targets. However, achieving compliance requires substantial upfront investments in infrastructure and technology, presenting financial challenges, particularly for smaller operators (McKinsey & Company, 2023).

The directive's focus on transparency and stakeholder engagement requires a cultural shift within the hospitality industry. Companies need to go beyond performative sustainability efforts and demonstrate genuine accountability through active stakeholder involvement in decision-making processes. This involves consulting local communities affected by large-scale tourism developments and addressing concerns related to land use, biodiversity, and cultural preservation (Dempere et al., 2024). Firms that actively engage with stakeholders not only enhance their compliance posture but also strengthen their reputations as socially responsible entities.

However, the hospitality sector's global footprint introduces regulatory fragmentation as a significant challenge. International hotel chains often operate across multiple jurisdictions with varying legal standards for environmental protection and labour rights. The CSDDD aims to harmonize standards through a unified regulatory framework applicable to all EU-based companies, regardless of their operational locations. However, firms must carefully navigate complex legal landscapes to maintain compliance while avoiding conflicts with local regulations or disruptions to business operations (Schwartz, 2023). For example, disputes over the definition of "reasonable due diligence" in cross-border contexts have already prompted legal debates about the directive's extraterritorial reach (Dibra, 2024).

Despite these challenges, the CSDDD presents an opportunity for the hospitality sector to lead in sustainable business practices. Adopting strong due diligence frameworks enhances operational resilience, reduces reputational risks, and strengthens relationships with customers who increasingly value ethical consumption.

Moreover, compliance with the directive serves as a competitive differentiator, positioning companies as leaders in ESG performance. The shift towards sustainability also fosters innovation and quality, encouraging firms to explore new business models and technologies to meet regulatory requirements (Illés & Szuda, 2024).

Thus, the implications for the hospitality sector reach far beyond a mere ticking the box exercise. Given the sector's complex and globally intertwined supply chains, the directive pushes companies to rethink not only how they manage compliance but also how they embed social responsibility, environmental stewardship, and stakeholder inclusivity into their core strategies. In doing so, it creates a framework that -if embraced proactively- can drive long-term value creation and resilience. One notable opportunity lies in enhanced competitiveness.

Hospitality firms, through the adoption of thorough due diligence practices, will construct strong risk management systems. These systems will serve not only to mitigate potential human rights and environmental risks, but also to differentiate these firms within a marketplace where sustainability considerations are increasingly prioritized by both consumers and investors. A proactive stance in this area will likely translate into a demonstrably stronger brand reputation, creating greater customer loyalty and facilitating improved access to capital markets. Furthermore, comprehensive due diligence procedures, once implemented, will enable hospitality businesses to proactively identify and address potential vulnerabilities throughout their entire value chain. This process will encompass a thorough assessment of suppliers, contractors, and other business partners, ensuring alignment with internationally recognized human rights and environmental standards. Through this approach, companies will be better positioned to prevent and remediate any adverse impacts associated with their operations, consequently safeguarding their long-term viability and resilience, thus their competitiveness.

4. CASE STUDIES OF SUSTAINABILITY INTEGRATION IN CEE HOSPITALITY

While explicit, in-depth case studies detailing CSDDD-specific due diligence risk management processes are still relatively scarce in the publicly available hospitality literature, the growing adoption of internationally recognized sustainability certifications provides valuable insights. Certifications such as LEED, EU Ecolabel, Green Globe, Good Travel Seal, and Green Key are not merely badges of honour; they represent a commitment to comprehensive sustainability management systems. These systems inherently require the identification, assessment, mitigation, and monitoring of environmental and social risks, effectively laying the groundwork for the more formalized due diligence processes mandated by the CSDDD. The following short case studies, therefore, examine the uptake of such certifications and related initiatives as indicators of broader risk management practices within the hospitality sector.

4.1 Hungary case study

The Hungarian hospitality sector is witnessing a significant shift towards sustainability, driven by a proactive adoption of green certifications and innovative operational changes. The authors examined five hotels – Minaro Hotel Tokaj, Hotel Palota InterContinental, InterContinental Budapest, Crowne Plaza Budapest, and Marriott Courtyard Budapest – showcasing varied yet converging paths towards environmental and social responsibility. Green Key certification is a common thread, adopted by four of the hotels, signalling an industry-wide commitment to core sustainable practices encompassing energy and water conservation, waste management, and responsible sourcing. Hotel Palota Lillafüred elevates this trend, achieving Gold-level Good Travel Seal, demonstrating exceptional performance across environmental, social, and economic sustainability, highlighting a holistic approach. InterContinental and Sheraton Plaza Budapest further exemplify deep commitment with dual Green Globe and Green Key certifications, showcasing long-standing dedication exceeding single certification requirements.

Beyond certifications, tangible actions demonstrate genuine commitment. Minaro Hotel Tokaj, nestled in a wine region, prioritizes biodiversity with bee-friendly planting and beehives. Hotel Palota Lillafüred, a historic landmark, blends heritage with sustainability through energy-efficient upgrades and local sourcing, evidenced by its Good Travel Seal Gold. InterContinental Budapest showcases comprehensive sustainability reporting and implements energy-saving systems and local sourcing, supported by dual certifications. Crowne Plaza Budapest emphasizes waste management, local produce, and utilizes IHG's Green Engage for energy reduction, also backed by dual certifications. Marriott Courtyard Budapest's Green Key certification adds to the widespread adoption of baseline sustainability standards.

Collectively, these hotels demonstrate a powerful trend towards sustainable tourism in Hungary. Certifications act as main drivers, prompting concrete initiatives tailored to each hotel's context. This diverse adoption of

certifications and actions illustrates a flexible approach to sustainability, showcasing a growing awareness of the hospitality sector's role in a more responsible future, with certifications acting as important proxies for due diligence and risk management practices.

4.2 Poland case study

The Polish hospitality sector is increasingly recognizing the strategic value of sustainability, moving beyond basic compliance to embrace it as a core business principle. This case study highlights two leading Polish hotels, Sheraton Grand Krakow and Crowne Plaza Warsaw - The HUB, each demonstrating a unique yet effective pathway to integrating sustainability into their operations. Located in Poland's key urban centres, these hotels showcase how international certifications and strategic corporate programs are driving tangible progress towards a more responsible and resilient hospitality industry.

Sheraton Grand Krakow exemplifies a focused approach, leveraging Green Key certification as the bedrock of its environmental stewardship. This certification is not merely a symbolic badge; it signifies a demonstrable commitment to minimizing environmental impact across vital operational areas. For Sheraton Grand Krakow, Green Key translates to concrete actions: actively reducing energy and water consumption through specific technologies and practices; implementing comprehensive waste minimization programs and prioritizing the use of eco-friendly cleaning products. Furthermore, the hotel's emphasis on sourcing local and organic food underscores a commitment to sustainable supply chains. Green Key certification, in this context, serves as a verifiable marker of the Sheraton Grand Krakow's proactive environmental risk management, demonstrating a systematic approach to minimizing its ecological footprint and aligning with broader sustainability principles.

Crowne Plaza Warsaw - The HUB, in contrast, embodies a more broadly integrated sustainability strategy, anchored by its participation in IHG Green Engage. This corporate program provides a structured framework for continuous environmental improvement, guiding the hotel's sustainability journey. Beyond the systematic approach of IHG Green Engage, Crowne Plaza Warsaw - The HUB also distinguishes itself through its culinary philosophy, actively emphasizing the incorporation of sustainable ingredients into its menus. This commitment to responsible sourcing extends its sustainability efforts beyond operational efficiency into the realm of guest experience and supply chain responsibility. While Sheraton Grand Krakow emphasizes certification as a core demonstration of environmental action, Crowne Plaza Warsaw - The HUB showcases a more encompassing, strategy-driven approach, utilizing IHG Green Engage and sustainable cuisine as main pillars. Both hotels, in their distinct yet complementary ways, are contributing significantly to the advancement of sustainable hospitality in Poland, illustrating that diverse strategies can effectively drive progress towards a more environmentally and socially responsible sector.

4.3 Czech Republic case study

Prague's hospitality sector is increasingly distinguished by its embrace of environmental sustainability, with a notable trend towards adopting rigorous ecolabels as markers of genuine commitment. This case study highlights two Prague hotels, Best Western Hotel Moráň and The Julius Prague, which exemplify this movement through the use of prominent certifications to showcase their commitment to responsible practices. These hotels not only improve their own environmental performance but also strengthen Prague’s reputation as a destination that prioritizes and promotes sustainable tourism.

Best Western Hotel Moráň stands as a pioneering example, achieving a significant milestone in 2023 by becoming the first hotel in Prague to earn the prestigious EU Ecolabel. This EU-wide certification is not easily attained; it signifies a deep and independently verified commitment to minimizing environmental impact across a hotel's operations. For Best Western Hotel Moráň, the EU Ecolabel represents concrete achievements in key environmental areas: demonstrably efficient water management through specific technologies and practices; a verified reduction in CO_2 emissions, potentially through renewable energy integration and energy efficiency measures; a commitment to utilizing renewable energy sources where feasible; and a proactive approach to minimizing food waste throughout its operations. The EU Ecolabel, in this context, signifies a comprehensive and rigorously assessed commitment to environmental excellence, positioning Best Western Hotel Moráň as a leader in Prague's sustainable hospitality landscape.

The Julius Prague further reinforces this positive trend, earning Green Key certification in 2024. Green Key, a globally recognized ecolabel, provides a well-established framework for hotels to demonstrate their commitment to responsible environmental management. For The Julius Prague, Green Key certification signifies a holistic

approach to sustainability, encompassing essential operational areas. A commitment to enhancing energy efficiency through various measures; a focus on water conservation strategies throughout the hotel; the implementation of responsible waste management practices, including recycling and waste reduction; a dedication to sustainable sourcing of products and services; and initiatives to actively engage guests in their sustainability efforts, promoting a culture of environmental awareness. Through its Green Key certification, The Julius Prague demonstrates a broad-based commitment to responsible hospitality, complementing Best Western Hotel Moráň's EU Ecolabel leadership and further solidifying Prague's reputation as a city where sustainable tourism is gaining significant momentum. Together, these two hotels illustrate how ecolabels are not merely symbolic, but are powerful drivers of real environmental improvements and crucial signals of genuine sustainability commitment within Prague's evolving hospitality sector.

4.4 Austria case study

Austria's hospitality sector distinguishes itself as a global leader in sustainable tourism, driven by a deeply ingrained commitment to environmental stewardship and a widespread embrace of rigorous ecolabels. This case study highlights five Austrian examples, Retter Bio-Natur-Resort, Hotel Stadt Kufstein, Hotel Henriette, Schick Hotels Group, BIO HOTELS label, demonstrating diverse yet converging paths towards exceptional environmental performance, with ecolabels and carbon neutrality as prominent markers of their leadership.

Retter Bio-Natur-Resort epitomizes Austria's pioneering spirit in sustainable hospitality. Achieving both the Austrian Eco-label and the international Green Globe Certification, Retter has consistently set benchmarks for environmental excellence. Its remarkable 97% compliance score in a 2022 Green Globe re-audit underscores a deeply embedded commitment to sustainability across all operations. Furthermore, Retter's official Carbon Neutral Hotel status, attained in 2022, positions it as a frontrunner in climate action, achieved through a comprehensive strategy encompassing 100% green electricity, regional and organic food sourcing, and robust waste reduction programs. Retter Bio-Natur-Resort’s journey demonstrates a holistic and long-term dedication, showcasing a business model where sustainability is not an add-on, but a core operating principle.

Hotel Stadt Kufstein further exemplifies Austria's widespread adoption of ecolabels, achieving dual Austrian and EU Ecolabel recognition in 2023. This significant accomplishment highlights the hotel's commitment to meeting both national and European environmental standards, emphasizing concrete actions in waste reduction, energy and water conservation, and renewable energy use. Hotel Stadt Kufstein’s membership in Sleep Green Hotels, as the first Austrian hotel to join, further solidifies its dedication to providing eco-friendly accommodations within a network of like-minded sustainable establishments.

Schick Hotels and Hotel Henriette showcase the established tradition of ecolabel commitment within Austria. Schick Hotels' Austrian Eco-label certification, applied across their hotel group, signifies a systematic integration of sustainable practices throughout their portfolio. Hotel Henriette, achieving EU Ecolabel certification as early as 2014, demonstrates a long-standing and pioneering dedication to sustainability. BIO HOTELS, with their core principle of environmentally friendly energy concepts, further diversify Austria’s sustainable hospitality landscape, highlighting a specific focus on minimizing energy impact. Together, these Austrian examples, from Retter's holistic carbon neutrality to the widespread ecolabel adoption across diverse hotel types, illustrate a sector deeply committed to environmental responsibility, using certifications and ambitious goals as important drivers and transparent markers of their sustainable leadership.

4.5 Standardization for a Sustainable Future - The World Sustainable Hospitality Alliance's Universal KPIs

Recognizing the imperative for sector-wide sustainability and the need for consistent measurement, the World Sustainable Hospitality Alliance has spearheaded the development and launch of Universal Sustainability Key Performance Indicators (KPIs). This case study examines this pivotal initiative, focusing on the collaborative development process, the initial wave of environmental KPIs, and the far-reaching benefits these standardized metrics offer to consumers, corporate travellers, and Online Travel Agencies (OTAs), paving the way for a more transparent and accountable hospitality sector globally (Sustainable Hospitality Alliance, 2024a&b).

The creation of the Alliance's Universal KPIs was not a top-down imposition, but rather a meticulously crafted, industry-led endeavour. Recognizing that effective sustainability standards require broad acceptance and practical applicability, the Alliance embarked on a comprehensive and inclusive development process. This began with a rigorous benchmarking phase, meticulously reviewing existing sustainability metrics already in use across

the hospitality landscape and in related sectors. This ensured alignment with prevailing global ESG trends and guaranteed the KPIs' direct relevance to the unique operational characteristics of hotels and broader hospitality businesses. Crucially, stakeholder engagement was central to the KPI development. The Alliance actively solicited input from a diverse spectrum of industry stakeholders through targeted surveys and in-depth interviews. This inclusive approach ensured that the perspectives of hotel operators of varying sizes and types, industry associations, sustainability experts, and technology providers were all considered and incorporated into the KPI framework. To further ensure broad consensus and practical applicability, the proposed KPIs underwent a rigorous validation process. Stakeholders participated in a formal voting process, allowing them to directly influence the final selection and definition of the Universal KPIs. This democratic validation stage was instrumental in achieving industry-wide buy-in and guaranteeing that the resulting metrics were both meaningful and readily implementable across the diverse global hospitality sector. Finally, to ensure data accuracy and comparability, the Alliance committed to utilizing established and respected methodologies for data collection. Notably, the Hotel Carbon Measurement Initiative (HCMI) and the Hotel Water Measurement Initiative (HWMI), already widely recognized within the industry, were selected as foundational methodologies. This strategic choice ensures that data collected using the Universal KPIs will be consistent, verifiable, and directly comparable across different hotels and regions, raising genuine transparency and accountability.

The initial launch of the Universal KPIs strategically focuses on environmental metrics, recognizing the pressing need for the hospitality sector to address its environmental footprint and contribute to global climate goals. This first wave of KPIs provides a foundational set of standardized measurements for key environmental impact areas: Greenhouse Gas (GHG) Emissions, Water Consumption, Energy Usage, and Waste Management. The GHG Emissions KPI offers a comprehensive measure of a hotel's carbon footprint, encompassing total CO_2 equivalent emissions across Scope 1, 2, and 3. This broad scope ensures a holistic assessment of carbon impact, including both direct operational emissions and indirect emissions from the supply chain. The Water Consumption KPI assesses water intensity by tracking total water consumption, measured in litres. This metric is crucial for addressing water scarcity concerns and promoting efficient water use, particularly in water-stressed regions. The Energy Usage KPI evaluates energy intensity based on total energy consumed, measured in megawatt-hours (MWh), alongside a critical supplementary metric: the share of renewable energy used. This dual approach encourages both energy efficiency and a transition towards cleaner energy sources. Finally, the Waste Management KPI calculates the percentage of waste diverted from landfills, aligning with established guidelines set by the Global Business Travel Association (GBTA). This metric promotes circular economy principles and encourages hotels to minimize landfill waste through recycling, composting, and waste reduction initiatives. Importantly, to ensure meaningful comparisons and contextualized performance assessment, these environmental KPIs will utilize standardized denominators: guest nights and/or occupied room counts. This intensity-based measurement allows for fair comparisons between hotels of different sizes and occupancy rates, providing a level playing field for evaluating environmental performance.

The Universal KPIs are designed to empower a range of stakeholders, beginning with consumers and corporate travellers. For individual consumers, these standardized metrics offer the power of informed choice. Access to transparent and comparable sustainability data enables consumers to actively select hotels that align with their personal values and environmental consciousness. This transparency builds trust in hotels' sustainability claims, moving beyond potentially vague marketing language to provide verifiable data. Ultimately, as hotels strive to improve their performance against these publicly available KPIs, consumers benefit from enhanced services and a demonstrable commitment to responsible tourism practices throughout the sector. For corporate travellers, the Universal KPIs provide a crucial tool for aligning travel choices with corporate sustainability goals. Companies with ESG targets can readily identify accommodations that meet their organization's specific sustainability criteria, streamlining compliance with corporate travel policies and simplifying the process of selecting responsible travel options. The standardized nature of the KPIs also allows corporate travel managers to generate accurate and consistent reports on the environmental impact of their organization's travel footprint, fulfilling increasing demands for ESG reporting and accountability. Furthermore, the inherent operational efficiencies often associated with sustainable practices can translate into tangible cost savings for corporate clients, creating a win-win scenario where sustainability and economic benefits are aligned.

Online Travel Agencies (OTAs), as fundamental intermediaries in the hospitality booking process, can gain significant advantages from adopting Universal KPIs. These metrics enable OTAs to improve hotel listings, making them more appealing to the growing segment of eco-conscious travellers through the prominent display of properties that demonstrate a strong commitment to sustainability based on standardized data. Integrating search functionality that allows users to filter hotels according to sustainability ratings and KPI performance

enhances the booking experience, meeting the increasing demand for ethical and environmentally responsible travel options. Beyond improving user experience, Universal KPIs offer OTAs valuable data-driven insights into hotel sustainability performance across their platforms. Evaluating hotel performance against these standardized metrics helps OTAs identify market trends, assess consumer preferences for sustainable accommodations, and develop a deeper understanding of the evolving sustainability landscape within the hospitality industry. Perhaps most importantly, active adoption and promotion of Universal KPIs position OTAs as key drivers of industry-wide sustainability standards. Highlighting and rewarding hotels with strong sustainability performance encourages broader adoption of responsible practices across the hospitality sector, strengthening the industry's reputation and adopting a more transparent and ethical marketplace.

The introduction of the World Sustainable Hospitality Alliance's Universal Sustainability KPIs represents a watershed moment in the industry's journey towards genuine and measurable sustainability. This structured framework provides hotels with a clear roadmap for tracking and improving their environmental performance, while simultaneously empowering consumers, corporate travellers, and OTAs with the information needed to make informed and responsible choices. Enhancing transparency, promoting standardization, and encouraging continuous improvement position the Universal KPIs as a powerful catalyst for change, steering the hospitality sector toward a more sustainable and resilient future. The continued expansion of KPIs beyond the initial environmental focus to include social and governance metrics will further strengthen this framework's role in achieving long-term sustainability goals and transforming the hospitality industry into a truly responsible global participant.

4.6 Analysis and Discussion

The preceding case studies, while employing secondary research and leveraging sustainability certifications as indicative proxies, collectively illuminate several compelling trends shaping the landscape of sustainable hospitality within Central and Eastern Europe. These trends underscore a sector undergoing a significant transformation, driven by a confluence of regulatory pressures, evolving stakeholder expectations, and a growing recognition of the intrinsic business value of environmental and social responsibility.

Firstly, a heightened awareness of ESG risks is undeniably taking root across the CEE hospitality sector. This is not merely lip service to trending concepts, but a discernible shift in operational priorities and strategic thinking. As evidenced across Hungary, Poland, the Czech Republic, and Austria, hotels are increasingly recognizing that ESG factors are not peripheral concerns, but rather core elements impacting long-term viability and competitiveness. This burgeoning awareness is catalysed by a potent combination of factors. Regulatory drivers, most notably the imminent CSDDD and the ongoing implementation of the CSRD, are compelling hotels to proactively address sustainability risks and enhance transparency. Investor expectations are also playing an increasingly significant role, with financial institutions and investment funds globally incorporating ESG performance into their decision-making processes. Furthermore, evolving consumer demand for sustainable tourism options is becoming a powerful market force. Eco-conscious travellers are increasingly seeking out hotels that demonstrably align with their values, making sustainability a crucial differentiator in a competitive market.

Secondly, the case studies reveal a growing recognition of the critical importance of supply chain risk management. While explicit, granular details on CSDDD-specific due diligence processes related to supply chains remain somewhat limited in publicly available sources, the emphasis on certifications that inherently require responsible sourcing and robust supplier engagement strongly suggests that this area is gaining significant traction. Certifications like Green Key, Green Globe, Good Travel Seal, and the EU Ecolabel all incorporate criteria related to responsible procurement, pushing hotels to consider the environmental and social impacts embedded within their supply chains. For instance, requirements around sourcing local and organic food, utilizing eco-labelled cleaning products, and ensuring ethical labour practices within supplier networks are becoming increasingly prevalent within certification frameworks. This focus on responsible sourcing is not merely about ticking boxes for certifications; it represents a nascent but growing understanding within the CEE hospitality sector that effective ESG risk management necessitates extending due diligence beyond the hotel's direct operations to encompass its entire value chain – a crucial precursor to full CSDDD compliance.

Thirdly, a clear trend emerges towards proactive implementation of data collection and reporting systems for environmental and social performance. This is driven, in part, by the reporting requirements of the CSRD, which mandates increased transparency on sustainability metrics for larger companies. However, the case studies suggest that the impetus extends beyond mere regulatory compliance. Hotels are recognizing that robust data collection is not only essential for reporting but also for effective internal risk management and operational

optimization. The increasing adoption of digital technologies further facilitates this trend. Energy management systems, waste tracking platforms, and supplier due diligence tools are becoming more commonplace within the CEE hospitality sector. These digital solutions enable hotels to streamline data collection, enhance monitoring capabilities, and gain real-time insights into their environmental and social performance. This data-driven approach not only supports CSRD reporting requirements but also empowers hotels to identify areas for improvement, track progress over time, and make informed decisions to enhance their sustainability performance and mitigate ESG-related risks more effectively.

It is crucial to acknowledge that the presented case studies, while insightful, represent the early stages of a longer-term sustainability transition within the CEE hospitality sector. The reliance on secondary research and the use of certifications as proxies for comprehensive due diligence practices inherently limit the depth of analysis. While the adoption of sustainability certifications is undoubtedly a positive and encouraging indicator, it does not automatically equate to full and complete compliance with the specific and potentially more granular due diligence requirements of the CSDDD. Certifications, while robust, often focus on broader sustainability management systems, whereas the CSDDD will likely demand more specific and demonstrable due diligence processes, particularly concerning human rights and environmental risks within complex global supply chains.

Furthermore, the case studies reveal a predominant current focus on environmental sustainability. Certifications like Green Key, EU Ecolabel, and Green Globe, while often incorporating social elements, are heavily weighted towards environmental criteria. The initial wave of the World Sustainable Hospitality Alliance's Universal KPIs also focuses exclusively on environmental metrics. This emphasis on environmental aspects is understandable, given the hospitality sector's significant environmental footprint and the long-standing history of environmental certifications within the industry. However, as the CSDDD comes into effect, and as societal expectations around corporate social responsibility continue to evolve, it is anticipated that the focus will progressively broaden to encompass social and governance factors more comprehensively. Future sustainability initiatives and reporting frameworks will likely need to place greater emphasis on social due diligence, human rights, labour rights, and ethical governance practices within the hospitality sector.

Finally, while not explicitly detailed in every case study, the importance of training and education for hotel teams emerges as a crucial enabling factor for successful sustainability integration. Implementing new technologies, adopting new operational practices, and effectively managing ESG risks all require a workforce that is knowledgeable, engaged, and empowered to contribute to sustainability goals. Investing in training programs, nurturing a culture of sustainability awareness among staff, and empowering employees to champion sustainable practices within their respective roles will be essential for the CEE hospitality sector to fully realize its sustainability ambitions and effectively navigate the evolving regulatory and market landscape.

In closing, these case studies provide a valuable snapshot of the current state of sustainability integration within the CEE hospitality sector. They highlight significant progress in ESG risk awareness, a growing focus on supply chain responsibility, increasing adoption of data-driven approaches, and a strong initial emphasis on environmental sustainability, often demonstrated through certification schemes. However, they also underscore that this is an ongoing journey. Further research, particularly primary data collection through direct engagement with hotels and industry stakeholders, will be crucial to gain a more granular understanding of the specific challenges and opportunities that lie ahead as the CEE hospitality sector strives for full sustainability integration and prepares for the comprehensive due diligence demands of the CSDDD. The foundation is being built, and the direction of travel is clearly towards a more responsible and resilient future for hospitality in Central and Eastern Europe.

5. CONCLUSIONS

The implementation of sustainability regulations across Hungary, Poland, the Czech Republic, and Austria presents a fascinating case study in the complexities of harmonizing EU directives within diverse national contexts. While all four nations are bound by the overarching goals of the European Green Deal and the specific requirements of the CSRD and the forthcoming CSDDD, their approaches, timelines, and enforcement mechanisms reveal a nuanced picture of both convergence and divergence.

The most striking observation is the spectrum of implementation strategies. Hungary emerges as a frontrunner, having proactively enacted the comprehensive ESG Act (Act CVIII of 2023). This legislation is not merely a transposition of the CSRD; it's a bold step beyond, encompassing ESG service providers and, crucially, mandating local reporting for subsidiaries of multinational corporations. This "gold-plating" of EU rules, as law firm

Schoenherr (2024) terms it, signals a strong commitment to domestic accountability, potentially setting a precedent for other member states. It suggests that Hungary views sustainability reporting not just as a compliance exercise, but as a core element of responsible corporate governance.

Poland, in contrast, presents a more pragmatic, perhaps even cautious, approach. While fully compliant with the CSRD through amendments to its Accounting Act, Poland's calibration of size thresholds in PLN and the elevation of thresholds for "small companies" reveal a deliberate effort to focus reporting burdens on larger entities. This might reflect a concern about the potential administrative strain on smaller businesses, a consideration particularly relevant in an economy with a significant SME sector. It also subtly highlights the practical challenges of translating Euro-based EU directives into national contexts with different currencies and economic scales.

The Czech Republic's journey is characterized by a two-phased approach to CSRD implementation, marked by some delays. This phased rollout, while ultimately aiming for full alignment, suggests a more incremental adaptation process, perhaps reflecting internal legislative complexities or resource constraints. The significant penalties for non-compliance (up to 6% of assets), however, send a clear signal that the Czech Republic takes ESG reporting seriously, despite the implementation hurdles. This contrast of a phased approach with stringent enforcement highlights the tension between facilitating adaptation and ensuring accountability.

Austria, traditionally a leader in environmental policy, presents a somewhat paradoxical situation. Having missed the CSRD transposition deadline, Austria is now playing catch-up, with the draft "Nachhaltigkeitsberichtsgesetz" (NaBeG) under consultation. This delay, despite Austria's ambitious national climate targets (climate neutrality by 2040), underscores that even environmentally progressive nations can encounter legislative bottlenecks. It also highlights the importance of administrative capacity and efficient legislative processes in translating policy goals into concrete legal frameworks.

Despite these divergent approaches to the CSRD, the EU Taxonomy Regulation provides a common thread, acting as a directly applicable framework for assessing the environmental sustainability of economic activities across all four countries. This shared baseline is crucial for creating a level playing field and facilitating cross-border comparisons. Similarly, all four nations acknowledge the importance of sustainable tourism, albeit with varying degrees of emphasis and policy integration.

The forthcoming CSDDD, with its focus on due diligence in supply chains, represents the next frontier in sustainability governance. Here, the level of preparedness varies considerably. Hungary, again, appears to be in a relatively strong position, with its existing ESG Act already touching upon due diligence principles. However, the absence of a formal draft CSDDD-specific law indicates that substantial work remains. The Czech Republic's proactive planning for a standalone CSDDD law suggests a commitment to a clear and dedicated legal framework, although the timeline remains uncertain. Poland and Austria, on the other hand, are in a more nascent stage of preparation, with no concrete legislative steps yet taken. This divergence in CSDDD readiness highlights the potential for future inconsistencies in implementation across the region, potentially creating challenges for businesses operating across multiple jurisdictions.

For the hospitality sector in the CEE region, this evolving regulatory landscape presents a complex mix of challenges and opportunities. The CSRD reporting requirements will primarily impact larger hotel chains and listed hospitality SMEs, demanding significant investments in data collection, analysis, and reporting systems. The administrative burden, particularly for smaller businesses, should not be underestimated. The CSDDD, however, will have a far more pervasive impact, extending the scope of responsibility to encompass the entire supply chain. This will necessitate a fundamental shift in how hotels approach procurement, requiring them to actively assess and mitigate human rights and environmental risks associated with their suppliers.

This increased scrutiny, however, is not without its benefits. Proactive engagement with sustainability can enhance a hotel's brand reputation, attracting the growing segment of environmentally and socially conscious travellers. This represents a significant competitive advantage in an increasingly discerning market. Moreover, aligning with sustainability regulations, particularly the EU Taxonomy, can unlock access to green financing and attract investors seeking sustainable investment opportunities. Hotels that can demonstrate a genuine commitment to sustainability, verified through robust reporting and adherence to internationally recognized standards, will be well-positioned to thrive in this evolving landscape.

The integration of universal ESG metrics, alongside certifications like Green Key and Good Travel Seal, provides a pathway for hotels to not only demonstrate compliance but also to showcase their commitment to a broader sustainability agenda, building trust with consumers, investors, and stakeholders alike. In essence, the regulatory push towards sustainability, while demanding in the short term, presents a long-term opportunity for the CEE

hospitality sector to enhance its resilience, competitiveness, and overall contribution to a more sustainable future. The key lies in proactive adaptation, strategic planning, and a willingness to embrace sustainability not as a burden, but as a core business principle.

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Personnel Management Aspects in Case of AI Presence in Telecommunication Company

Laura Kersule[1] Biruta Sloka[2] Iluta Skruzkalne[3]

[1]University of Latvia / Faculty of Economics and Social Sciences, Candidate for PhD, e-mail: Laura.Kersule@lmt.lv, ORCID:

[2]University of Latvia / Faculty of Economics and Social Sciences, Professor and Leading Researcher, e-mail: Biruta.Sloka@lu.lv, ORCID: 0000-0003-2129-053X

[3]Riga Stadins University / Statistics Laboratotry, Assistant Professor and Researcher, e-mail: Iluta.Skruzkalne@rsu.lv, ORCID: 0009-0004-1763-4218

Abstract: Many companies especially with important and quick information technologies development in the situation of AI presence need to develop strategies in personnel management to keep in company skilled specialists and motivate them for further professional development. Aim of the paper: prepare recommendations on possible applications of scientific research for personnel management in telecommunication company. Research methods applied: scientific pubications analysis, survey of employees in telecommuniccation, survey data analysis with descriptive statistics indicators (indicators of central tendency or location, indicators of variability or dispersion), factor analysis, regression and correlation analysis. Results indicate that specific factors are affectying personnel motivation in telecommunication company.

Key Words: Personnel Motivation, Telecommunications, Management Support

1. INTRODUCTION

In scientific publications a lot of attention is devoted to research where companies world-wide especially with important and quick information technologies development in the situation of AI presence need to develop strategies in personnel management to keep in company skilled specialists and motivate them for further professional development. Aim of the paper: prepare recommendations on possible applications of scientific research for personnel management in telecommunication company. Research methods applied: scientific pubications analysis, survey of employees in telecommuniccation, survey data analysis with descriptive statistics indicators (indicators of central tendency or location: aritmetic mean, median, mode, indicators of variability or dispersion: range, standard deviation, standaer error of mean), hypotheses testing by t-test and analysis of variance – ANOVA, factor analysis, regression and correlation analysis.

2. LITERATURE REVIEW

Employees motivation is on research agenda world-wide with special attention to telecommunications as one of the most important factors for competitive production and service offers (Kumah,, et al, 2019; Yen, et al, 2022; Eseme Gberevbie, 2010). New techmology developments including application of AI are on research agenda (Aseeva, et al, 2022) where a lot of attention is devoted to personnel costs management. Deep analysis of situation in European Union (Mallik, 2023) indicate possible solutions and development in telecommunication sector's personnel management. Critical success factors are indicated (Mendoza, et al, 2007; Paasivaara, Lassenius, 2014) to realise reasonable and competitive management. Researchers (Ajupov, et al, 2016) have investigated how to apply motivation theories for economic problems solutions.

3. EMPIRICAL RESEARCH RESULTS

After survey of telecommunoicaltion personnel with 1098 respondents on Their evaluations of 26 different factors which motivate them work with dedication and satisfaction. Evealuation scale was used 1 – 7, where 1 – not satisfied; 7 – fully satisfied. It was used one of the most often used multivariate analysis methods – factor analysis with varimax rotatio and as result from 26 initial factors in 8 iterations there were extracted five complex factors and authors named them I – good and clear management; II – working conditions and organization; III – team organization and feedback; IV – company contribution to employees well-being; V – recognition by monetary support and possibility for promotion. Deeper analysis in this paper was devoted to complex factor – recognition by monetary support and possibility for promotion which consistes from initial factors: a) Competitive salary; b) Premiums on individual achievements; Opportunities for promotion (career

opportunities). To examine in detail evaluations by respondents it was used analysis od descrittive statistics – main results are included in table 1.

Table 1. Main indicators of descriptive statistics

Statistical indicators		Competitive salary	Premiums on individual achievements	Opportunities for promotion (career opportunities)
N	Valid	608	608	608
	Missing	0	0	0
Mean		5,75	4,98	4,40
Standard Error of Mean		0,052	0,083	0,070
Median		6	6	4
Mode		7	7	4
Standard Deviation		1,278	2,056	1,735
Range		6	6	6
Minimum		1	1	1
Maximum		7	7	7

Source: Authors calculations

Data of table 1 indicate that very high evaluations were for competitive salary with arithmetic mean of evaluations 5,75, mode 7 and median 6. The differences of evaluations on those analysed factors are for this factor. Distribution of evaluations on significance of competitive salary is included in table 2.

Table 2. Distribution of evaluations on “competitive salary”

Evaluations		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - do not agree	4	0,7	0,7	0,7
	2	14	2,3	2,3	3,0
	3	19	3,1	3,1	6,1
	4	52	8,6	8,6	14,6
	5	121	19,9	19,9	34,5
	6	192	31,6	31,6	66,1
	7 - fully agree	206	33,9	33,9	100,0
	Total	608	100,0	100,0	

Source: Authors calculations

Distribution of evaluations on significance of premiums on individual achievements is included in table 3.

Table 3. Distribution of evaluations on “of premiums on individual achievements”

Evaluations		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - do not agree	77	12,7	12,7	12,7
	2	31	5,1	5,1	17,8
	3	28	4,6	4,6	22,4
	4	66	10,9	10,9	33,2
	5	83	13,7	13,7	46,9
	6	138	22,7	22,7	69,6
	7 - fully agree	185	30,4	30,4	100,0
	Total	608	100,0	100,0	

Source: Authors calculations

Distribution of evaluations on significance of opportunities for promotion (career opportunities) is included in table 4.

Table 4. Distribution of evaluations on "of opportunities for promotion (career opportunities)"

Evaluations		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - do not agree	42	6,9	6,9	6,9
	2	62	10,2	10,2	17,1
	3	62	10,2	10,2	27,3
	4	146	24,0	24,0	51,3
	5	114	18,8	18,8	70,1
	6	103	16,9	16,9	87,0
	7 - fully agree	79	13,0	13,0	100,0
	Total	608	100,0	100,0	

Source: Authors calculations

Table 5. Distribution of evaluations on analysed factors by gender

Sex		Competitive salary	Premiums on individual achievements	Opportunities for promotion (career opportunities)
Female	Mean	5,80	5,19	4,46
	N	289	289	289
	Std. Deviation	1,262	2,032	1,770
Male	Mean	5,71	4,78	4,35
	N	319	319	319
	Std. Deviation	1,294	2,061	1,703
Total	Mean	5,75	4,98	4,40
	N	608	608	608
	Std. Deviation	1,278	2,056	1,735

Source: Authors calculations

Table 6. Main statistical indicators on evaluations on analysed factors by gender

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Competitive salary	Female	289	5,80	1,262	,074
	Male	319	5,71	1,294	,072
Premiums on individual achievements	Female	289	5,19	2,032	,120
	Male	319	4,78	2,061	,115
Opportunities for promotion (career opportunities)	Female	289	4,46	1,770	,104
	Male	319	4,35	1,703	,095

Source: Authors calculations

Table 7. Main statistical indicators on testing hypothesis on differences of evaluations on analysed factors by gender with t-test

Analysed aspects	Variances	Levene's Test for Equality of Variances		T-test for equality of means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Competitive salary	Equal variances assumed	,539	,463	,905	606	,366	,094	,104
	Equal variances not assumed			,906	602,723	,365	,094	,104
Premiums on individual achievements	Equal variances assumed	,879	,349	2,504	606	,013	,416	,166
	Equal variances not assumed			2,506	601,689	,012	,416	,166

Opportunities for promotion (career opportunities)	Equal variances assumed	,626	,429	,821	606	,412	,116	,141
	Equal variances not assumed			,820	594,814	,413	,116	,141

Source: Authors calculations

Data indicate that for all analysed aspects there are significant differences on evaluations by gender.

Table 8. Distribution of evaluations on analysed factors by age groups

Age groups		Competitive salary	Premiums on individual achievements	Opportunities for promotion (career opportunities)
18 – 25	Mean	6,03	5,68	5,15
	N	71	71	71
	Std. Deviation	1,265	1,593	1,555
26 – 40	Mean	5,70	4,94	4,43
	N	368	368	368
	Std. Deviation	1,328	2,101	1,747
41 – 50	Mean	5,81	4,77	4,03
	N	112	112	112
	Std. Deviation	1,119	2,189	1,684
51 – 62	Mean	5,57	4,77	4,04
	N	53	53	53
	Std. Deviation	1,264	1,877	1,664
More than 62	Mean	6,00	4,50	4,00
	N	4	4	4
	Std. Deviation	,816	1,915	2,160
Total	Mean	5,75	4,98	4,40
	N	608	608	608
	Std. Deviation	1,278	2,056	1,735

Source: Authors calculations

Table 7. Results of ANOVA on analysed factors by age groups

Analysed factor	Variance	Sum of Squares	df	Mean Square	F	Sig.
Competitive salary	Between Groups	8,855	4	2,214	1,358	,247
	Within Groups	983,145	603	1,630		
	Total	992,000	607			
Premiums on individual achievements	Between Groups	43,271	4	10,818	2,585	,036
	Within Groups	2523,359	603	4,185		
	Total	2566,630	607			
Opportunities for promotion (career opportunities)	Between Groups	63,972	4	15,993	5,472	,000
	Within Groups	1762,303	603	2,923		
	Total	1826,275	607			

Source: Authors calculations

Survey results analysis indicate that there are significant differences on analysed factors by age groups except evaluations on opportunities for promotion (career opportunities) – there the differences in evaluations are not statistically different.

Results indicate that specific factors are affectying personnel motivation in telecommunication company. Among them by factor analysis from 26 initial factors using varimax rotation were extracted 5 complex factors:

I – good and clear management

II – working conditions and organization

III – team organization and feedback

IV – company contribution to employees well-being

V – recognition by monetary support and possibility for promotion.

Data indicate that for all analysed aspects there are significant differences on evaluations by gender.

Survey results analysis indicate that there are significant differences on analysed factors by age groups except evaluations on opportunities for promotion (career opportunities) – there the differences in evaluations are not statistically different.

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Latvian exporting companies to consider West African markets

Ludmila Lozova[1] **Biruta Sloka**[2]

[1] PhD cand., University of Latvia, Faculty of Social Sciences and Economics, 5, Aspazijas blvd, Riga, LV-1050, Latvia. Correspondence: ludmila@ludmilalozova.lv; ORCID: 0009-0001-6582-1518

[2] Dr. oec., prof. University of Latvia, Faculty of Social Sciences and Economics, 5, Aspazijas blvd, Riga, LV-1050, Latvia. Correspondence: biruta.sloka@lu.lv; ORCID: 0000-0003-2129-053X

Abstract: Present article aims to study a West African market potential for Latvian exporting companies. Specific countries had been selecting for this purpose, based on criteria of competitiveness and accessibility of potential Latvian products on these markets. It had been discovered, that existing Latvian export to West African French-speaking countries with big seaports had shown significant results during 2024. It has been also enlightened the developed context of EU-Africa bilateral commercial relations, as well as Latvian governmental support and diplomatic presence for Latvian entrepreneurs, willing to export to West Africa. Final studies showed a high potential for Latvian companies to explore West African markets and the necessity to seriously consider this opportunity.

Keywords: West Africa, production sector, Latvia, export, new market

1. INTRODUCTION

Export as important part of economic development of any country has special attention by academic researchers world-wide with deep analysis of several aspects. Aim of the paper is to study a potential of West African markets for Latvian exporters. The reason of such nature of question is due to demand of Latvian producers of new exporting directions such as African region may be. Tasks of the paper concern to analyse background of EU-African commercial cooperation and bilateral relations, as well as to suggest Latvian exporting companies to consider West African market's potential. Applied research methods: scientific publications analysis, EU regulative documents analysis, tendencies analysis of export of Latvia with special attention to metal industry.

2. THEORETICAL BACKGROUND

Africa is a very diversified continent, that consists of 55 countries that is not homogenic at all, and lot of studies had been done to understand grouping principles (Lovejoy, et al., 2019) by ethnographic methods, ethno-linguistic, historical documents (e.g., "Voyages: The Trans-Atlantic Slave Trade Database" by P.D.Curtin, 1969) and other. Researchers in most cases divide it in 5 vast and general regions (Rodríguez-Pose, et al., 2022):

-Northern Africa and Red Sea region: mostly The Maghreb countries (Egypt, Libya, Tunisia, Algeria, Morocco, Mauritania), and also Sudan and Eritrea that are along Red Sea coast and had historical connections with Arab Peninsula;

-Western Africa involves French-speaking Senegal, Guinea, Côte d'Ivoire, Togo, Benin, Cameroon, Gabon, Congo (Brazzaville), Western-Centrally located Democratic Republic of Congo (DRC), English-speaking Gambia, Guinea-Bissau, Sierra Leone, Liberia, Ghana, Nigeria, Equatorial Guinea and Portugal-speaking Angola;

-Central Africa mostly for Western Interior (cut off the sea) countries – Mali, Burkina Faso, Niger and Central Interior countries like Chad, Central African Republic;

-Eastern Africa for mostly English-speaking Ethiopia, Somalia, Kenya, Uganda, Rwanda, Tanzania, Malawi, Zambia, Zimbabwe, French-speaking cut of the sea small Burundi and Portugal-speaking Mozambique;

-and Southern Africa including all English-speaking countries like Namibia, Botswana and South Africa (partially based on Lovejoy, et al., 2019).

Cooperation between Europe and Africa had been promoted since years 1960s when lot of African countries gained their independences. There exist different types of organizations acting as bilateral relations development instruments: EU-Africa Chambers of Commerce and Business Councils, mostly forming commercial relations between specific EU countries and African regions:

EU-Africa Chambers of Commerce and Business Councils, mostly forming commercial relations between specific EU countries and African regions:

- The European Business Council for Africa (EBCAM). Its purpose to connect investors and operators in Africa as a non-profit organisation (AISBL), based in Belgium;
- The Swedish- East African Chamber of Commerce (SWEACC). Its purpose to support sustainable business and investment opportunities in East Africa;
- The Norwegian-African Business Association (NABA). Explores opportunities for investment and partnership;
- Corporate Council on Africa. Focuses on forging Strong U.S.-Africa Business Connections for Sustainable Growth;
- French Council of Investors in Africa (CIAN). Brings together industrial and service companies, large groups or SMEs-SMIs, for doing business and investing in Africa;
- Club of Monegasque Entrepreneurs in Africa (CEMA) (Monaco-based companies). Strengthens the links, focusing on solutions between Monaco – Africa.

Cooperation between Europe and Africa is also supported and facilitated by lot of different EU and international agreements, roadmaps and other collective documents, most commonly known are the following:

- ACP-EU Partnership Agreement also known as "Cotonou Agreement". Intends Equality of partners, global participation, dialogue and regionalisation, period: 2000-2020;
- The Samoa agreement. It represents framework for EU relations with the members of the Organisation of African, Caribbean and Pacific States (OCAPS), period: 2024-2044;
- Different Economic Partnership Agreements (EPA) between EU and African, Caribbean and Pacific (ACP) countries. Its main aim relies in trade facilitation, yet specific regions are periodically changing. Currently following regions are implementing EPAs: Central Africa – Cameroon; Eastern and Southern Africa (ESA)
  - Comoros, Madagascar, Mauritius, Seychelles and Zimbabwe; East African Community; Southern African Development Community (SADC) – Botswana, Eswatini, Lesotho, Mozambique, Namibia, South Africa; West Africa - Côte d'Ivoire and Ghana. Implementation period – depends on each agreement;
- EU Emergency Trust Fund for Africa (EUTF). For stability and addressing root causes of irregular migration and displaced persons in Africa, since 2015 (Valletta Summit on Migration);
- AU-EU Innovation Agenda. Its goal to enhance cooperation in science, technology and innovation, period: 2021-2031.

However, some of scholars (Bouët, et al., 2018) indicate existing problems with mentioned agreements, particularly with EPAs, saying that the negotiations took much time than expected, because some parts of it were criticized by local governments. Or Netherlands researchers, announcing that local African organizations failed to form coherent coalitions during their negotiations about EPAs with EU (Krapohl, 2020) that shows still lot of open questions in EU-Africa bilateral trade.

3. LATVIA – AFRICA COOPERATION

As mentioned above, Africa is a very diversified and vast continent, that requires a “distillation” of countries for cooperation in order to avoid misfocus. For this process a filter of following criteria had been applied:

- First filtered upon the criteria of language: only French-speaking countries had been chosen.

  Different studies show the high relationship between language ability and export promotion of export managers (Williams, et al., 2004) s by that approaching French-speaking African countries at their mother tongue may serve as competitive advantage for Latvian firms. 3 regions had been filtered upon this requirement: Northern, West and Central Africa;

- Second, criteria of the access to the sea and developed ports. Latvian port terminals and marine infrastructure are traditionally very strong and well-developed, and also Latvian port engineers as well as technicians and producers of related equipment to the ports. This is a good business-match for African French-speaking countries with big seaports as there Latvian products and services may be

potentially used, applied and very highly demanded. Besides, ports play a central role in Africa's trade – over 80% of Africa's foreign trade passes through them (Seka Aba, 2017). It had been stated that from 3 regions only 2 have seacoast line: Northern and West Africa's countries, Central Africa is excluded from further discussion;

- Third, country's openness to new players. It appeared that Northern Africa's business still works a lot with French companies and cooperation between these France and The Maghreb is strongly supported – that signified a big difficulty for Latvian producers to enter these regions with such strong competition with old European networks. However, West Africa's countries are more progressing towards change of old power relationships and are more open for non-colonial partners such as Latvian. By that, only West Africa's countries are taken for the following studies.

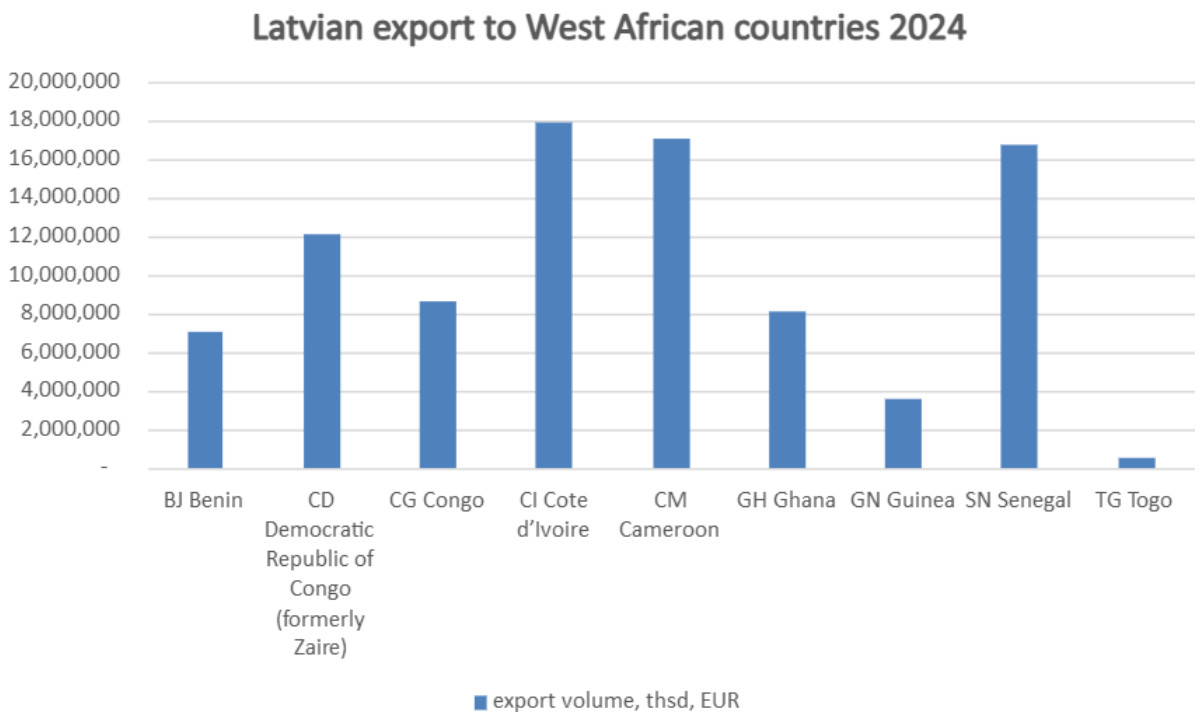
After mentioned filtering principle following 9 countries are recommended to Latvian entrepreneurs as exporting directions:

1. Senegal
2. Guinea
3. Ivory Coast
4. Togo
5. Benin
6. Cameroon
7. Gabon
8. Congo (Brazzaville)
9. Democratic Republic of Congo (DRC)

Regarding the support of Latvian exporting companies by state – some following initiatives and organizations mentioned: one of main roles, connecting business actors is by Latvian Chamber of Commerce and Industry (LCCI) – currently there doesn't exist a separate Latvian-African Chamber, yet LCCI under its general activities, organizes also some Africa-focused events (webinars, trade missions, informative events). Investment and Development Agency of Latvia (LIAA) is another important state actor in promoting export of Latvian entrepreneurs. Agency looks forward to develop alternative markets for Latvian producers and are regularly organizing informative events like seminars, trade missions, state visits to target countries and opportunity to participate in target market's expos. In general, Ministry of Foreign Affairs of Latvia has only 1 embassy in African continent – in Egypt, 3 honorary consuls (in The Maghreb countries and in Ghana) and in reverse - 1 honorary counsel of Benin located in Riga. Diplomatic missions only of 26 countries (from 55 on African continent) are covering Latvia but none of them is located in Riga, mostly they resid in Warsaw, Stockholm, Berlin and Hague. Latvian diplomatic presence in target countries of the West Africa is almost none: no embassies, only few diplomatic missions and no honorary consuls of Latvia in these countries and in reverse only Benin's consul in Latvia (based on the information updated the 13.11.2024) (Ministry of Foreign Affairs of Latvia, 2024).

Latvian export to selected West African countries had been quite significant during 2024: export to Ivory Coast, Cameroon and Senegal had shown results over 16 Mio Euro each country (see Figure 1). Second biggest export directions amongst selected countries was Democratic Republic of Congo (DRC).

Figure 1. Latvian export to West African French-speaking countries with big seaports, 2024



Source: Construction and calculations by authors based on Official Statistics Portal of Republic of Latvia database data ATD0801

Data indicate that Latvian export in West African French-speaking countries with big seaports is advancing, lot of deals had been closed during 2024, yet more commercial activities still needed to be promoted as there is a huge potential for Latvian products in this region.

4. WEST AFRICA POTENTIAL FOR LATVIAN EXPORTERS

The rise of African continent is highlighted a lot both in local internal African publications and news, and in different worldwide international sources. Such potential is explained differently by different experts: due to extremely high and young population, due to richness of natural resources, due to accumulated experience since years 1960s since gained independencies, etc. Currently, lot of European businesses and policies are underlining an importance of cooperation with African partners. Latvia in this regard has very good position due to its high competencies and well-educated professionals (especially in engineering and marine industry fields), what can become a demanded service and products to be proposed to West-African countries with big seaports.

CONCLUSIONS

Developed export plays an important role in any country economy. Many researchers world-wide are studying different aspects of increase of export with special attention to topics of export promotion, diversification and export support activities.

It has been discovered that Africa is a very diversified continent with old historical relations with EU states and nowadays EU-Africa bilateral cooperation links are well-established, supported by multiple regulatory documents and trade-facilitating agreements;

Latvian companies are recommended to follow proposed “distillation” principle to focalise its activity only on

one specific and more potential region: West-African French-speaking countries with big seaports;

Performed analysis showed that Latvian governmental institutions and agencies are empowering local business to consider African export direction as potential one for future development, yet lot of things still needed to be done in regard of diplomatic relations, trade supporting activities, intercultural communication development.

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The Period of Environmental Control in Moldova: A Comparative Analysis of Global Regulatory Practices

Luminița DIACONU[1]

[1]PhD candidate, lecturer at The Academy of Economic Studies of Moldova, lumidiaconu74@gmail.com, ORCID ID:0000-0002-6736-6344

Abstract: Aim: This paper examines the Period of Environmental Control in Moldova, analyzing its effectiveness, regulatory framework, and enforcement mechanisms. It provides a comparative assessment of Moldova's environmental governance with global counterparts, identifying strengths, weaknesses, and potential areas for improvement. The study aims to highlight regulatory gaps and suggest policy recommendations for enhancing environmental control measures

Methodology: The research employs a comparative legal analysis, examining Moldova's environmental legislation, institutional frameworks, and enforcement mechanisms against best practices from various countries. A mixed-method approach is used, incorporating:

- Legal analysis of Moldova's environmental laws and international agreements.
- Case studies from countries with advanced environmental control mechanisms, such as the EU, the USA, and China.
- Quantitative assessment of environmental performance indicators, enforcement efficiency, and pollution trends.
- Stakeholder interviews with policymakers, environmental agencies, and experts to evaluate practical challenges and implementation gaps.

Discussions and Results: The findings reveal that Moldova's environmental control period has undergone significant legislative reforms, but enforcement remains weak due to institutional limitations, financial constraints, and corruption risks. Compared to countries with stronger environmental governance, Moldova lags in monitoring mechanisms, public participation, and compliance incentives. The study identifies key areas where Moldova can adopt international best practices, particularly in:

- Strengthening regulatory enforcement and penalties for environmental violations.
- Enhancing transparency and public engagement in environmental decision-making.
- Adopting technology-driven monitoring for pollution control.
- Aligning with EU environmental standards to improve compliance and accountability.

Conclusions: Moldova's Period of Environmental Control represents a critical phase in its environmental policy development, yet significant gaps persist in implementation and enforcement. By learning from global best practices and adopting stronger legal frameworks, governance structures, and monitoring systems, Moldova can improve its environmental control mechanisms and sustainability efforts. The study concludes with policy recommendations for enhancing Moldova's environmental governance, emphasizing the need for institutional capacity-building, stricter enforcement policies, and cross-border cooperation.

Keywords: Environmental Control, EU Environmental Standards, Sustainability, Environmental Compliance

INTRODUCTION

Environmental control is a fundamental mechanism for ensuring compliance with environmental regulations and mitigating the negative effects of industrial and economic activities on ecosystems. The effectiveness of environmental control depends on multiple factors, including the regulatory framework, institutional capacity, enforcement mechanisms, and the duration of inspections.

Moldova, like many developing countries, faces significant challenges in environmental governance, particularly in monitoring compliance with environmental regulations. The period allocated for environmental control inspections in Moldova is limited to five working days, as per national legislation. This restriction raises concerns about the efficiency and thoroughness of environmental inspections, particularly when compared with global best practices.

This paper provides a comparative analysis of the period of environmental control in Moldova, examining its effectiveness, limitations, and potential for improvement. By comparing Moldova's environmental control framework with practices in Germany, the United States, China, Canada, and Australia, this study identifies gaps

and opportunities for reform, ultimately recommending policy changes to enhance the country's environmental governance.

LITERATURE REVIEW

Environmental control and regulatory enforcement have been widely studied in the context of environmental governance, compliance strategies, and sustainable development. Some research highlights the importance of inspection duration, enforcement frequency, and regulatory flexibility in achieving effective environmental oversight (Duțu, 2015; Boutonenet, 2008). The European Union's environmental regulatory framework, particularly Directive 2010/75/EU on industrial emissions, emphasizes regular and unannounced inspections to ensure compliance (European Commission, 2020). Studies have demonstrated that longer inspection periods, coupled with strict penalties, lead to higher compliance rates and better environmental outcomes (Brun, 2005). Research on the U.S. Environmental Protection Agency (EPA) suggests that risk-based inspections improve efficiency by prioritizing high-risk facilities while maintaining periodic monitoring for lower-risk sites (Suhanov, 2010). Similarly, China's intensive environmental inspection campaigns have resulted in significant reductions in industrial pollution (Nicolau, 2010). Comparative studies indicate that flexibility in inspection periods, integration of technology in monitoring, and strict enforcement mechanisms are key factors in successful environmental governance. This literature review provides a foundation for analyzing Moldova's regulatory framework in the context of global best practices.

METHODOLOGY

This research employs a comparative legal analysis, integrating qualitative and quantitative methods to evaluate the effectiveness of environmental control mechanisms. The methodology includes:

1. Legal Analysis: Examination of Moldova's Law on Environmental Protection and Control (Law No. 86/2020) and other relevant legislative acts to assess existing regulatory limitations.
2. Case Studies: Analysis of environmental control periods in Germany, the United States, China, Canada, and Australia to identify best practices.
3. Quantitative Assessment: Evaluation of environmental performance indicators, enforcement efficiency, and trends in pollution control across different regulatory frameworks.
4. Stakeholder Interviews: Discussions with environmental policymakers, enforcement agencies, and experts to assess practical challenges and implementation gaps in Moldova's environmental control system.

The study's findings provide insights into the shortcomings of Moldova's current framework and outline potential solutions based on international experiences.

It is generally accepted that environmental authorities are prohibited from conducting multiple on-site environmental inspections on the same subjects within the same time period. Consequently, a prerequisite for safeguarding the natural functioning of enterprises, including those engaged in activities related to the utilization of natural resources and other environmental components, is the imposition of limitations on the total number of environmental inspections conducted within a specified time frame. This is due to the fact that any inspection can limit or hinder the operations of an entity. Article 22 of the Law on State Control stipulates that, irrespective of the grounds invoked and the type of control, the control may not be carried out and the delegation of control is no longer valid after five working days from the date of commencement of the control. The management of the control body may extend this period by a further five working days on the basis of a reasoned decision, which may be contested by the person subject to the control. The environmental legislation does not provide for another time limit for carrying out the environmental inspection, nor does it provide for different grounds for suspending the deadline for environmental control or implementing a separate framework of activities.

It is our opinion that the on-site environmental control may not exceed the reasonable time required to achieve its objectives. It is not possible to assert that the public authority has not conducted a check to ascertain any potential violation of environmental legislation, merely due to the expiration of the stipulated deadline. Consequently, the issue that arises pertains to the question of whether the inability of the environmental

authority to disclose a violation of environmental legislation due to the lapse of the designated control deadline would provide a legitimate justification for subsequent instances of pollution.

This is a rhetorical question, and the solution is to exceed the application of the rules on the time limit for environmental control from the provisions of the Law on State Control. Adjustment of the legislative framework in this case is necessary, and certain conditions should be imposed, such as:

● Firstly, the deadline for on-site ecological control should be extended on the basis of a decision act which contains the grounds for the extension, with each extension limited to a period of five days.

● Secondly, the implementation of the eco control program should be suspended if expertise or other research requires a temporary period.

The grounds and procedure for the extension of the deadline for carrying out an on-site environmental check, although by law they are laid down by the decision of the environmental authority, the effects of challenging this decision are not, however, provided for by law. In particular, the law does not regulate whether or not the control is suspended when the extension decision is challenged, nor does it specify whether such a challenge is to be resolved within a shorter time-limit or by whom. This situation arises because the extension of the control period by 5 days, if the control is not suspended when it is contested, will mean that the extended control will in fact take place during the extended period and the challenge will usually remain unexamined, because the authority against which the challenge is lodged has more than 5 days to react to the challenge.

● Suspension of on-site environmental on-site control. In addition to the act of extending the control period, the environmental control authority also has the opportunity to suspend the control. As a result, both the control acts and the time limit for carrying out the control are automatically suspended.

There may be reasons for suspending the environmental inspection:

● the occurrence of the need to request documents to be submitted by other authorities, and this requires additional time;

● the occurrence of the need to obtain information from foreign governmental or non-governmental bodies, according to international acts to which the Republic of Moldova is a party, and which have direct relevance to the subject matter subject to control;

● the carrying out of expert opinions that impose a deadline;

● the need to submit for translation, the documents submitted by the beneficiary of the use of environmental resources, which it holds in a language other than the state language.

The suspension of on-site environmental control in the event of a request for documentation may only be applied for a maximum of once per individual. The duration of the suspension of on-site environmental control is contingent upon the actions of the relevant environmental authorities that have become necessary during the period of suspension. Consequently, the control is suspended by the control authority for the period during which the documentation was requested.

Consequently, during the period of suspension, the environmental control authority is prohibited from receiving explanations from the beneficiary of the use of environmental resources, and from conducting other control activities, such as questioning employees of the beneficiary subject to environmental control.

Concurrently, the environmental body retains the prerogative to undertake actions beyond the territorial jurisdiction (premises) of the beneficiary of the utilization of environmental resources, provided that such actions are not associated with the request for documentation from the beneficiary or the control process itself. Moreover, the beneficiary of the utilization of environmental resources is obligated to furnish the environmental control authority with the documents requested prior to the imposition of the suspension of the regulatory procedures.

It is imperative to acknowledge that the legislator retains the prerogative to stipulate limitations for the duration of the suspension of environmental control, which may not exceed a span of one or two months, or any greater period.

However, it is necessary to analyze the rationality of operating such a regulation, given that the actual period during which suspension will be necessary is unknown. This could be a month or two, but it could be longer. Moreover, the length of this period will be justified by objective necessity, and it is the view of the present author

that formalism has no place in such a situation. It is not appropriate to institute terms merely for the sake of doing so.

In such circumstances, the period of suspension of inspection may be extended indefinitely, provided that the conditions under which the suspension ceases are clearly defined. It is the view of the legislator that it is imperative to establish the consequences of the termination of the suspension, which, it is posited, is the termination of the suspension by operation of law. This approach is predicated on the premise that the individual subject to such oversight should not be prejudiced during the course of the oversight, while concomitantly ensuring that the oversight authority is held accountable in fulfilling its obligations. It is noteworthy that the array of reasons for the extension of the oversight period is extensive, and consequently, the legislator entrusts the oversight authority with the prerogative to invoke these reasons. This approach is founded on the principle of "uncertainty in the beneficiary's perception of the use of environmental resources".

The position of the environmental control body on the extension of the time limit may be recognized as justified if the carrying out of an environmental control is motivated on the need to carry out additional verification of mutual settlements between persons, who participated in the transactions of sale of deposits or other natural resources, which would be the subject of control already carried out by another person.

At the same time, the decision to extend the environmental inspection, once it does not indicate the documents that are not submitted by the beneficiary of the use of environmental resources, does not indicate the serious reason for extending the term of control or for its suspension, as well as the reasons, why the environmental control body did not have the objective possibility to obtain them in advance or by other means, it is obvious that such a decision cannot be effective.

DISCUSSIONS

In our opinion, the above position is justified in view of the need to respect the rights and interests of the beneficiaries of environmental use, but also to ensure stability in the relations between the State and economic operators.

In addition, when an on-site environmental control is suspended, the duration of its implementation, i.e. the period of time for which the control authority cannot carry out effective control activities, as well as the possible realization of any acts of a control nature, which would ensure the control process when it is resumed, are not taken into account when adopting the report, i.e. from the moment of its suspension.

However, it is necessary to analyze the rationality of operating such a regulation, given that the actual period during which suspension will be necessary is unknown. This could be a month or two, but it could be longer. Moreover, the length of this period will be justified by objective necessity, and it is the view of the present author that formalism has no place in such a situation. It is not appropriate to institute terms merely for the sake of doing so.

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The Period of Environmental Control: A Comparative Analysis with Other Countries

One of the key aspects of environmental control is the period allocated for conducting inspections and compliance assessments. In Moldova, environmental control inspections cannot exceed five (5) working days, (Law No. 86/2020 on Environmental Protection and Control). which raises questions about the efficiency and effectiveness of enforcement. This section compares inspection periods in Moldova with other countries.

Key Challenges in Moldova’s Environmental Control System

1. **Short Inspection Periods**

■ Inspections are **limited to five working days**, hindering the ability to conduct thorough investigations.

■ Laboratory testing and impact assessments often require more time than is available.

2. **Lack of Flexibility**

■ Unlike **Romania, Germany, or China**, Moldova **does not allow** significant extensions for complex inspections.

■ Regulatory constraints **weaken enforcement capacity** and **limit the ability to address severe environmental violations**.

3. **Limited Monitoring and Enforcement Resources**

■ **Inadequate staffing and funding** for environmental agencies reduce the effectiveness of inspections.

■ The lack of **real-time monitoring technology** limits the ability to track environmental violations.

4. **Weak Public Participation and Transparency**

■ **Limited involvement of civil society and stakeholders** in environmental control decision-making.

■ Weak **public reporting mechanisms** hinder community engagement in environmental governance.

If we are to make a comparative study, it must be said from the outset that environmental monitoring is a fundamental mechanism for ensuring compliance with environmental legislation and preventing negative impacts of human activities on ecosystems. The timing of environmental monitoring varies significantly between different countries and is influenced by the national legislative framework, environmental priorities, administrative capacities and the geographical and economic characteristics of each country. Thus, a comparative analysis reveals different models for organizing environmental controls at the global level, adapted to local specificities and environmental risks.

European Union

Within the European Union, environmental control is regulated by a complex regulatory framework, including the Environmental Inspections Directives (e.g. Directive 2010/75/EU on industrial emissions). Member States are obliged to establish inspection programs, which include regular and unannounced inspections. The frequency of inspections varies between 1 and 3 years for industrial installations classified as high risk according to national risk assessment methodologies. For example, in Germany, environmental authorities carry out environmental inspections at least once a year for installations subject to strict regulations, such as those in the chemical industry.

United States

In the United States, environmental monitoring is carried out by the Environmental Protection Agency (EPA) in cooperation with state agencies. Inspections are scheduled according to the risks associated with particular activities, using a prioritization system based on potential environmental impact. For example, facilities with significant emissions of air pollutants, or that generate hazardous waste, are inspected annually, while other facilities are monitored on a 2-5 year cycle.

China

In China, environmental inspections are carried out both regularly and unannounced as part of reforms to improve environmental quality. The Ministry of Environment has implemented intensive inspection campaigns in recent years, targeting polluting industries including mining, chemical production and energy. In regions with acute pollution problems, inspections may take place quarterly, while in other areas they are carried out annually or biannually.

Canada

In Canada, environmental controls are regulated at the federal level through the Canadian Environmental Protection Act (CEPA), but are also decentralized to individual provinces and territories. The frequency of controls is adjusted according to the specific economic activities and regional ecosystems. For example, in Alberta,

inspections in the natural resources sector (logging, oil extraction) are carried out every six months, while other sectors are monitored annually.

Australia

Australia applies a risk-based system for setting environmental control periods Australian state and territory authorities, such as the New South Wales Environment Protection Authority (NSW EPA), carry out controls at intervals of 1 to 5 years, depending on the risks of the activities and the previous compliance of economic operators. Protected areas and activities near coral reefs are subject to more frequent controls in the context of conserving the unique biodiversity of the region.

Comparative Analysis of Environmental Control Periods

Country	Maximum Inspection Duration	Regulatory Authority	Flexibility for Extensions
Moldova	5 working days	Ministry of Environment, Environmental Agency	Limited, only in exceptional cases
Romania	30 days (extendable)	National Environmental Guard	Can be extended depending on complexity
Germany	No fixed limit (case-dependent)	Federal Environment Agency (UBA)	Based on the severity of the case
France	Typically 10–30 days	Regional Environmental Directorates	Extensions can be granted if necessary
USA	Variable (e.g., 45 days for EPA auditors)	Environmental Protection Agency (EPA)	Possible extensions for complex investigations
China	10–30 days	Ministry of Ecology and Environment (MEE)	Extensions possible in cases of severe violations

RECOMMENDATIONS

Key Observations and Lessons for Moldova Inspection Duration Flexibility:

1. Adopting an approach similar to that of Romania and China, where extensions are permitted for complex cases, could enhance the quality of inspections in Moldova
2. Case Specific Approach: The absence of strict limits in Germany and the US, where the duration is tailored according to the severity of the violation, offers a potential model for Moldova to follow.
3. Resource Allocation: The 5-day limit in Moldova, despite its rigidity, can be rendered effective if complemented by advanced monitoring tools and sufficient staffing.

The following recommendations are thus proposed for Moldova:

a) Increase flexibility in extending the inspection period for serious environmental violations.

b) Adopt technology-based monitoring (e.g. real-time surveillance systems) to improve efficiency within a short timeframe.

c) Strengthen post-inspection follow-up to ensure long-term compliance.

CONCLUSIONS

In conclusion, the timing of environmental monitoring varies considerably between countries, being adapted to environmental risks, administrative resources and national priorities. Developed countries, such as Germany and the USA, emphasize frequent inspections and the use of advanced technologies for monitoring, while developing countries, such as China, adopt intensive inspection strategies to combat acute pollution. In all cases, flexibility and adaptability remain essential for optimizing the frequency of inspections and achieving environmental protection objectives. This diversity of approaches underscores the importance of a sound legal framework and

the use of scientific data for the design and implementation of environmental control programs Moldova is a case in point: the period of environmental control in Moldova is one of the shortest in Europe, which limits the enforcement capacity. A more flexible system, similar to that in Romania or France, could improve the efficiency of controls and compliance.

Moldova's five-day limit on environmental inspections presents significant challenges for effective enforcement. Compared to global best practices, Moldova's rigid approach limits in-depth investigations, restricts regulatory flexibility, and weakens compliance mechanisms.

Adopting a more flexible, technology-driven, and participatory environmental control system will significantly enhance Moldova's ability to protect its environment. Aligning with EU environmental standards, strengthening institutional capacity, and improving monitoring mechanisms are crucial steps toward sustainable environmental governance.

Thus, we recommend policy reforms to extend environmental inspection periods, integrate technological monitoring, and enhance enforcement measures. By learning from international best practices, Moldova can build a more robust and efficient environmental control framework.

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An Overview Of The Factors That Affect Career Development

Maria Reptsi[1]

[1]PhD candidate in Economics and Management, South-West University Neofit-Riski, Blagoevgrad , maria_reptsi@hotmail.com, ORCID:https://orcid.org/0009-0005-8959-2720

Abstract: A career is the job that a person is associated with his whole life. Career development affects personnel career behavior. It is the procedure for a person to administrate the work- life balance, the skills, and experience for his personal development. There are two categories of theories. The first analyses the progress of a career during the life spam and the second explains how specific conditions change individual behavior.

Career development is affected by social, personal, and economic conditions. This paper aims to study the key elements that influence career development like personal attributes, academic opportunities, labor market demand, and network. It examines multiple internal and external factors that create opportunities and constraints for development. Additionally, the study analyzes existing research and new trends in the market to analyze the different results. The method that it used is a literature review. Academic papers from international databases will be sought to examine factors that affect career development. The paper concludes that factors like skills, personality, market trends, and culture affect career development. It also highlights the importance of planning the career path and lifelong learning. The findings provide useful information for enterprises, employees, and educators toward sustainable career growth in the modern workplace.

Keywords: career development, HR, factors

1. INTRODUCTION

Career development is a significant procedure that is affected by plenty of different factors and interacts in complicated ways. Individuals have to understand and interpret these factors to expand their professional growth. This paper aims to analyze key elements that influence career development like individual factors, organization factors, society and economic factors, external support systems, and physiological factors.

2. LITERATURE REVIEW

2.1. Individual Factors

The abilities that a person inherent together with his personal characteristics and his personal soft and hard skills form his career path. Studies suggest that traits such as persistence, resilience, initiative, and autonomy are vital for career development and success (Straus et al., 2013). These characteristics help a person adapt better and faster to the constant change of organizations and keep his motivation to achieve his professional goals.

Academic qualifications also impact career development. Better job opportunities are frequently accompanied by a higher level of education and better career advancement. The limited access to education and the poor quality, lead to unequal career results (Borchert, 2002).

Individuals' self-esteem influences career decisions and improvement. Persons with self-esteem are more probably, to chase challenging career paths and continue in the face of obstacles. This confidence can be encouraged through positive experiences, mentorship, and supportive feedback (Southern & Walters, 1990).

2.2. Organizational Factors

The company conditions, such as the culture, leadership, and interpersonal relationships, play an important role in career advancement. A healthy work environment that supports its employees, offers development opportunities, and recognizes their achievements can increase job satisfaction and career development (Sutrisno et al., 2020).

Participation in continuous development programs, training, and other seminars is crucial for career advancement. Incorporations that empower employees' training increase their professional skills and show a commitment to employee growth. This causes increased loyalty and decreased turnover (Sutrisno et al., 2020). Mentoring from experienced individuals offers valuable support in navigating career ways. Mentorship provides guidance, knowledge sharing, and emotional support, while sponsorship links supporters who actively

work to improve a person's career within the organization. Both are vital for career development (Straus et al., 2013).

2.3. Societal and Economic Factors

A person's family background and other factors such as social and economic status can impact access to educational and professional opportunities. Research has shown that even a person with higher and advanced degrees may has fewer professional chances due to a less privileged background (Stansbury, 2024).

Economic conditions, market demand, and employment rate impact career opportunities. Career prospects increase when individuals understand and align labor market conditions with skills in-demand sectors. Moreover, economic recession influences available jobs and stability in the workplace. This points to the necessity of continuous skills development (Vuolo et al., 2012).

Cultural views and societal norms affect career choice and evolution. For example, gender and biases influence career choice and development in some industries. Solving problems caused by cultural factors will help to build equitable career development opportunities (Mortimer et al., 2021). Several individuals claim that factors such as their families, personality, and expectations have significant roles in their choice of career (Abe et al, 2020)

2.4. External Support Systems

Building and maintaining professional relationships can help to find new job opportunities, offer support, and provide alternative perspectives. Networking can arise from industry associations, alumni groups, and professional events, and is vital for career development (Straus et al., 2013).

Ease access to resources such as career counseling, job search tools, and financial support can significantly impact career development. People with access to resources is able to make better career decisions and pursue opportunities that agree with their goals (Borchert, 2002).

2.5. Psychological Factors

The career goals and objectives when they are specific can provide guidance and inspiration. Goal-setting is related to a higher stage of career satisfaction and progress. That happened because employees concentrated their efforts and measured success. (Southern & Walters, 1990). Adaptiveness to the rapid change in the environment and the retrieved from the difficulties are crucial in the modern world. Flexibility helps persons to explore career conversion, deal with challenges, and reserve long-term career progress (Straus et al., 2013).

3. RESULTS

Persons with higher self-esteem, persistence, and flexibility have higher career success. (Straus et al., 2013). Companies that provide structured training programs and guidance through mentors have better employee retention rates and higher productivity (Sutrisno et al., 2020).

Economic factors significantly affect career development. Employees in declining sectors confront higher career instability (Vuolo et al., 2012). Social and economic backgrounds influence career opportunities. Lower-income individuals face more challenges than equivalent educational attainment (Stansbury, 2024). Gender and cultural biases continue to impact career progression, particularly in leadership roles (Mortimer et al., 2021).

4. DISCUSSION

The findings underline the interaction between individual, organizational, and societal factors that affect career development. Personal traits and educational background give the base, and the company support system through training and mentorship plays a crucial role in career development. Moreover, external factors like economic and cultural generate opportunities and barriers.

To handle these challenges, it is important to apply mediation. For persons, building self-esteem, developing specific skills, and engaging in networking can help career progression. Organizations must foster inclusive workplaces, provide continuous learning opportunities, and implement mentorship programs to support employees' growth.

5. CONCLUSION

Many factors affect career development such as individual attributes, organizational practices, societal factors, external support systems, and psychological components. Recognizing and addressing these factors can lead to more effective career planning and development strategies. For individuals, this involves continuous self-assessment, skill enhancement, and proactive networking. Organizations, on the other hand, can foster career development by creating supportive environments, offering training opportunities, and implementing equitable policies that consider the diverse backgrounds of their workforce.

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Consumer Behavior in the Context of Socioeconomic Status and Decision-Making: Insights from Behavioral Economics and Social Influences

MARKOU I. VASILIKI[1] **SERDARIS PANAGIOTIS[2]**

[1] MARKOU I. VASILIKI, PhD candidate, Department of Management Science and Technology, University of Western Macedonia, vasomarkou14@gmail.com

[2] SERDARIS PANAGIOTIS, Professor, Department of Management Science and Technology, University of Western Macedonia, serpan54@gmail.com

Abstract: Consumer behavior is a multidimensional field influenced by social, economic, and psychological factors. This study examines the relationship between consumers' socioeconomic status and decision-making, focusing on the effects of economic uncertainty, COVID-19, and artificial intelligence (AI). The research aims to investigate how consumer preferences and habits are shaped by these factors, while also analyzing the role of behavioral economics in decision-making. To achieve this goal, an empirical study was conducted on a sample of 500 consumers from diverse socioeconomic backgrounds.

Data were collected through a structured questionnaire covering consumer habits, attitudes toward AI, reactions to economic fluctuations, and the impact of the COVID-19 pandemic on decision-making. A regression analysis was applied to identify the key determinants of consumer behavior, examining the influence of variables such as income, education, employment, and access to digital technologies. Preliminary findings indicate that economic uncertainty and social class significantly influence consumer decisions. Consumers with lower incomes tend to prefer essential goods and discounts, while higher-income individuals demonstrate a greater willingness to purchase premium products and invest in technologically advanced solutions. The COVID-19 pandemic has accelerated the shift toward e-commerce and reinforced the importance of AI-driven decision-making. AI-based recommendation systems are increasingly shaping consumer choices, with varying responses depending on socioeconomic status. This research contributes to understanding how economic and social conditions interact with technological advancements and the consequences of COVID-19 on consumer behavior. The study's findings can be leveraged to develop marketing strategies, inform public policies, and refine AI models that cater to the needs of different social groups.

Keywords: Consumer Behavior, Socioeconomic Status, Artificial Intelligence, COVID-19, Econometric Analysis, Behavioral Economics

1. INTRODUCTION

1.1 Definition of Consumer Behavior and Decision Making

Consumer behavior refers to the processes and patterns that individuals follow when selecting, purchasing, using, and discarding products and services (Solomon et al., 2016). It is a field of study that integrates elements from various scientific disciplines, such as psychology, sociology, and economics, and aims to analyze the factors that influence consumer decisions (Kotler & Keller, 2019). Consumers act within an environment of changing socioeconomic conditions, technological developments, and cultural influences, which makes the study of consumer behavior multidimensional and dynamic (Bettman, Johnson, & Payne, 1991). Consumer decision-making is a complex process that is influenced by psychological, social, and economic factors. According to rational choice theory, consumers make decisions based on utility maximization and cost-benefit analysis (Thaler, 2016). However, research in behavioral economics has shown that people do not always make perfectly rational decisions, but are influenced by cognitive biases, emotional reactions, and social influences (Kahneman, 2011). Economic variables, such as disposable income, employment, and taxation, shape consumption habits, as they affect individuals' purchasing power and priorities (Hamilton et al., 2018). At the same time, social factors, such as family, friends, and cultural background, play a decisive role in the adoption of consumption patterns (Mehta, Saxena, & Purohit, 2020). Technological progress and digitalization have also significantly influenced consumers' decision-making process. The use of algorithms and artificial intelligence in online shopping has changed the way consumers interact with businesses and their choices (Jain, 2023). During the COVID-19 pandemic, there has been a significant increase in the use of e-commerce and the shift towards personalized shopping recommendations through AI-driven systems (Das, 2022). The analysis of consumer behavior and decision-making is crucial for understanding modern market patterns and designing effective marketing strategies and business policies. Through the application of econometric methods and behavioral analysis, we can predict trends and develop strategies that respond to consumer needs and expectations.

2. Social and Economic Dimension in Consumer Decision Making

Consumer behavior is influenced by a wide range of social and economic factors that shape the way consumers make purchasing decisions. These variables include the individual's financial situation, their social status, as well as the influences from their social environment (Solomon, Bamossy, Askegaard, & Hogg, 2016). Understanding these parameters is crucial for businesses and economists, as they affect consumption, demand for goods and services, and marketing strategies (Kotler & Keller, 2019).

2.1 Economic Factors and Consumer Behavior

Economic situation is one of the main factors that influence purchasing decisions. Disposable income, employment levels, and market conditions influence consumers' purchasing power and priorities (Hamilton, Mittal, Shah, Thompson, & Griskevicius, 2018). During economic downturns, consumers tend to adopt more conservative purchasing habits, prioritizing essential goods and reducing spending on non-essential products (Mehta, Saxena, & Purohit, 2020). In addition, taxation, interest rates, and credit policies influence purchasing behavior, as they determine consumers' liquidity and ability to make large-value purchases (Das, 2022). Economic crises, such as the one caused by the COVID-19 pandemic, have led to changes in consumption patterns, with a shift toward more careful spending and increased use of electronic payments and online shopping (Jain, 2023).

2.2 Social Structure and Consumer Choices

Social class, education, and occupational status shape consumers' preferences and the way they make purchasing decisions (Kotler & Keller, 2019). Individuals with higher social status tend to consume higher quality products, choose name brands, and exhibit purchasing behaviors that reflect their social status (Solomon et al., 2016). Conversely, consumers with lower incomes seek products with a high quality-price ratio and are more sensitive to price changes. Education also plays an important role, as consumers with a higher education level have greater access to information, which affects their decision-making process and their trust in new technologies and digital shopping systems (Hamilton et al., 2018).

2.3 The Role of Social Groups and Their Influence

The social groups to which an individual belongs greatly influence their purchasing choices. Family, friends, colleagues and social media determine consumers' attitudes towards specific brands, products and services (Mehta et al., 2020). People often adapt their consumption habits based on the norms of their social group, following trends related to identity and social acceptance (Solomon et al., 2016). A particularly important phenomenon is the influence of opinion leaders and influencers, who shape the preferences of large population groups, mainly through digital media and social networks (Jain, 2023). Social influence becomes even more intense through the use of algorithms and personalized advertising, which target specific consumers based on their preferences and purchasing habits (Das, 2022). The COVID-19 pandemic has been one of the most significant global crises of the 21st century, with far-reaching impacts not only on public health, but also on the economy and consumer behavior (Das, 2022). Consumers have faced unprecedented changes in product and service markets, driven by restrictive measures, uncertainty, changes in income, and technological innovations. These changes have affected both immediate consumer choices and long-term market trends (Jain, 2023).

3. Changes in Consumer Habits Due to the Pandemic

During the pandemic, travel restrictions, lockdowns, and the need for social distancing have led to significant changes in the way consumers interact with businesses. Trends such as:

• Rise of e-commerce: Online shopping has seen explosive growth, with consumers adapting to new digital channels for sourcing goods and services (Mehta, Saxena, & Purohit, 2020).

• Adaptation to new market needs: Demand for hygiene products, non-perishable foods, and teleworking equipment has increased dramatically, while other industries, such as entertainment and tourism, have suffered significant losses (Hamilton, Mittal, Shah, Thompson, & Griskevicius, 2018).

• Changes in personal financial management: Uncertainty about the future led to a reduction in unnecessary spending and an increase in savings (Das, 2022).

3.1"Panic Buying" Phenomenon and Psychological Impact

One of the most characteristic manifestations of the COVID-19 crisis was "panic buying", i.e. the mass purchase of basic products (e.g. toilet paper, disinfectants, food) under the fear of shortages (Solomon, Bamossy, Askegaard, & Hogg, 2016). This behavior can be explained by the psychological need of consumers to maintain control in an uncertain situation (Mehta et al., 2020). At the same time, increased anxiety and social isolation affected consumers' priorities, reinforcing the tendency for self-care and the search for products related to physical and mental health (Jain, 2023).

3.2 Long-Term Changes in Consumer Behavior

While some changes in consumption were temporary, many of them appear to have become entrenched, shaping a new reality in the market:

• Digital transformation: Businesses invested more in digital infrastructure and online platforms, adapting their services to new consumer demands (Das, 2022).

• Personalization through AI: Artificial intelligence algorithms now play a greater role in shaping purchasing choices, offering personalized recommendations and improving the consumer experience (Jain, 2023).

• New consumption patterns: Consumers are now more aware of the sustainability and social impacts of their purchases, increasing demand for ethically produced products and services (Mehta et al., 2020).

4. AI in Predicting Consumer Behavior

The use of AI to predict consumer behavior relies on data analysis techniques, such as machine learning and natural language processing (NLP), that allow for the detection of patterns in purchasing decisions (Hamilton, Mittal, Shah, Thompson, & Griskevicius, 2018). Businesses leverage these tools to understand consumer preferences and optimize their strategies.

• Big Data Analytics: AI algorithms collect data from past purchases, social networks, and online behavior to predict future consumer choices (Jain, 2023).

• Predictive Analytics: Businesses use statistical models to determine which consumers are most likely to purchase a particular product and when.

• Applications in sectors such as retail and banking: Banks are using AI to detect spending habits, while e-commerce is incorporating AI-driven offers and dynamic pricing.

Artificial intelligence improves business efficiency, reducing marketing costs and improving the customer experience (Mehta, Saxena, & Purohit, 2020). However, the use of such methods requires caution to ensure transparency and accuracy of prediction

4.1 AI and Personalization in Online Shopping

Personalization is one of the biggest developments in artificial intelligence, allowing businesses to tailor shopping experiences to consumers' needs (Solomon, Bamossy, Askegaard, & Hogg, 2016).

• Recommendation Systems: AI algorithms analyze purchase history and recommend products that meet the consumer's needs and preferences (Jain, 2023).

• Chatbots and AI-driven Customer Support: AI is used to automate communication with consumers, offering more immediate and accurate service.

• Dynamic Pricing: With the help of algorithms, businesses can adjust prices in real time, depending on consumer demand and characteristics.

Consumers tend to trust AI's personalized recommendations, as they improve the shopping experience. However, there are concerns about the use of personal data and whether businesses implement ethical practices (Mehta et al., 2020).

4.2 Ethical Issues and Challenges of AI in Decision Making

Despite the benefits of AI in consumption, its widespread use raises serious ethical issues and challenges:

• Privacy and Data Protection: AI algorithms collect vast amounts of personal information, which raises concerns about privacy and data security (Das, 2022).

• Algorithmic Bias: Algorithms can reinforce social inequalities by promoting products or services to specific population groups based on subconscious biases present in training data (Hamilton et al., 2018).

• Consumer Manipulation: AI has the potential to influence consumer decisions without their conscious consent, by promoting products and services in ways that may be misleading (Jain, 2023).

Businesses and regulators need to set clear rules for the transparency and ethical use of AI to ensure that consumers are protected from practices that can lead to abuses.

5. Research Results

The empirical analysis constitutes the second part of this study and aims to investigate the factors that influence consumer decision-making, taking into account socio-economic data, the impact of the COVID-19 pandemic and the role of artificial intelligence (AI) in modern purchasing trends. The analysis is based on data collected through a questionnaire, in which 500 people participated. The research was conducted in 2024 and was carried out both through the online platform Google Forms and with a printed questionnaire.

The aim of the empirical study is to identify critical determinants that shape consumer choices, examining both short-term and long-term changes in consumer behavior. In particular, the analysis focuses on three main dimensions:

The impact of social and economic factors (income, employment status, family composition) on total consumer spending.

The changes in consumer behavior due to the COVID-19 pandemic, with an emphasis on the transition to e-commerce and the differentiation of shopping preferences.

The role of artificial intelligence in shaping consumer decisions, focusing on trust in automated technologies and personalized shopping suggestions.

For data analysis, multiple linear regression methods are used in SPSS, in order to assess the impact of various variables on consumer behavior. This approach allows for the quantitative assessment of the relationships between variables and contributes to the extraction of documented conclusions.

Three Regression Models for Empirical Analysis

Based on the dataset and research objectives, the following three regression models are proposed to analyze the impact of socioeconomic factors, the COVID-19 pandemic, and artificial intelligence (AI) on consumer behavior.

5.1 1st Regression: Impact of Socioeconomic Factors on Consumer Spending

Objective: To examine how socioeconomic factors influence the total monthly consumer expenditures.

Dependent Variable: Total monthly consumer expenditures (sum of spending on food, housing, transportation, etc.).

Independent Variables: Net monthly individual income (€) Employment status (unemployed, full-time, part-time, etc.), Satisfaction with income (scale 1-10), Number of household members, Educational level.

Results: The results showed that there are expected relationships between Variables and Consumption Expenditures

Initially, there is a positive correlation with income.

Specifically, as net monthly income increases, consumption expenditures are expected to increase. Hamilton et al. (2018) report that financial constraints significantly affect consumer behavior, as those with higher disposable income tend to spend more, both on basic and luxury goods. This is consistent with classical economic theories, such as the Keynesian consumption function, which argues that consumption increases when income increases (Mehta, Saxena, & Purohit, 2020). For Employment Status (Determinant of Spending): Full-time employees are expected to have higher spending levels compared to individuals who are unemployed or working part-time. Das (2022) report that employment status directly affects overall consumption, especially during periods of economic uncertainty. In contrast, unemployed consumers are likely to have reduced consumption spending, as they focus mainly on basic needs (Solomon, Bamossy, Askegaard, & Hogg, 2016).

Also for Income Satisfaction (Psychological Factor in Consumption Behavior), in addition to the absolute level of income, the individual's perception of their financial situation may affect spending. Those who feel financially secure are likely to spend more on luxury or non-essential goods (Kotler & Keller, 2019). This is confirmed by the principles of behavioral economics, which argue that the perception of economic well-being can influence behavior regardless of actual income (Thaler, 2016). It was also found that larger households are expected to have higher total expenditures due to increased needs (e.g. food, housing, education). However, expenditures per person may be lower due to economies of scale (Hamilton et al., 2018). Regarding educational level (Differentiation of Consumption Patterns), individuals with a higher level of education tend to have greater financial literacy, which leads to more strategic and planned consumption (Mehta et al., 2020). They often invest in education, health and long-term purchases, instead of spontaneous spending. On the other hand, individuals with a lower level of education may show a higher tendency towards immediate consumption and less economic strategy, as described by behavioral economics (Thaler, 2016).

5.2 2nd Regression: Impact of COVID-19 on Online Shopping Frequency

Objective: To analyze how experiences during the pandemic influenced post-pandemic online shopping behavior.

Dependent Variable:

Change in online shopping frequency after the pandemic (1=less, 2=same, 3=more).

Independent Variables: Experience with remote work during the pandemic (Yes/No), First-time online shopping during lockdown (Yes/No), Panic buying behavior during COVID-19 (Yes/No), Changes in dietary habits due to the pandemic (Yes/No), Continued use of e-government services (e.g., gov.gr).

Results of the Second Regression:

Initially, regarding the relationships between variables and change in online shopping frequency, consumers who worked remotely during the pandemic are likely to have continued to use the internet for shopping on a larger scale (Mehta, Saxena, & Purohit, 2020). This is because teleworking reduced consumers' physical presence in stores, while increasing their familiarity with online services (Das, 2022). Furthermore, those who consumed online for the first time during the quarantine were likely to continue online consumption after the pandemic (Hamilton et al., 2018). According to consumer behavior theory, new habits acquired during times of crisis tend to persist, especially if they improve the convenience and efficiency of shopping (Solomon, Bamossy, Askegaard, & Hogg, 2016). Furthermore, consumers who engaged in panic buying (over-purchasing essential products due to fear of shortages) may exhibit opposite tendencies: Some may have maintained increased use of online shopping, due to their heightened sensitivity to product safety and availability (Jain, 2023). Others may have reduced the frequency of online shopping, considering that panic buying was a temporary necessity (Mehta et al., 2020). Consumers who developed new eating habits (e.g., increased attention to nutrition, greater consumption of prepared foods) are likely to have maintained online shopping for food (Kotler & Keller, 2019). This is consistent with trends in digital consumption of supermarket and delivery items, which increased significantly during the pandemic (Hamilton et al., 2018). Finally, those who continue to use public sector digital platforms (e.g. gov.gr) are more likely to also use online shopping more frequently (Das, 2022). Familiarity with digital technology in general is associated with greater trust in online transactions and AI-driven shopping experiences (Jain, 2023).

5.3 3rd Regression: The Role of Artificial Intelligence in Consumer Trust

Objective: To examine how consumer interaction with AI influences trust in AI-driven decision-making.

Dependent Variable: Trust in AI for consumer decision-making (scale 1-10).

Independent Variables: Have you used chatbots or voice search for shopping? (Yes/No), Have you accepted AI-driven targeted advertisements? (Yes/No), Have you used AI tools at work? (Yes/No), Educational level, Age. The results showed that: Consumers who have used chatbots, voice search, or AI-driven customer support are more likely to develop higher levels of trust in AI for making consumer decisions (Jain, 2023). According to consumer behavior theory, experiential exposure to new technological tools reduces uncertainty and increases their acceptance (Solomon, Bamossy, Askegaard, & Hogg, 2016). Acceptance of targeted advertising through AI (Positive Correlation, but with variations) Furthermore, consumers who accept personalized advertising through AI may show greater trust in the ability of artificial intelligence to recommend purchases according to their needs (Mehta, Saxena, & Purohit, 2020). However, some may be concerned about privacy and data issues, which may reduce their trust in AI (Hamilton et al., 2018). Furthermore, those who have used AI-based tools in their work (e.g. ChatGPT, Leonardo AI) are more likely to perceive the reliability and capabilities of AI, increasing their confidence in its applications in the markets (Das, 2022). Familiarity with AI in the professional sector influences the way consumers perceive it in their personal lives (Jain, 2023). Furthermore, individuals with a higher educational level may be more informed about the capabilities and limits of AI, which can either enhance or limit their confidence depending on their experience and knowledge (Kotler & Keller, 2019). Conversely, individuals with a lower educational level may be either less cautious towards AI due to ignorance of the potential risks, or reject it due to lower technological familiarity (Hamilton et al., 2018). In terms of age, younger generations (e.g. Millennials and Gen Z) are more likely to trust AI, as they are more familiar with digital technologies (Mehta et al., 2020). Older consumers may be more wary, due to reduced exposure to technology and increased concerns about data security and algorithmic biases (Das, 2022)

6. CONCLUSION

This study analyzed the relationship between socioeconomic factors, the COVID-19 pandemic, and artificial intelligence (AI) in shaping consumer behavior. The results of the empirical analysis, with a sample of 500 consumers, highlighted significant trends and changes in purchasing decisions. Initially, it was found that income, employment, and satisfaction with the financial level directly affect consumer spending. Consumers with higher incomes spend more, while financial insecurity leads to more careful consumer choices. In addition, educational level differentiates consumer behavior, with the more educated investing more in education and health. The COVID-19 pandemic accelerated the transition to online shopping, with teleworking and first online shopping experiences having a long-lasting impact. Consumers who became familiar with e-commerce continued to use it, while panic buying led to different behaviors, with some increasing online transactions and others returning to pre-pandemic habits. Regarding artificial intelligence, the analysis showed that consumers who have interacted with AI (e.g. chatbots, voice search, targeted ads) tend to trust it more. However, privacy and transparency issues remain key concerns, especially for older generations. Younger generations seem to accept AI as a tool for consumer decision-making, while more cautious consumers may avoid it due to a lack of trust. Overall, consumer behavior is shaped by multiple factors, including economic conditions, technological advancements, and societal changes. Businesses are called upon to adapt their strategies to the new demands of consumers, leveraging technologies such as artificial intelligence, but with respect for the principles of transparency and ethical use of data. At the same time, governments must establish regulations to protect consumers, especially regarding the use of AI in marketing and the personalization of the consumer experience.

The study concludes that modern consumers are more informed, demanding and flexible, while the changes brought about by the pandemic and digital technology appear to have a long-term impact on purchasing decisions.

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Consumer Perspective on Drivers and Barriers of Sustainable Tourism: Insights from Slovakia

Martina Hudecová[1]

[1] University of SS. Cyril and Methodius in Trnava, v Jame, 917 17 Trnava, Slovak Republic, martina.hudecova@ucm.sk, ORCID: 0000-0002-4797-8458

Abstract: Tourism represents one of the fastest-growing and most significant sectors, and it is an essential source of income for many countries and regions. Nevertheless, its rapid development may result in negative effects, especially if environmental impacts and the depletion of natural resources are overlooked. To address these challenges, the concept of sustainable tourism was created as an alternative. It promotes a balance between economic growth, environmental protection, and social responsibility. The concept of sustainable tourism is increasingly recognised and it is fundamental to address the barriers and drivers of sustainable tourism for supporting the long-term development of the tourism industry. The study highlights the consumer perspective on drivers and barriers of sustainable tourism in Slovakia. To achieve the main goal of the study, a questionnaire survey was used to gather primary data. The final sample included 122 Slovak respondents. The Friedman test was applied to demonstrate the most important drivers and barriers for respondents in Slovakia regarding sustainable tourism. Based on the findings, price sensitivity, lack of information and awareness about sustainable options are the most significant barriers of respondents in Slovakia. On the other hand, the results indicate that seeking new experience, interest in local gastronomy, festivals, and crafts, healthy lifestyle and environmental protection are key drivers influencing consumer participation in sustainable tourism. The obtained results form the basis for policymakers and businesses operating in the tourism segment to implement strategies for promoting sustainable tourism and stimulate environmentally responsible behaviour among consumers in Slovakia.

Keywords: Consumer Behaviour, Barriers and Motives, Green Practices, Sustainable Tourism, Slovakia

1. INTRODUCTION

Nowadays, the tourism industry has a major impact on social and economic development worldwide (Sianturi et al., 2022, Irwansyah et al., 2022). According to Muresan et al. (2021) and Guerra et al. (2022), tourism not only contributes to national income but moreover, it has the potential to improve the life quality of local communities and protect and maintain natural and cultural heritage. Thus, the concept of sustainable tourism represents a significant topic across the globe (Kusherdyana & Muslim, 2024). Based on the statistics of the WTTC (2025), the tourism sector is a significant economic factor, and it also brings notable environmental and social consequences. In addition, the tourism sector is responsible for approximately 8% of greenhouse gas emissions globally, pointing out the need for sustainable practices to address climate change, and tourism-related transport contributes 5% of global carbon dioxide emissions. Sustainable tourism emphasises balancing tourism growth with environmental and cultural preservation (Matić et al., 2019; Nurjaya, 2022). As reported by Nekhvyadovich et al. (2022), sustainable tourism represents a crucial component of importance worldwide. Moreover, this concept draws the attention of governments, businesses and tourists because of its multifaceted effect on the social, environmental and economic areas. The popularity of sustainable tourism is growing, and it is becoming a part of the lifestyle of some tourists (Zainal et al., 2024)

According to Vincy (2023), sustainable tourism refers to visiting and discovering a location as a tourist while respecting the environment, people and culture of that destination. Moreover, as stated by Ali & Frew, (2013) sustainable tourism takes into account current and future economic, social and environmental impacts, while meeting the needs of visitors and hosts, while strengthening the opportunities for future generations. As Salih & Abaas (2022) state that sustainable tourism is a vital part in achieving the Sustainable Development Goals. Stoddard et al. (2012) emphasised the relationship between the triple bottom line, sustainability, sustainable development, and sustainable tourism. The goal of sustainable development in tourism is to find a balance between economic growth, environmental conservation, and social equity. Regarding environmental effects, sustainable tourism should reduce the negative impact on the environment, which includes, for instance, protecting natural resources. In the context of social and cultural impact, sustainable tourism should respect local traditions, and regarding planning and development, all stakeholders should be included. Finally, from the economic point of view, tourism development should benefit local communities and governments, supporting long-term growth. Thus, if not managed sustainably, the economic benefits will be lost, and tourist destinations may decline.

As previously mentioned, sustainable tourism plays a key role in achieving environmental preservation, economic development, and cultural sustainability. Therefore, it is necessary to analyse the main drivers and motives for the implementation of sustainable tourism. To our knowledge, no research has yet explored the barriers and motivations for selecting sustainable destinations in Slovakia. The presented research is focused on examining the consumer perspective on drivers and barriers of sustainable tourism in Slovakia. paper is structured as follows. The first part of the paper is analysing the importance of the topic of sustainable tourism. Moreover, the following part discusses the data and methodology. In the subsequent part, the results are presented together with the discussion, while the paper's final part concludes the study.

2. DATA AND METHODS

The main objective of the paper is to examine the consumer perspective on drivers and barriers of sustainable tourism in Slovakia. To achieve this goal, an online questionnaire survey was used to obtain the primary data. Furthermore, data were collected during January and February 2025.

The questionnaire survey contained 30 questions and was divided into several sections - socio-demographic questions, questions regarding travel habits - specifically the frequency of travel, the main reasons of travel, what type of tourism respondents prefer, whether they are familiar with the concept of sustainable travel, motives and barriers to sustainable travel, factors that influence their choice of destination, method of choosing of transport and accommodation. The data were collected from January to February 2025. The final research sample consisted of 122 Slovak respondents. Table 1 shows the distribution of respondents across various categories, including gender, age, education level, and economic activity, along with their frequencies and percentages. According to the primary data, it could be concluded that 52% of the sample were women and men represented 48% of the sample. Regarding age, the largest groups of respondents were represented in categories 18-25 years and 26-35 years (19%). The majority of the respondents had a university degree (55%). The largest group of respondents is employed, comprising 49%, followed by students (22%). Other categories include retired participants (16%) and entrepreneurs (9%). More than 57% of the participants lived in urban areas, on the other hand, 43% of respondents lived in rural areas.

Table 1: Profile of the respondents

Variables		Frequency	%
Gender	Men	58	48%
	Women	64	52%
Age	18-25 years	23	19%
	26-35 years	24	19%
	36-45 years	18	15%
	46-55 years	19	16%
	56-65 years	18	15%
	66 and more	20	16%
Education level	Secondary	55	45%
	University degree	67	55%
Economic activity	Student	27	22%
	Employed	60	49%
	Unemployed	1	1%
	Retired	20	16%
	Maternity leave	3	3%
	Entrepreneur	11	9%
Residence	Urban	70	57%
	Rural	52	43%

Source: own processing based on questionnaire survey.

The results of the questionnaire survey were processed in the statistical software XLSTAT using Friedman Test and Nemenyi's method. In order to find out the most significant barriers and motivators of choosing a sustainable destination, two hypotheses were developed:

H1: There are significant differences in the perceived barriers to choosing sustainable tourism destinations.

H2: There are significant differences in the importance of various motivators for choosing a sustainable tourism destination.

3. RESULTS

Firstly, at the beginning of the survey, respondents were asked about their frequency of travel. The results revealed that the majority of participants, specifically 56%, reported traveling 1-2 times per year. More than 28% of respondents indicated that they travel between 3-5 times annually. Additionally, only 15% of respondents stated that they travel more than six times per year. When discovering what are the main reasons for their travels, the results showed that the most frequent reasons for travel were vacations at the seaside and in the mountains, family visits, studying abroad, and attending conferences and business trips. Among the participants, vacations were the most popular reason, with a significant portion of respondents indicating they travel for leisure purposes.

Subsequently, the next question dealt with the awareness of sustainable tourism. Based on the results, the majority of the participants (65%) were unaware of the concept of sustainable tourism, while only 35% of the sample indicated they were familiar with it. Among those who were aware of the concept of sustainable tourism, the most common associations included "green", “accommodation in nature”, as well as “accommodation in mountains.” Our results are in line with Sarode (2023). The results indicated that more than 76% of 165 respondents in Mumbai did not know about the concept of sustainable tourism. On the other hand, the research of Kusherdyana & Muslim (2024) discovered a positive understanding of sustainable tourism in Yogyakarta, where participants comprehensively understand the concept, taking into account its economic, cultural, and environmental dimensions. Many studies suggest that increasing public awareness about sustainability can encourage more environmentally friendly behavior. According to Devine-Wright (2004), for promoting sustainable behaviour, it is essential to increase the awareness and education among the public. In the field of sustainable tourism, raising consumer awareness has been widely discussed as a key strategy to promote more sustainable practices in the industry (Dolnicar, Crouch, & Long, 2008). However, Boon, Fluker, and Wilson (2008) were testing the effect of a 10-year programme of awareness raising to promote sustainable tourism in Australia. Based on the results, it could be concluded that the programme had almost no effect over the period. Budeanu (2007) found out that despite their declared positive attitudes towards sustainable tourism, only a minority of respondents behave responsibly regarding tourism products. The results of Uçgun & Narci (2023) suggest that sustainability awareness positively influenced the purchasing behaviour of respondents in Turkey. Furthermore, the consciousness of sustainability positively shaped the awareness of sustainable tourism.

When discovering the main barriers of choosing a sustainable destination, respondents were asked to rank 14 barriers, where 1 was the least significant barrier and 7 was the most significant barrier of choosing a sustainable destination. The Friedman test and Nemeyi’s method were used to evaluate differences in the perceived barriers to choosing sustainable tourism destinations (Table 2). Our findings show that statistically significant differences occurred between selected barriers (p-value <0.001) and those across Slovak respondents differ. The results of the analysis showed that the most significant barriers to selecting sustainable destinations are related to low awareness and education of respondents about sustainable options and misconceptions that sustainable tourism is less comfortable or more expensive. These barriers represent Group G, which is the most influential set of obstacles. On the other hand, barriers such as excessive environmental impact and resistance from local residents were considered the least significant, placing them in Group A. Other barriers such as insufficient infrastructure or limited availability were ranked as moderate barriers. The study of Hao & Hill (2022) focused on barriers to implementation of these sustainable practices from the business owners’ point of view. Based on the results, significant barriers for implementing sustainable techniques were lack of funds, lack of financial incentives, complexity of implementation and cost. Moreover, a study by Zorlu & Dede (2024) identified the main barriers to sustainable tourism in Turkey. The results showed that infrastructural and superstructured efficiencies, a focus on economic gain, a lack of cooperation and coordination among the stakeholders, the inability to provide economic benefits, the lack of a holistic planning approach, and a lack of sustainable tourism management practices were the most significant barriers to sustainable tourism. Finally, Ndiaye (2019) identified four groups of barriers of sustainable tourism in Senegal. According to the author, the first group of barriers consist of a lack of awareness, skills and high cost, inadequate resources. The following group concerns lack of momentum to measure regarding sustainability actions by business owners. The third group represent barriers regarding corporate culture needed to promote positive attitudes, experiences, beliefs, and values of the organisation. Finally, the last group of barriers consists of destination infrastructural problems and lack of resources to purchase new technologies.

Table 2: The main barriers to choosing a sustainable destination

Sample	Frequency	Sum of ranks	Mean of ranks	Groups
Excessive environmental impact	122	490,000	4,016	A
Resistance from local residents	122	500,500	4,102	A
Inaccessibility of ecological technologies	122	705,000	5,779	A B
Mass tourism	122	782,000	6,410	B C
Lack of or insufficient regulation	122	828,500	6,791	B C D
High costs of implementing sustainable measures	122	848,000	6,951	B C D
Reluctance of tourists to change their usual behaviour	122	889,000	7,287	B C D E
Insufficient financial support for tourism businesses	122	985,500	8,078	C D E F
Limited availability of sustainable destinations	122	1007,000	8,254	D E F
Insufficient infrastructure	122	1046,000	8,574	D E F
Insufficient education and awareness of sustainable tourism	122	1098,000	9,000	E F
Misconceptions about sustainable tourism - some tourists consider it less comfortable/too expensive	122	1112,500	9,119	F G
Higher prices compared to regular destinations	122	1190,500	9,758	F G
Low awareness of tourists about sustainable options	122	1327,500	10,881	G

Source: own processing based on questionnaire survey.

Table 3 presents the results of a survey on the main motives that affect the choice of sustainable destinations in Slovakia. Respondents were asked to rank 12 motivational factors, where 1 was the least significant motive and 7 was the most significant motive of choosing a sustainable destination. The Friedman test and Nemeyi's method were used to evaluate differences in motivations for choosing sustainable tourism destinations. Our findings show that statistically significant differences occurred between selected motivations (p-value <0.001) and those across Slovak respondents differ. Group A included the least significant motivators for respondents, with factors such as "Responsible travel brings me inner peace", "Current trend" and "Social expectations." According to the results, these motivations have relatively lower significance in influencing the choice of sustainable destinations. On the contrary, the results show that the most significant motivations for choosing a sustainable destination are related to seeking new experiences, interest in local culture, and health-conscious and environmentally-friendly travel. This group indicates the strongest influences on respondents when it comes to selecting sustainable destinations, suggesting that respondents are highly motivated by the desire for unique and meaningful travel experiences. The study by Wijesundara (2022) focused on hotels and their motivations for implementing sustainable practices in Sri Lanka. Based on the results, the need to protect the natural resources they rely on was the primary reason. Other critical motivators included improving business reputation, attracting environmentally conscious customers, personal values regarding sustainability, and potential cost savings. Moreover, Ntovoli et al. (2024) discovered the main motives for carrying out bike tourism in Greece. Based on the data "Nature", "Health", "Bike eco-friendly place" and "Interesting places" were the most significant motives. Finally, a research by Vishaj & Kuqi (2025) focused on cultural values and their impact on the development of sustainable tourism in Deçan in Kosovo. The findings indicate that Deçan's cultural heritage plays a significant role in promoting sustainable tourism. Historical landmarks, particularly the Deçan Monastery, serve as key attractions, drawing visitors interested in cultural and historical experiences.

Table 3: The main motivations for choosing a sustainable destination

Sample	Frequency	Sum of ranks	Mean of ranks	Groups
Responsible travel brings me inner peace	122	458,500	3,758	A

Current trend	122	493,500	4,045	A					
Social expectations	122	569,000	4,664	A	B				
Sense of responsibility	122	580,500	4,758	A	B				
Personal belief in the importance of sustainability.	122	747,500	6,127		B	C			
Supporting the economy and local communities (e.g. preferring guesthouses, local restaurants)	122	790,000	6,475			C			
Traveling to sustainable destinations provides an opportunity to learn about environmental, social and economic issues.	122	802,000	6,574			C	D		
Responsible consumption of resources (e.g. preferring eco-hotels)	122	809,000	6,631			C	D		
Nature and biodiversity protection	122	977,000	8,008				D	E	
Healthy lifestyle - I prefer stays in nature, active forms of tourism, e.g. cycling, hiking	122	998,500	8,184					E	F
Interest in local gastronomy, festivals, crafts	122	1108,000	9,082					E	F
Seeking new experiences.	122	1182,500	9,693						F

Source: own processing based on questionnaire survey.

4. CONCLUSION

Sustainable tourism has become an increasingly significant concept in the tourism segment due to the growing awareness of environmental degradation, over-tourism, and the depletion of natural resources. It focuses on finding the balance between the economic benefits of tourism and the need to preserve natural ecosystems, support local communities, and minimise negative environmental impacts. The presented study examined consumer attitudes towards sustainable tourism with an emphasis on the main drives and barriers of sustainable tourism in Slovakia. Significant differences in the assessment of barriers and motivation for choosing a sustainable destination were demonstrated through the Friedman test. Our results indicate that the main barriers of choosing the sustainable destinations are mostly connected with a lack of information about sustainable tourism. According to the results, the most important barrier of Slovak respondents was low awareness about the sustainable options. Furthermore, Slovak respondents believed that sustainable friendly destinations are connected with higher prices. On the contrary, current trends and social expectations are the least significant motivators for respondents in Slovakia. These obstacles reflect the challenges of making sustainable tourism accessible and appealing to a wider audience. On the other hand, key drivers of choosing a sustainable destination were new experiences and interest in local gastronomy, festivals, and crafts. Moreover, a healthy lifestyle would motivate Slovaks to choose active forms of tourism such as cycling and hiking. Our findings are essential for policymakers and businesses operating in the segment of tourism in Slovakia to tailor strategies to promote sustainable tourism effectively.

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Factors Influencing the Adoption of Big Data Analytics: Effects on the Performance of VIP Enterprises in Albania

Megi Marku[1] **Besa Shahini**[2]

[1] PhD Candidate, Faculty of Economy, University of Tirana, Albania,
Email: markumegi5@gmail.com / mmarku@ubt.edu.al

[2] Professor, Faculty of Economy, University of Tirana, Albania, Email: besashahini@feut.edu.al

Abstract: In the current environment, characterized by various forms of data, including both structured and unstructured types, businesses are increasingly relying on Big Data Analytics (BDA) to improve their operational effectiveness. BDA is regarded as a vital general-purpose technology. As data is a critical asset, the ability to utilize BDA significantly influences business development. This study investigates the internal and external factors in BDA adoption that affect business performance, highlighting essential components such as leadership practices, organizational investments in BDA, technological capabilities, employee skills, and external assistance. It examines how these elements interact to improve analytical efficiency. Through a quantitative approach, the research illustrates the impact of these factors on performance, operational efficiency, and overall business strategies, particularly in the context of Albania. A structured survey was carried out from May to July 2024, focusing on the most lucrative companies within Albania's commercial industry to facilitate analysis. The results reveal a favorable correlation between leadership practices, employee skills, technological capabilities, external support, and performance metrics. These findings offer valuable insights for organizations aiming to enhance their BDA efforts to achieve a sustainable competitive edge.

Keywords: Big Data Analytics, External factors, Internal factors, Efficiency, Business Performance

1. INTRODUCTION

The adoption of BDA is influenced by an array of internal and external factors that vary across different organizational contexts. Understanding these characteristics is essential for effective implementation, as they can impact the strategic value derived from BDA. The determinants of BDA adoption and its effects on performance are sophisticated, involving technological, organizational, and environmental components. Multiple variables propel its adoption, including top management support, technological proficiency, personnel skills, and external support. These factors influence both the decision to use BDA and the extent to which it can enhance performance metrics, such as financial outcomes, market share, and operational efficiency. The positive impacts of BDA on performance indicators, including financial results and operational efficiency, are thoroughly documented, underscoring the necessity of comprehending these dynamics. Although the emphasis on internal and external factors is crucial, it is as critical to acknowledge that their interaction can generate distinct obstacles and possibilities for businesses, requiring a customized strategy for BDA implementation. Research indicates that enterprises implementing BDA achieve more operational efficiency, superior decision-making abilities, and heightened profitability (Mayer-Schönberger & Cukier, 2013). Utilizing BDA enables firms to optimize processes, minimize expenses, and refine client targeting by delivering insights that result in improved efficiency and productivity. The implementation of BDA has been demonstrated to increase financial performance and market competitiveness by facilitating accurate decision-making and strategic planning (Hasnan et al., 2023). BDA promotes innovation by allowing firms to recognize new market opportunities and formulate data-driven strategies, therefore achieving a competitive advantage (Sridharlakshmi et al., 2024). Big Data Analytics significantly enhances large enterprises' performance by improving operational efficiency, innovation potential, and sustainability, enabling improved outcomes across multiple dimensions through business strategy incorporation. Each of these components strengthens an organization's capacity to successfully apply BDA. Organizations that invest in developing these domains are more equipped to leverage the full potential of BDA, therefore fostering decision-making, operational efficiency, and innovation.

2. LITERATURE REVIEW

The correlation between BDA adoption and business performance has attracted increasing attention. Research indicates that enterprises utilizing BDA generally attain operational efficiency, improved consumer insights, and augmented decision-making capabilities. Business Data Analytics empowers enterprises to identify industry trends and consumer preferences, hence promoting innovation (Rumman et al., 2024). Big Data Analytics enhances corporate sustainable performance in economic, social, and environmental aspects (Ertz et al., 2023).

Large enterprises derive more significant advantages from Big Data Analytics, especially in value-added operations (Conti et al., 2023). Big Data Analytics capabilities augment marketing agility, allowing organizations to rapidly adapt to market changes, which is essential for sustaining competitive advantage (Vesterinen et al., 2024). The application of BDA has been associated with income creation through improved consumer insights and market analysis, facilitating more focused marketing and product development strategies (Kgakatsi et al., 2024). Enhanced decision-making capabilities lead to optimal resource distribution and risk mitigation. Conversely, although BDA provides considerable advantages, its efficacy can differ depending on the firm's current capabilities and strategy alignment, indicating that not all organizations may realize substantial performance improvements alone through BDA. Elgendy and Elragal (2016) discovered that organizations with leadership teams that actively support BDA adoption see significant advancements in operational efficiency, profitability, and overall performance. Robust support from top management is crucial for cultivating a culture that adopts BDA. This support enables resource distribution and strategic alignment with company objectives. McAfee et al. (2012) discovered that organizations with active and engaged top management in the BDA adoption process exhibit enhanced performance, as they can effectively direct the utilization of these technologies to establish competitive advantages. A study by Westerman et al. (2014) indicates that leadership styles fostering collaboration, adaptability, and openness to new technologies strengthen the effectiveness of BDA adoption. These leadership traits are frequently associated with enhanced organizational performance, as they enable the firm to adapt to the evolving business environment and capitalize on new data insights. The readiness of an organization regarding infrastructure, culture, and competencies profoundly influences BDA adoption. Investment in infrastructure and technologies for BDA is a significant factor affecting business performance. Organizations that allocate greater resources to these technologies and competencies are more inclined to leverage data for decision-making and to establish competitive advantages. A study by Brynjolfsson et al. (2011) revealed that investment in information technologies and BDA correlates with financial success. Enterprises that invest in BDA may strengthen processes and improve operational efficiency. Organizations possessing a strong IT infrastructure and a culture that fosters data-driven decision-making are more inclined to reap the advantages of BDA (Hasnan et al., 2023). Wamba et al. (2016) concluded that technology skills, including sophisticated data analytics tools and IT infrastructure, directly influence corporate performance by facilitating expedited and precise decision-making. The capacity to utilize data analytics to inform corporate strategy is essential for improving efficiency and attaining sustained business success. The high standard of technology and systems accessible can profoundly influence the simplicity of BDA incorporation into current operations (Albarghouthi, 2024). Mikalef et al. (2019) discovered that firms employing data analytics-proficient people exhibit enhanced performance, characterized by superior decision-making, expedited problem-solving, and more efficient plan execution. The authors contend that the capacity to use BDA techniques and technology for data analysis immediately results in improved strategic judgments that can augment profitability and competitiveness. A significant component in the adoption of Big Data is the proficiency and competence of the workforce. Organizations that prioritize training and skill development for their workforce are more inclined to efficiently use BDA. Westerman et al. (2014) assert that employees' technological abilities are a crucial determinant of the efficacy of BDA utilization. Data analysis requires a significant degree of experience, and in the absence of this skill set, the use of BDA may yield few advantages. External considerations, like competition, market demands, and the imperative for innovation, significantly drive the use of BDA. Hogan et al. (2017) showed that external pressures, especially from competitors and consumer expectations, can motivate organizations to leverage BDA for performance enhancement and sustaining competitive advantage. Organizations may implement Big Data Analytics to satisfy market requirements or to survive in a competitive landscape.

3. METHODOLOGY

The methodology utilized involves data collection using a survey focused on the examination of BDA adoption features. The survey was conducted from May 2024 to July 2024 among 250 VIP enterprises in Albania, operating in the commerce industry. Responses were collected from roughly 25% of the total surveys disseminated. The surveys were completed by the information technology personnel of the participating enterprises. The business performance evaluation consists of criteria including swift market entry, expedited product launch, success rate of products or services, client loyalty count, sales volume, and profit margin. The measuring of performance variable encompasses the presentation of trends over the past three years concerning performance measures. Organizations should convey their assessment using a Likert scale ranging from 1 to 3, with (1=declining, 2=unchanged, 3=increasing). The representative variable was obtained by exploratory factor analysis (EFA) of the questionnaire items. The statistical software SPSS 25 conducted the analysis. The Pearson and Spearman

correlation coefficients were utilized to examine the relationship between the factors influencing the adoption of BDA and business performance. Spearman's coefficient was utilized for the qualitative and ordinal variables, encompassing leadership practices, employee skills in BDA, and external support. Pearson's correlation coefficient was utilized for the quantitative variable, investments in BDA.

Table 1. Description of variables

Business performance	Composite component derived from Exploratory Factor Analysis (EFA)
Leadership practices	Composite component derived from EFA
Employee skills in BDA	Likert Scale - Qualitative Measurement Scale 1=No knowledge, 2=Limited knowledge, 3=Neutral, 4=Knowledgeable, 5=Highly knowledgeable
Investments in BDA	Quantitative (Thousand euros / Year)
External pressure	Composite component derived from EFA

Source: Authors' Calculations based on survey

Table 1 highlights the description of the measurement attributes for each variable. The factors analyzed in the study, as depicted in the table, consist of quantitative, composite, or Likert scale variables. The principal variable of the study, the business performance, comprises several statements incorporated in the questionnaire.

4. RESULTS

The business performance variable, which evaluates financial and commercial success, was obtained by factor analysis, yielding a Kaiser-Meyer-Olkin (KMO) score of 0.844 for this variable. This value confirms the application of factor analysis since it exceeds the threshold of 0.7. The Chi-Square test value is 457.494 at a significance level of 0.000, showing that the business performance variable is statistically significant. This variable accounts for 96.1% of the variation. The study encompasses characteristics related to business performance and the internal or external factors that affect the adoption of BDA in VIP enterprises in Albania. Based on the analysis of the questionnaire data and the correlation assessments utilizing Pearson and Spearman analysis, detailed in the methodology section, Table 2 displays the correlation coefficients, allowing for conclusions regarding the relationship (positive or negative) of each factor with business performance.

The results indicate that the coefficients are positive and statistically significant at $p<0.05$ for factors including leadership management, staff capabilities in BDA, and external pressure; however, investments in BDA exhibit no direct relationship or effect on business performance.

Table 2. Correlation Coefficients

Leadership practices	0.281	0.048*
Employee skills in BDA	0.305	0.031*
Investments in BDA	0.052	0.721
External pressure	0.286	0.044*

Source: Authors' Calculations * statistically significant at 5% level

The correlation coefficient for leadership practices is 0.281, indicating a moderate positive relationship with the outcome variable. The p-value of 0.048 is less than the 0.05 significance threshold, suggesting that this correlation is statistically significant. The correlation coefficient for employee skills in BDA is 0.305, which indicates a moderate to strong positive relationship. With a p-value of 0.031, this result is also statistically significant. The correlation coefficient for investments in BDA is 0.052, showing a very weak positive relationship with the outcome variable. The p-value of 0.721 is much higher than the 0.05 threshold, meaning this relationship is not statistically significant. The lack of a significant correlation between investments in BDA and the outcome variable suggests that merely spending money on BDA-related resources does not automatically lead to better outcomes. The correlation between external pressure and the outcome variable is 0.286, which indicates a moderate positive relationship. The p-value of 0.044 is less than 0.05, suggesting that this correlation is statistically significant. External pressure, such as market demands, competition, and regulatory requirements, appears to have a moderate positive influence on the outcome variable.

5. CONCLUSIONS

This study's findings highlight numerous critical aspects affecting the adoption of BDA in VIP enterprises in Albania and its effect on their business performance. Leadership practices exhibit a significant and moderate positive association with the outcome variable. This indicates that top management support can yield a significant positive effect in driving organizational success. The positive and significant correlation between employee skills in BDA and the outcome variable indicates that higher levels of employee competence in BDA are associated with better performance or outcomes. This indicates that firms ought to prioritize investment in staff training and development in the domain of BDA. The growing significance of data analytics suggests that augmenting these skills is crucial for strengthening organizational performance. Notably, investments in BDA alone did not demonstrate a direct effect on business performance, suggesting that financial investments must be integrated with strategic planning and effective execution to yield optimal benefits. This underscores the necessity of aligning investments with organizational requirements and ensuring their efficient implementation and usage. External pressures, including market demands, competition, and regulatory constraints, seem to show a moderate positive effect on the outcome variable. This suggests that businesses may react to external entities in manners that enhance their performance or modify their strategy accordingly. Nonetheless, comparable to leadership practices and staff competencies in BDA, the impact is minimal, indicating that although external pressures may serve as a motivating factor, they must be supplemented by internal initiatives (such as leadership and employee skills) to attain optimal results. The findings demonstrate that leadership practices, employee proficiency in BDA, and external pressures are positively associated with the outcome variable, demonstrating statistically significant relationships. Among these factors, employee capabilities in Big Data Analytics exhibit the most robust correlation, succeeded by leadership practices and external pressures. Conversely, investments in BDA seem to lack substantial influence. This indicates that although strategic leadership, proficient personnel, and external influences are vital in determining organizational results, investments are inadequate unless complemented by appropriate skills, leadership, and external tactics. Future research should investigate the interaction of these elements and how companies might optimally leverage their resources to improve performance. Organizations must design strategies that harmonize internal and external factors. By cultivating a collaborative culture that aligns internal competencies with external market dynamics, organizations can more effectively respond to problems and seize opportunities. Promoting a data-driven culture within the enterprise is essential since it facilitates improved decision-making and boosts overall performance. By focusing on these areas, VIP enterprises may more effectively leverage the potential of BDA and enhance their long-term business performance.

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Ortaokul Öğrencilerinin Siber Güvenlik Farkındalık Düzeylerinin Belirlenmesi ve Artırılması*

Muhammet Murat Mıdık [1] **Hülya Bakırtaş**[2]

[1]Kılavuz Teknoloji, muratmidik@kilavuzteknoloji.com.tr, ORCID: 0009-0003-6473-9576

[2]Aksaray Üniversitesi, İİBF, Yönetim Bilişim Sistemleri Bölümü, hbakirtas@aksaray.edu.tr, ORCID: 0000-0003-3473-0098

Özet: Gelişen teknoloji ve yaygınlaşan internet kullanımı ile birlikte, sanal dünya ile iç içe geçen bir yaşam tarzı gelişmiştir. Bu gelişmeler göz önüne alındığında sanal ortamda/siber dünyada bulunan kişisel verilerin gizliliği ve güvenliği konusu öne çıkmıştır. Covid-19 döneminde internetin ve teknolojik araçların kullanımının yaygınlaşması ile sanal ortamda geçirilen süre giderek artmıştır. Siber dünyada bireylerin aktif olması, dijital dünyadaki platformların bilinçli olarak kullanılmasını bir zorunluluk haline getirmiştir. Bu durum araştırmanın itici gücünü oluşturmuştur. Çalışmada, siber güvenlik konusu ortaokul öğrencileri açısından incelenecek olup, ortaokul öğrencilerinin siber güvenlik algısı ve farkındalık düzeyi ortaya çıkarılmak amaçlanmıştır. Siber güvenlik konusuna ilişkin yapılmış çalışmalar olmakla birlikte, ortaokul öğrencilerine ilişkin yapılan çalışmaların sınırlı olduğu ve konunun daha çok siber zorbalık açısından incelendiği görülmektedir. Özellikle ortaokul öğrencilerinin tüm düzeylerindeki siber güvenlik algı ve farkındalık düzeyinin incelenmesi ve siber güvenlik eğitimi ile öğrencilerin farkındalık düzeylerinin belirlenmesi ve arttırılması, bu çalışmanın özgün değerini ortaya çıkarmaktadır. Çalışmada nicel araştırma yöntemi izlemiştir. Deneysel araştırma tasarımı kullanılmıştır. Ön test ve son test uygulaması yapılarak öğrencilerin siber güvenlik eğitim öncesi ve eğitim sonrası farkındalık düzeyleri incelenmiştir. İki farklı teknikle (uygulamalı eğitim ve uygulamalı olmayan eğitim) öğrencilere siber güvenlik eğitimi verilmiş ve öğrencilerin eğitim öncesi ve sonrası siber güvenlik farkındalık düzeyleri karşılaştırılmıştır. Analiz bulgularına göre; eğitim öncesi öğrencilerin siber güvenlik farkındalık düzeylerinin, verilen eğitimle arttığı görülmektedir. Sadece yedinci sınıf geleneksel eğitimle eğitim alan öğrencilerin siber güvenlik farkındalığının, uygulamalı eğitim alan öğrencilere göre görece olarak daha yüksek olduğu görülmektedir. Bu kontrol grubunda yer alan öğrencilerin deney grubu öğrencilerine göre siber güvenlik farkındalığının görece olarak biraz daha fazla olmasından kaynaklanmış olabilir. Eğitim türünün (uygulamalı/uygulamalı olmayan), sadece yedinci sınıfların siber güvenlik farkındalığı açısından istatistiksel olarak anlamlı bir farklılığının olduğu bulgusuna ulaşılmıştır. Siber güvenliğin kişisel gizliliği koruma, önlem alma ve iz bırakmama alt unsurları açısından uygulamalı olmayan eğitim alan öğrenciler ile uygulamalı eğitim alan öğrenciler açısından istatistiksel olarak anlamlı farklılıklar olduğu görülmektedir. Sadece kişisel gizliliği koruma açısından uygulamalı eğitim alan öğrencilerin, uygulamalı eğitim almayan öğrencilere göre siber güvenlik farkındalık düzeyinin daha yüksek olduğu bulgusuna ulaşılmıştır.

Anahtar Kelimeler: Eğitim, Ortaokul Öğrencileri, Öğrenci Farkındalığı, Siber Güvenlik

1. GİRİŞ

Hızla gelişen bilişim teknolojileri uygulamaları, internet ve bilgisayar kullanımının yükselişini de beraberinde getirmiştir. Kullanıcılar dijital dünyada pek çok tehdit ve olası saldırı ile karşı karşıya kalmaktadır. Bu tehditler kimi zaman sistem açıkları, kimi zamanda kişiler tarafından alınmayan önlemlerden kaynaklanmaktadır (Aslay, 2017). Siber alanda birden çok saldırı türü (trojenler, solucanlar, DDOS vb) vardır ve her geçen gün bu saldırılara yenisi eklenmektedir. Saldırgan farklı saldırı türlerini kullanarak eriştikleri sistemleri aksatarak ya da içeriğindeki bilgileri sızdırarak zarar vermektedir. Bu zararlar, örgütlere maddi zarar vermekle birlikte itibarlarını zedeleyerek manevi zararlara da sebep olabilmektedirler (Alioğlu, 2019: 10). Elektronik cihazların ve dijital ortamdaki verilerin, siber tehditlere ve saldırılara karşı korunması için güvenlik önlemlerinin alınması gerekir (Ertuğrul, 2020). Bireyler tarafından alınabilecek önlemlerden bazıları (karspersky.com.tr, 2020):

- Elektronik cihazlarda kullanılan yazılımları güncel tutmak.
- Özellikle özel verilerin tutulduğu teknolojik cihazlara anti virüs yazılımları kullanmak.
- Birbirinden farklı ve güçlü parola kombinasyonları kullanmak.
- Bilinmeyen göndericilerden gelen içeriklerdeki güvensiz olan eklere tıklamamak.

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- Herkesin erişebildiği açık alanlarda var olan WI-FI ağlarını kullanmamak.

Siber güvenlik, tüm bilişim sistemlerini içine alan genel bir güvenlik kavramıdır (Altınkaynak, 2018). Kavram, sadece bilgi kaynaklarının korunmasını değil, aynı zamanda bireyin kendisini ve diğer varlıkları korumasını temel alarak geleneksel bilgi güvenliği sınırlarının aşılmasını da ifade eder (Solms ve Niekerk, 2013'ten akt. Karacı vd., 2017: 2080). Siber güvenlik, tüm bilgisayar ağlarını, onların bağlı olduğu ve kontrol ettiği her şeyi kapsamaktadır. Her birey, siber güvenliğin bir parçası ve unsurunu oluşturur (Clarke ve Knake, 2011). Özellikle sanal dünyanın ve dijital teknolojilerin yerlisi olarak dünyaya gelen Z kuşağı, sanal ortamı ve dijital teknolojileri ebeveynlerinden ve öğretmenlerinden daha fazla kullanmaktadır. Bununla beraber, karşılaşabilecekleri siber tehditler ve olumsuzluklar hakkında yeterli bilgi ve donanıma sahip olmadıkları görülmektedir (Talan ve Aktürk, 2021: 158).

Konu ile ilgili literatür incelendiğinde çeşitli çalışmaların yapıldığı görülmektedir. Ünal ve Ergen (2018: 191); bireylerin sanal ortamda gerçekleştirdikleri faaliyetler esnasında siber güvenlikle ilgili davranışlarını ölçmüşledir. İstanbul'da yaşayan, 18 yaş ve üzeri 335 bireyden internet ortamında anket tekniği kullanılarak veriler toplanmıştır. Siber güvenlik farkındalık davranışının demografik faktörlere göre farklılık gösterip göstermediği analiz edilmiştir. Kadınların yazılım güncelleme sıklığının, erkeklere oranla yüksek olduğu, özel sektör çalışanlarında cihaz güvenliği davranışı sıklığının kamu çalışanlarına göre daha yüksek olduğu, internette geçirilen süre arttıkça proaktif siber güvenlik farkındalık bilincinin arttığı gözlenmiştir. Talan ve Aktürk (2021: 158) ise, Gaziantep ve Kilis illerinde yaşayan ortaöğretim öğrencilerinin dijital okuryazarlık ve bilgi güvenliği farkındalık seviyelerini ölçmüştür. Araştırma sonucunda, öğrencilerin dijital okuryazarlık ve bilgi güvenliği farkındalıkları arasında istatistiksel olarak anlamlı bir ilişkinin olduğu tespit edilmiştir. Günlük internet kullanım süresi 7 saat ve daha fazla olan öğrencilerin bilgi güvenliği farkındalığının, diğer öğrencilere göre anlamlı derecede yüksek olduğu bulgusuna ulaşılmıştır. Ayrıca erkek öğrencilerin, kadın öğrencilere göre bilgi güvenliği farkındalığının daha yüksek olduğu belirlenmiştir. Aksoğan vd., (2018: 271), öğrencilerin siber suçlar ve siber güvenlik farkındalıkları ile ilgili bir araştırma yapmışlardır. Çalışma, İnönü Üniversitesi İletişim Fakültesi'nde okuyan 368 öğrenci üzerine gerçekleştirilmiştir. Araştırma bulgularına göre, genel olarak öğrencilerin siber güvenlik farkındalık bilgilerinin düşük seviyede olduğu belirlenmiş ve öğrencilerin cinsiyeti, yaşı ve internette geçirdikleri günlük süreye bağlı olarak istatistiksel olarak anlamlı farklılıklar olduğu belirlenmiştir. Altun ve Yukseltürk (2024:321) ise lise öğrencilerinin dijital okuryazarlık ve siber güvenlik farkındalığı arasındaki ilişkiyi incelemiş ve iki değişken arasında istatistiksel olarak anlamlı bir ilişki olduğunu belirlemiştir. Ayrıca kız öğrencilerin siber güvenlik farkındalığı, erkek öğrencilere göre daha yüksektir.

Siber güvenlik; bütün paydaşların bir arada olduğu bir yapıdır. Tüm paydaşların bilgi varlıklarının öneminden haberdar olması, sorumlu kişilerin bilgi güvenliği konusunda hassas davranması gerekir. Bilgi güvenliğinin oluşturulmasında; gizlilik, bütünlük ve erişilebilirlik temel prensiplerdir (Tuğal vd., 2021: 234) ve siber güvenlik için uluslararası işbirliği ve bilgi paylaşımı kritik bir öneme sahiptir. Ayrıca devletin siber güvenlik konusunda politikalar geliştirmesi ve özel sektörle birlikte ortak hareket etmesi gerekir (Özdemir, 2025).

AB'nin siber güvenlik konusundaki en önemli önceliklerinden biri eğitimdir. Özellikle, sanal ortamlarda bulunma oranlarının giderek artması toplumsal siber güvenlik farkındalığına öncelik verilmesini gerektirmektedir. Eğitim kurumları, özellikle gençlerin siber dünya konusu ile ilgili bilinçlendirilmesi konusunda paydaşlar arasına alınmış ve okul müfredatlarında kademeli olarak siber güvenlik konularının eklenmesine karar verilmiştir (Tavlaş, 2019: 28). Belirli yaş gruplarına yönelik uygun yayınların yapılmasının yanı sıra toplumsal siber güvenlik ile ilgili akademik yayınların sayısı da artmaya başlamıştır.

Siber güvenlik konusuna yönelik literatürde çok fazla çalışmakla olmakla birlikte, ortaokul öğrencilerine ilişkin yapılan çalışmaların sınırlı olduğu ve konunun daha çok siber zorbalık açısından incelendiği görülmektedir. Özellikle çalışmada algı ve farkındalık düzeyinin birlikte incelenmesi ve siber güvenlik eğitimi ile öğrencilerin farkındalık düzeylerinin belirlenmesi ve arttırılması, bu çalışmanın özgün değerini ortaya çıkarmaktadır. Çalışmada:

- Ortaokul öğrencilerinin siber güvenlik farkındalık düzeyleri nedir?
- Sanal dünyada ne kadar zaman geçiriyorlar?
- Siber Güvenlik ve Bilgi Güvenliği kavramları öğrenciler için ne anlama gelmektedir?
- Kişisel verileri koruma kapsamında ne gibi güvenlik önlemleri almaktadırlar?
- Eğitim türüne (uygulamalı ve uygulamalı olmayan eğitim) göre, öğrencilerin siber güvenlik farkındalık düzeyi farklılaşmakta mıdır? sorularına yanıt aranacaktır.

2. YÖNTEM

Araştırmanın evrenini, Aksaray İl Merkezi ortaokul öğrencileri oluşturmaktadır. Araştırma boyunca evrenin tamamına ulaşmak mümkün olmadığı için örnekleme tekniği kullanılacaktır. Amaçlı örnekleme yöntemi içerisinden ölçüt örnekleme kullanılacaktır. Bu teknikte kullanılacak ölçüt ise, siber güvenlik farkındalık düzeyi düşük olan okul ve o okuldaki sınıflar olarak belirlenmiştir. Amaçlı örnekleme yöntemine göre araştırmanın örneklemi, 23 Nisan Ortaokulu olarak belirlenmiştir. Çalışmanın örneklemi oluşturulurken;

- Katılımcıların, ortaokul öğrencisi olması
- Tüm sınıf düzeylerinden iki sınıfın belirlenmesine
- Belirlenen sınıflarda siber güvenlik farkındalık düzeyinin düşük olmasına

dikkat edilmiştir. Çalışmanın verileri Eylül 2022-Şubat 2023 tarihleri arasında toplanmıştır. Çalışmada, deneysel tasarım ve anket tekniği uygulanmıştır. Deneysel/deneme tasarım modelleri/desenleri, neden-sonuç ilişkisini belirlemek için araştırmacının kendi kontrolü altında üretilip değerlendirdiği araştırma modelleridir. Bu modellerin üç türü vardır. Bunlar; deneme öncesi (pre-experimental) modeller, gerçek deneme modelleri ve yarı-deneme modelleridir (Karasar, 2016). Bu çalışmada, öntest-sontest eşleştirilmiş kontrol gruplu yarı deneysel desen kullanılmıştır (Tablo 1).

Aksaray İli'nde 23 Nisan Ortaokulunun tüm sınıf düzeylerinden ikişer sınıf seçilerek, çalışma bu sınıflar üzerinde gerçekleştirilmiştir. Öncelikle tüm sınıf düzeyleri ve bu sınıfların şubelerine ilişkin (5,6,7 ve 8 sınıfların A, B, C, D şubeleri) farkındalık düzeyi ölçümü yapılmıştır, daha sonra siber güvenlik farkındalık düzeyleri düşük olan iki sınıf belirlenmiştir. 5. Sınıftan A ve C Şubeleri, 6 ve 7. Sınıftan C ve D Şubeleri, 8. Sınıftan B ve D Şubeleri yapılan değerlendirmeler sonrası seçilmiştir. Bu sınıflara siber güvenlik eğitimleri, haftalık 1 saat olmak üzere her bir sınıf için toplam 8 saat eğitim verilmiştir. İki farklı teknikle (uygulamalı eğitim ve uygulamalı olmayan eğitim) öğrencilere siber güvenlik eğitimi verilmiştir. Uygulamada, deney grubu ve kontrol grubu olmak üzere iki grup bulunmaktadır. Deney grubundaki öğrencilere işlenecek olan derslerde uygulamalı siber güvenlik eğitimi verilirken, kontrol grubundaki öğrencilerde ise uygulama olmadan/geleneksel eğitimle siber güvenlik konusu işlenmiştir. Eğitim sonrası öğrencilerin siber güvenlik farkındalık düzeyi ölçülmüştür. Araştırmanın deseni Tablo 2'de gösterilmiştir.

Öğrencilerin farkındalık düzeylerini ölçmek için anket tekniği kullanılmıştır. Anket, üç bölümden oluşmaktadır. İlk bölümde demografik sorular yer alırken, ikinci bölümde internet, siber güvenlik ve bilgi güvenliğine ilişkin genel sorulara yer verilmiştir. Son bölümde ise siber güvenlik farkındalığını ölçmeye yönelik ifadeler yer almaktadır. İlk bölümdeki sorular için Tavlaş (2019), ikinci bölümdeki sorular için Tavlaş (2019) ile Keser ve Güldüren (2015) çalışmaları temel alınmıştır. Son bölümdeki sorular için Tavlaş (2019) ile Akgün ve Topal (2015) çalışmaları temel alınmıştır. İkinci bölümde yer alan soru "İnternet ortamında bilgi güvenliği size ne ifade ediyor" sorusu yalnızca Keser ve Güldüren (2015)'ten alınırken, diğer sorular için Tavlaş (2019) çalışması esas alınmıştır. Son bölümdeki "İnternette parolamı yazarken yakın arkadaşlarımın parolamı görmesi benim için sorun değildir", "Güvendiğim insanlara kullanıcı adı ve şifremi veririm" ifadeleri Akgün ve Topal (2015)'ten alınmış, bu ifadeler kişisel gizliliği koruma başlığına eklenmiştir. Son olarak "Parolamı belirli zaman aralıklarında değiştiririm" ifadesi de Akgün ve Topal (2015)'ten alınmış olup, bu ifade önlem alma başlığı altına eklenmiştir. Diğer ifadeler için Tavlaş (2019)'un çalışması esas alınmıştır. İlk iki bölümdeki sorular için kategorik ölçek kullanılırken, son bölümdeki sorular için 5'li Likert Ölçeği kullanılmıştır

Tablo 1: Öntest Sontest Eşleştirilmiş Kontrol Gruplu Desen

Grup		Öntest	İşlem	Sontest
D (Deney)	M	O1	X	O3
K (Kontrol)	M	O2		O4

M: Matching-eşleştirme, D: Deney K: Kontrol

O1, O2: Öntest O3, O4: Sontest, X: Deneysel işlem

Tablo 2: Araştırmaya İlişkin Deney ve Kontrol Grubu Deseni

Grup	Öntest	İşlem	Sontest

D (Deney Grubu)	O1 (Siber Güvenlik Farkındalık Ölçeği)	X Uygulamalı Eğitim.	O3 (Siber Güvenlik Farkındalık Ölçeği)
K (Kontrol Grubu)	O2 (Siber Güvenlik Farkındalık Ölçeği)	Klasik Eğitim	O4 (Siber Güvenlik Farkındalık Ölçeği)

3. BULGULAR

3.1. Tanımlayıcı İstatistikler

5/A sınıfından toplamda 34 kişi ankete katılmıştır. Katılanların, 18'i kız iken 16'sı erkektir. Ankete katılanların cinsiyet dağılımına bakıldığında; birbirine görece olarak yakın olarak dağıldığı görülmektedir. Katılımcıların %59'u 11 yaşındadır. 5/C sınıfından toplamda 29 kişi ankete katılmıştır. Katılım gösterenlerin 14'ü kız iken, 15'i erkektir. Ankete katılım gösterenlerin cinsiyet dağılımına bakıldığında; birbirine yakın bir dağılıma sahip olduğu görülmektedir. Katılımcıların yaklaşık %72'si 11 yaşındadır.

6/C sınıfından toplamda 28 kişi ankete katılım göstermiştir. Katılım gösterenlerin 12'si kız iken 16'sı erkektir. Ankete katılım gösterenlerin cinsiyet dağılımına bakıldığında; erkek katılımcıların yoğunlukta olduğu bir dağılım olduğu görülmektedir. Katılımcıların %71'i 11 yaşındadır. 6/D sınıfından toplamda 26 kişi ankete katılım göstermiştir. Katılım gösterenlerin 10'u kız iken, 16'sı erkektir. Ankete katılım gösterenlerin cinsiyet dağılımına bakıldığında erkek katılımcıların yoğunlukta olduğu bir dağılım olduğu görülmektedir. Katılımcıların %69'u 11 yaşındadır.

7/C sınıfından toplamda 30 kişi ankete katılmıştır. Katılım gösterenlerin 15'i kız iken, 15'i erkektir. Ankete katılım gösterenlerin cinsiyet dağılımına bakıldığında eşit bir dağılım olduğu görülmektedir. Katılımcıların %60'ı 12 yaşındadır. 7/D sınıfından toplamda 33 kişi ankete katılım göstermiştir. Katılım gösterenlerin 14'ü kız iken, 19'u erkektir. Ankete katılım gösterenlerin cinsiyet dağılımına bakıldığında erkeklerin kızlara göre yoğunlukta olduğu görülmektedir. Katılımcıların yaklaşık %67'si 12 yaşındadır.

8/B sınıfından toplamda 35 kişi ankete katılım göstermiştir. Katılım gösterenlerin 18'i kız iken, 17'si erkektir. Ankete katılım gösterenlerin cinsiyet dağılımına bakıldığında; birbirine yakın bir dağılım söz konusu olduğu görülmektedir. Katılımcıların yaklaşık %74'ü, 13 yaşındadır. 8/D sınıfından toplamda 26 kişi ankete katılım göstermiştir. Katılım gösterenlerin 12'si kız iken, 14'ü erkektir. Ankete katılım gösterenlerin cinsiyet dağılımına bakıldığında birbirine yakın bir dağılım olduğu görülmektedir. Katılımcıların yaklaşık %65'i, 13 yaşındadır.

3.2. İnternet ve Güvenlik

Beşinci sınıfın A şubesinde olan öğrencilerin yaklaşık %62'sinin, haftalık internet kullanım süresi 7 saatten azken; yaklaşık %29'unun interneti 8-14 saat arası kullandığı belirlenmiştir. C şubesindeki öğrencilerinde yaklaşık %62'si, 7 saatten az interneti kullanırken; yaklaşık %21'inin, 8-14 saat arası interneti kullandığı görülmektedir. Her iki şubede yer alan öğrenciler, daha önce internette güvenli dolaşım üzerine bir eğitim aldıklarını belirtmiştir. A şubesinde yer alan öğrencilerin en çok sevdiği sosyal medya platformu Youtube'ken (yaklaşık %68), C şubesinde yer alan öğrencilerin de en çok sevdiği sosyal medya platformunun (%41) Youtube olduğu belirlenmiştir. A ve C şubesindeki öğrencilerin büyük çoğunluğu (sırasıyla %79 ve %69), siber güvenlik kavramını kişisel gizliliği koruma olarak tanımlarken; bilgi güvenliğini ise öğrencilerin çoğu (sırasıyla %32 ve %29) genel güvenlik önlemlerinin alınması olarak tanımlamaktadır.

Altıncı sınıfın C şubesinde olan öğrencilerin yaklaşık %61'inin, haftalık internet kullanım süresi 7 saatten azken; yaklaşık %21'inin interneti 8-14 saat arası kullandığı belirlenmiştir. D şubesindeki öğrencilerinde yaklaşık %58'i, 7 saatten az interneti kullanırken; yaklaşık %31'inin, 8-14 saat arası interneti kullandığı görülmektedir. C şubesinde yer alan öğrencilerden 1 tanesi (yaklaşık %4) daha önce internette güvenli dolaşım üzerine bir eğitim almazken, D şubesinde 3 öğrenci (yaklaşık %12) daha önce internette güvenli dolaşım üzerine bir eğitim almamıştır. C şubesinde yer alan öğrencilerin en çok sevdiği sosyal medya platformu Youtube'ken (yaklaşık %36), D şubesinde

yer alan öğrencilerin de en çok sevdiği sosyal medya platformunun (%58) Youtube olduğu belirlenmiştir. C ve D şubesindeki öğrencilerin büyük çoğunluğu (sırasıyla %71 ve %73), siber güvenlik kavramını kişisel gizliliği koruma olarak tanımlamıştır. Bilgi güvenliği ise C şubesindeki öğrenciler tarafından hem genel güvenlik önlemlerinin alınması hem de saldırı ve tehditlerinden korunma olarak tanımlanmıştır (%21). D şubesindeki öğrencilerin yaklaşık %35'i bilgi güvenliğini, genel güvenlik önlemlerinin alınması olarak tanımlamıştır.

Yedinci sınıfın C şubesinde olan öğrencilerin yaklaşık %53'ünün, haftalık internet kullanım süresi 7 saatten azken; yaklaşık %33'ünün interneti 8-14 saat arası kullandığı belirlenmiştir. D şubesindeki öğrencilerinde yaklaşık %49'u, 7 saatten az interneti kullanırken; yaklaşık %27'sinin, 8-14 saat arası interneti kullandığı görülmektedir. Her iki şubede yer alan öğrenciler, daha önce internette güvenli dolaşım üzerine bir eğitim aldıklarını belirtmiştir. C şubesinde yer alan öğrencilerin en çok sevdiği sosyal medya platformu Youtube'ken (yaklaşık %50), D şubesinde yer alan öğrencilerin en çok sevdiği sosyal medya platformunun (%39) Instagram olduğu belirlenmiştir. C ve D şubesindeki öğrencilerin büyük çoğunluğu (sırasıyla %87 ve %61), siber güvenlik kavramını kişisel gizliliği koruma olarak tanımlamıştır. Bilgi güvenliği konusunda C şubesindeki öğrencilerin tanımlamalarının geniş bir yelpazeye dağıldığı görülmektedir. Kavram öğrenciler tarafından; genel güvenlik önlemlerinin alınması (%19), güvenli gezinme (%18), mobil cihaz güvenliği (%16) ve saldırı ve tehditlerden korunma (%14) olarak algılandığı görülmektedir. D şubesindeki öğrenciler ise bilgi güvenliğini; genel güvenlik önlemlerinin alınması (%20), güvenli gezinme (%20), saldırı ve tehditlerden korunma (%16) ve mobil cihaz güvenliği (%14) olarak algılamaktadır. C ve D şubelerinde yer alan öğrencilerin bilgi güvenlik tanımlarının genel olarak aynı olduğu, ilk iki bilgi güvenlik tanımının değişmediği görülmektedir.

Sekizinci sınıf B şubesinde olan öğrencilerin yaklaşık %40'ının, haftalık internet kullanım süresi 7 saatten azken; yaklaşık %29'unun interneti 8-14 saat arası kullandığı belirlenmiştir. D şubesindeki öğrencilerinde yaklaşık %42'si, 8-14 saat arası interneti kullanırken; yaklaşık %27'si 7 saatten az ve 14-21 saat arası interneti kullandığı görülmektedir. Her iki şubede yer alan öğrenciler, daha önce internette güvenli dolaşım üzerine bir eğitim aldıklarını belirtmiştir. B şubesinde yer alan öğrencilerin en çok sevdiği sosyal medya platformu Instagram (yaklaşık %51), D şubesinde yer alan öğrencilerin de en çok sevdiği sosyal medya platformunun (%46) Instagram olduğu belirlenmiştir. B ve D şubesindeki öğrencilerin büyük çoğunluğu (sırasıyla %83 ve %85), siber güvenlik kavramını kişisel gizliliği koruma olarak tanımladığı belirlenmiştir. Bilgi güvenliğini ise B şubesindeki öğrencilerin çoğu (%29'u) genel güvenlik önlemlerin alınması olarak tanımlarken; bu öğrencilerin %18'i e-posta ve iletişim güvenliği, %17'si ise saldırı ve tehditlerden korunma şeklinde kavramı tanımlamıştır. D şubesindeki öğrenciler ise kavramı; saldırı ve tehditlerden korunma (%21), genel güvenlik önlemlerinin alınması (%19), e-posta ve iletişim güvenliği (%16) ve mobil cihaz güvenliği (%16) şeklinde tanımladığı görülmektedir.

3.3. Siber Güvenlik

Öğrencilerin eğitim öncesi ve sonrası siber güvenliğe ilişkin farkındalıklarını belirlemeye yönelik her bir yapının (kişisel gizliliği koruma, güvenilmeyenden kaçınma, önlem alma ve iz bırakmama), ortalama ve standart değerleri hesaplanmış ve bu değerler karşılaştırılmıştır. Bu karşılaştırmalar her bir sınıf ve şube düzeyinde gerçekleştirilmiştir.

5A sınıfının eğitim öncesi ve sonrası siber güvenlik farkındalıkları incelendiğinde; öğrencilerin siber güvenlik alanında iz bırakmama konusunda kendilerine yöneltilen ifadelere daha çok katıldıkları görülmektedir. Bütün yapıların genel ortalaması ortalaması, 3,63'tür (Tablo 3). Bu değer, öğrencilerin siber güvenliğe ilişkin yöneltilen ifadelere kısmen katılım sağladıklarını ve siber güvenlik konusunda katılımcıların genel olarak bilinçli olduklarını göstermektedir. Öğrencilerin, eğitim öncesi siber güvenlik alanındaki genel ortalaması 2,91'dir. Bu ortalama değerin, eğitim sonrası artış gösterdiği görülmektedir. Bu sınıfa siber güvenlik eğitim dersi geleneksel yöntemle işlenmiştir.

Tablo 3: 5A Sınıfının Siber Güvenlik Farkındalığı

	ORTALAMA	STANDART SAPMA
KİŞİSEL GİZLİLİĞİ KORUMA	1,47	0,33
GÜVENİLMEYENDEN KAÇINMA	4,32	0,77
ÖNLEM ALMA	4,22	0,56
İZ BIRAKMAMA	4,49	0,44
GENEL ORTALAMA	3,63	

5C sınıfının eğitim öncesi ve sonrası siber güvenlik farkındalıkları incelendiğinde; öğrencilerin siber güvenlik alanında iz bırakmama konusunda kendilerine yöneltilen ifadelere daha çok katıldıkları görülmektedir. Siber güvenlik konusundaki genel ortalama 3,55'tir (Tablo 4). Ortalama değerin 3,55 olması bu öğrencilerin siber güvenlik konusundaki ifadelere kısmen katıldıkları şeklinde değerlendirilebilir. Bu şube için genel ortalama, eğitim öncesinde 2,53'tür. Öğrencilere verilen siber güvenlik eğitimleri öğrencilerin farkındalık düzeylerinin artmasını sağlamıştır. Bu şubede ilgili eğitim uygulamalı olarak verilmiştir. Geleneksel yöntemle verilen siber güvenlik eğitimiyle (5A Sınıfı) karşılaştırıldığında öğrencilerin eğitim öncesine göre genel ortalama düzeyi açısından uygulamalı eğitim (5C Sınıfı) sınıfında siber güvenlik farkındalık artışının görece olarak daha yüksek olduğu görülmektedir. Bu bulgu, uygulamalı eğitimin öğrencilerin farkındalık düzeylerinin oluşumunu daha fazla etkilediğini göstermektedir.

Tablo 4: 5C Sınıfının Siber Güvenlik Farkındalığı

	ORTALAMA	STANDART SAPMA
KİŞİSEL GİZLİLİĞİ KORUMA	1,55	0,46
GÜVENİLMEYENDEN KAÇINMA	4,19	1,06
ÖNLEM ALMA	4,14	0,55
İZ BIRAKMAMA	4,33	0,50
GENEL ORTALAMA	3,55	

6C sınıfının eğitim öncesi ve sonrası siber güvenlik farkındalıkları incelendiğinde; öğrencilerin siber güvenlik alanında önlem alma konusunda kendilerine yöneltilen ifadelere daha çok katıldıkları görülmektedir. Bütün ifadelerin eğitim sonrası ortalama değeri, 3,60'tır (Tablo 5). Genel ortalama değer ise, öğrencilerin siber güvenliğe ilişkin yöneltilen ifadelere kısmen katılım sağladıklarını göstermektedir. İlgili şube için eğitim öncesi ortalama değeri, 2,83'tür. Bu bulgu, öğrencilerin eğitim sonrası farkındalıklarının arttığını göstermektedir. 6C sınıfında ilgili eğitim geleneksel yöntemlerle işlenmiştir.

Tablo 5: 6C Sınıfının Siber Güvenlik Farkındalığı

	ORTALAMA	STANDART SAPMA
KİŞİSEL GİZLİLİĞİ KORUMA	1,44	0,46
GÜVENİLMEYENDEN KAÇINMA	4,18	0,80
ÖNLEM ALMA	4,47	0,62
İZ BIRAKMAMA	4,30	0,79
GENEL ORTALAMA	3,60	

6D sınıfının eğitim öncesi ve sonrası siber güvenlik farkındalıkları incelendiğinde; öğrencilerin siber güvenlik alanında güvenilmeyenden kaçınma konusunda kendilerine yöneltilen ifadelere daha çok katıldıkları görülmektedir. Siber güvenliğin genel ortalama değeri, 3,55'tir (Tablo 6). Bu değer, öğrencilerin siber güvenliğe ilişkin yöneltilen ifadelere kısmen katıldıklarını göstermektedir. İlgili şube için eğitim öncesi ortalama değer 2,7'dir. Bu bulgu, öğrencilerin eğitim sonrası farkındalıklarının arttığını göstermektedir. 6D sınıfında ilgili eğitim uygulamalı olarak işlenmiştir. Geleneksel yöntemle verilen siber güvenlik eğitimiyle (6C Sınıfı) karşılaştırıldığında öğrencilerin eğitim öncesine göre genel ortalama düzeyi açısından uygulamalı eğitim (6D Sınıfı) sınıfında siber güvenlik farkındalık artışının görece olarak daha yüksek olduğu görülmektedir. Bu bulgu, uygulamalı eğitimin öğrencilerin farkındalık düzeylerinin oluşumunu daha fazla etkilediğini göstermektedir.

Tablo 6: 6D Sınıfının Siber Güvenlik Farkındalığı

	ORTALAMA	STANDART SAPMA
KİŞİSEL GİZLİLİĞİ KORUMA	1,55	0,54
GÜVENİLMEYENDEN KAÇINMA	4,32	0,84
ÖNLEM ALMA	4,08	0,97
İZ BIRAKMAMA	4,24	1,00
GENEL ORTALAMA	3,55	

7C sınıfının eğitim öncesi ve sonrası siber güvenlik farkındalıkları incelendiğinde; öğrencilerin siber güvenlik alanında iz bırakmama konusunda kendilerine yöneltilen ifadelere daha çok katıldıkları görülmektedir. Siber güvenliğin ortalama değeri, 3,49'dur (Tablo 7). Bu değer, öğrencilerin siber güvenliğe ilişkin yöneltilen ifadelere kısmen katılım sağladıklarını göstermektedir. İlgili şube için eğitim öncesi ortalama değer 2,93'tür. Bu bulgu, öğrencilerin eğitim sonrası farkındalıklarının arttığını göstermektedir. 7C sınıfında ilgili eğitim geleneksel yöntemle işlenmiştir.

Tablo 7: 7C Sınıfının Siber Güvenlik Farkındalığı

	ORTALAMA	STANDART SAPMA
KİŞİSEL GİZLİLİĞİ KORUMA	1,41	0,30
GÜVENİLMEYENDEN KAÇINMA	3,67	0,88
ÖNLEM ALMA	4,37	0,72
İZ BIRAKMAMA	4,52	0,79
GENEL ORTALAMA	3,49	

7D sınıfının eğitim öncesi ve sonrası siber güvenlik farkındalıkları incelendiğinde; öğrencilerin siber güvenlik alanında iz bırakmama konusunda kendilerine yöneltilen ifadelere daha çok katıldıkları görülmektedir. Siber güvenliğin ortalama değeri, 3,11'dir (Tablo 8). Bu değer, öğrencilerin siber güvenliğe ilişkin yöneltilen ifadelere ne katıldıkları ne de katılmadıklarını göstermektedir. Eğitim öncesi genel ortalama, 2,78'dir. Bu bulgu, öğrencilerin eğitim sonrası farkındalıklarının arttığını göstermektedir. Bu sınıf için siber güvenlik eğitimi uygulamalı olarak işlenmiştir. Uygulamalı olarak eğitimin işlenmesi öğrencilerin siber güvenlik bilincini arttırsa da, geleneksel yöntemle siber güvenlik eğitiminin verildiği şube olan 7C sınıfında görece olarak daha iyi bir farkındalığın oluştuğu söylenebilir. Bu durum o şubede yer alan öğrencilerin siber güvenliğe ilişkin eğitim öncesi farkındalık düzeylerinin görece olarak daha yüksek olmasından kaynaklanmış olabilir.

Tablo 8: 7D Sınıfının Siber Güvenlik Farkındalığı

	ORTALAMA	STANDART SAPMA
KİŞİSEL GİZLİLİĞİ KORUMA	1,94	0,68
GÜVENİLMEYENDEN KAÇINMA	3,25	1,00
ÖNLEM ALMA	3,56	1,11
İZ BIRAKMAMA	3,68	0,90
GENEL ORTALAMA	3,11	

8B sınıfının eğitim öncesi ve sonrası siber güvenlik farkındalıkları incelendiğinde; öğrencilerin siber güvenlik alanında iz bırakmama konusunda kendilerine yöneltilen ifadelere daha çok katıldıkları görülmektedir. Siber güvenliğin ortalama değeri, 3,06'dır (Tablo 9). Bu değer, öğrencilerin siber güvenliğe ilişkin yöneltilen ifadelere ne katıldıkları ne de katılmadıklarını göstermektedir. Eğitim öncesi genel ortalama, 2,93'tür. Bu bulgu, öğrencilerin eğitim sonrası farkındalıklarının arttığını göstermektedir. Bu sınıf için siber güvenlik eğitimi geleneksel eğitimle verilmiştir.

Tablo 9: 8B Sınıfının Siber Güvenlik Farkındalığı

	ORTALAMA	STANDART SAPMA
KİŞİSEL GİZLİLİĞİ KORUMA	2,05	0,53
GÜVENİLMEYENDEN KAÇINMA	3,33	0,95
ÖNLEM ALMA	3,38	0,97
İZ BIRAKMAMA	3,47	0,93
GENEL ORTALAMA	3,06	

8D sınıfının eğitim öncesi ve sonrası siber güvenlik farkındalıkları incelendiğinde; öğrencilerin siber güvenlik alanında iz bırakmama konusunda kendilerine yöneltilen ifadelere daha çok katıldıkları görülmektedir. Siber güvenliğin ortalama değeri 3,02'dir (Tablo 10). Bu değer, öğrencilerin siber güvenliğe ilişkin yöneltilen ifadelere ne katıldıkları ne de katılmadıklarını göstermektedir. Eğitim öncesi genel ortalama, 2,85'tir. Bu bulgu, öğrencilerin eğitim sonrası farkındalıklarının arttığını göstermektedir. Bu sınıf için siber güvenlik eğitimi uygulamalı olarak

verilmiştir. Geleneksel yöntemle verilen siber güvenlik eğitimiyle (8B Sınıfı) karşılaştırıldığında öğrencilerin eğitim öncesine göre genel ortalama düzeyi açısından uygulamalı eğitim (8D Sınıfı) sınıfında siber güvenlik farkındalık artışının görece olarak daha yüksek olduğu görülmektedir. Bu bulgu, uygulamalı eğitimin öğrencilerin farkındalık düzeylerinin oluşumunu daha fazla etkilediğini göstermektedir.

Tablo 10: 8D Sınıfının Siber Güvenlik Farkındalığı

	ORTALAMA	STANDART SAPMA
KİŞİSEL GİZLİLİĞİ KORUMA	1,92	0,62
GÜVENİLMEYENDEN KAÇINMA	3,34	1,07
ÖNLEM ALMA	3,30	1,05
İZ BIRAKMAMA	3,51	0,98
GENEL ORTALAMA	3,02	

3.4. T-Testi Analizi

3.4.1. Beşinci Sınıflara İlişkin T-Testi

Siber güvenlik eğitiminin uygulamalı olup olmamasına göre öğrencilerin siber güvenlik alt boyutlarına ilişkin anlamlı bir farklılık olup olmadığını test etmek için bağımsız iki grup t-testi analizi yapılmıştır. Analiz öncesi verilerin ön değerlendirilmesi yapılmıştır (çarpıklık-basıklık değerleri, aralık ölçüm düzeyi, en az 30 gözlem vb.) Beşinci sınıf düzeyinde öğrencilerin siber güvenlik eğitim türüne (uygulamalı/uygulamalı olmayan) göre siber güvenlik alt boyutları açısından istatistiksel olarak anlamlı bir farklılık bulunamamıştır (p>0,05).

Tablo 11: Beşinci Sınıfların Eğitim Türüne Göre T-Testi Analiz Bulguları

		n	x̄	s	*t*-değeri	p
Kişisel Gizliliği Koruma						
	Uygulamalı eğitim	29	1,55	0,46	0,79	0,44
	Uygulamalı olmayan eğitim	34	1,47	0,33		
Güvenilmeyenden Kaçınma						
	Uygulamalı eğitim	29	4,19	1,06	0,55	0,59
	Uygulamalı olmayan eğitim	34	4,32	0,76		
Önlem Alma						
	Uygulamalı eğitim	29	4,14	1,22	0,59	0,56
	Uygulamalı olmayan eğitim	34	4,22	1,31		
İz Bırakmama						
	Uygulamalı eğitim	29	4,33	0,50	1,39	0,17
	Uygulamalı olmayan eğitim	34	4,49	0,44		

3.4.2. Altıncı Sınıfların Eğitim Türüne Göre T-Testi Analiz Bulguları

Siber güvenlik eğitiminin uygulamalı olup olmamasına göre öğrencilerin siber güvenlik alt boyutlarına ilişkin anlamlı bir farklılık olup olmadığını test etmek için bağımsız iki grup t-testi analizi yapılmıştır.

Analiz öncesi verilerin ön değerlendirilmesi yapılmıştır (çarpıklık-basıklık değerleri, aralık ölçüm düzeyi, en az 30 gözlem vb.) Altıncı sınıf düzeyinde öğrencilerin siber güvenlik eğitim türüne (uygulamalı/uygulamalı olmayan) göre siber güvenlik alt boyutları açısından istatistiksel olarak anlamlı bir farklılık bulunamamıştır (p>0,05).

Tablo 12: Altıncı Sınıfların Eğitim Türüne Göre T-Testi Analiz Bulguları

		n	x̄	s	*t*-değeri	p
Kişisel Gizliliği Koruma						
	Uygulamalı eğitim	26	1,55	0,54	0,79	0,43
	Uygulamalı olmayan eğitim	28	1,44	0,46		
Güvenilmeyenden Kaçınma						
	Uygulamalı eğitim	26	4,32	0,84	0,62	0,54
	Uygulamalı olmayan eğitim	28	4,18	0,80		
Önlem Alma						
	Uygulamalı eğitim	26	4,08	0,97	1,79	0,08
	Uygulamalı olmayan eğitim	28	4,47	0,62		
İz Bırakmama						
	Uygulamalı eğitim	26	4,24	1,00	0,22	0,83
	Uygulamalı olmayan eğitim	28	4,29	0,79		

3.4.3. Yedinci Sınıfların Eğitim Türüne Göre T-testi Analiz Bulguları

Siber güvenlik eğitiminin uygulamalı olup olmamasına göre öğrencilerin siber güvenlik alt boyutlarına ilişkin anlamlı bir farklılık olup olmadığını test etmek için bağımsız iki grup t-testi analizi yapılmıştır. Analiz öncesi verilerin ön değerlendirilmesi yapılmıştır (çarpıklık-basıklık değerleri, aralık ölçüm düzeyi, en az 30 gözlem vb.) Yedinci sınıf düzeyinde öğrencilerin siber güvenlik eğitim türüne (uygulamalı/uygulamalı olmayan) göre siber güvenlik alt boyutları açısından sadece güvenilmeyenden kaçınma açısından istatistiksel olarak anlamlı bir farklılık bulunamamıştır (p>0,05). Diğer boyutlar (kişisel gizliliği koruma, önlem alma, iz bırakmama) açısından istatistiksel olarak anlamlı farklılıklar bulunmuştur (p<0,05). Kişisel gizliliği koruma alt boyutunda uygulamalı eğitim alanların almayanlara göre daha fazla bu konuda hassas oldukları söylenebilir. Diğer boyutlarda ise uygulamalı eğitim almayan öğrencilerin, bu eğitimi uygulamalı olarak alan öğrencilere göre önlem alma ve iz bırakmama konusunda daha hassas oldukları söylenebilir.

Tablo 13: Yedinci Sınıfların Eğitim Türüne Göre T-Testi Analiz Bulguları

		n	x̄	s	*t*-değeri	p
Kişisel Gizliliği Koruma						
	Uygulamalı eğitim	33	1,94	0,68	4,08	**0,00**
	Uygulamalı olmayan eğitim	30	1,41	0,30		

Güvenilmeyenden Kaçınma						
	Uygulamalı eğitim	33	3,25	1,00	1,75	0,09
	Uygulamalı olmayan eğitim	30	3,67	0,88		
Önlem Alma						
	Uygulamalı eğitim	33	3,56	1,11	3,41	**0,00**
	Uygulamalı olmayan eğitim	30	4,36	0,72		
İz Bırakmama						
	Uygulamalı eğitim	33	3,68	0,90	3,89	**0,00**
	Uygulamalı olmayan eğitim	30	4,52	0,79		

3.4.4. Sekizinci Sınıfların Eğitim Türüne Göre T-Testi Analiz Bulguları

Siber güvenlik eğitiminin uygulamalı olup olmamasına göre öğrencilerin siber güvenlik alt boyutlarına ilişkin anlamlı bir farklılık olup olmadığını test etmek için bağımsız iki grup t-testi analizi yapılmıştır. Analiz öncesi verilerin ön değerlendirilmesi yapılmıştır (çarpıklık-basıklık değerleri, aralık ölçüm düzeyi, en az 30 gözlem vb.) Sekizinci sınıf düzeyinde öğrencilerin siber güvenlik eğitim türüne (uygulamalı/uygulamalı olmayan) göre siber güvenlik alt boyutları açısından istatistiksel olarak anlamlı bir farklılık bulunamamıştır (p>0,05).

Tablo 14: Sekizinci Sınıfların Eğitim Türüne Göre T-Testi Analiz Bulguları

		n	$\bar{x}$	**s**	***t*-değeri**	**p**
Kişisel Gizliliği Koruma						
	Uygulamalı eğitim	26	1,92	0,63	0,90	0,37
	Uygulamalı olmayan eğitim	35	2,05	0,53		
Güvenilmeyenden Kaçınma						
	Uygulamalı eğitim	26	3,34	1,07	0,03	0,98
	Uygulamalı olmayan eğitim	335	3,33	0,94		
Önlem Alma						
	Uygulamalı eğitim	26	3,29	1,05	0,31	0,76
	Uygulamalı olmayan eğitim	35	3,38	0,97		
İz Bırakmama						
	Uygulamalı eğitim	26	3,51	0,98	1,16	0,88
	Uygulamalı olmayan eğitim	35	3,47	0,93		

4. SONUÇ

İnternet, insanların yaşamını kolaylaştıran önemli bir teknolojik gelişmedir. İnsanlar; eğitim, eğlence, alışveriş gibi farklı amaçlar için interneti kullanmakta ve her geçen gün internette geçirilen süre artmaktadır. Bu teknoloji, pek çok açıdan insanlara fayda sağlamakla birlikte, yeterli güvenlik tedbirleri alınmadığı taktirde hem insanlar, hem

kurumlar hem de ülkeler açısından maddi ve manevi zararların ortaya çıkmasına neden olur. İnternet kullanıcılarının konu hakkındaki farkındalık ve algı düzeyi, her türlü oluşabilecek zararın önceden önlenmesine imkân sağlayacaktır. Bu çalışmada ortaokul öğrencilerinin internet ortamına ilişkin güvenlik algısı ve farkındalığının yanı sıra, öğrencilerin siber güvenlik konusuna ilişkin alacakları eğitim türüne göre siber güvenlik farkındalık düzeylerinde herhangi bir değişiklik olup olmadığı incelenmek amaçlanmıştır. Araştırma bulgularına göre, eğitim öncesi öğrencilerin siber güvenlik farkındalığını ölçmeye yönelik gerçekleştirilen ön test bulguları ile eğitim sonrası öğrencilere yapılan son test bulguları siber güvenlik eğitimlerinin öğrencilerin farkındalık düzeyini artırdığı göstermektedir. Eğitim öncesi öğrencilerin siber güvenlik farkındalık düzeyleri görece olarak eğitim sonrasına göre daha düşüktür. Bu bulgu, literatürdeki bulgularla paraleldir. Siber güvenlik konusunda üniversite öğrencilerine yönelik yapılan bir çalışmada, öğrencilerin siber güvenlik farkındalık bilgilerinin genel olarak düşük olduğu bulgusuna ulaşılmıştır (Aksoğan vd., 2018; 271). Ayrıca literatürde, dijital okuryazarlık ile bilgi güvenliği arasında anlamlı bir ilişki olduğu gösterilmiştir. Bireylerin dijital okuryazarlık düzeyi arttıkça, bilgi güvenliğine ilişkin farkındalık düzeyleri de artmaktadır (Talan ve Aktürk, 2021: 158; Altun ve Yukselturk, 2024:321). Ayrıca bu çalışmada, eğitim türüne (uygulamalı/uygulamalı olmayan) göre öğrencilerin siber güvenlik algıları açısından 7.sınıflar hariç istatistiksel olarak anlamlı bir farklılık bulunamamıştır.

Bu çalışma bazı sınırlılıklara sahiptir. İlki çalışmanın sadece ortaokul öğrencilerine yönelik yapılmasıdır. Gelecekte yapılacak çalışmalar, farklı örneklem grupları üzerine gerçekleştirilebilir. İkinci olarak çalışma, sadece Aksaray ilinde gerçekleştirilmiştir. Gelecekte yapılacak çalışmalar, farklı iller ya da bölgelerde yaşayan öğrencilere yönelik yapılabilir. Son olarak çalışmada siber güvenlik farkındalığı, eğitim türü açısından ele alınmış olup, öğrencilerin demografik özellikler açısından siber güvenlik farkındalık düzeyi incelenmemiştir. Gelecekte yapılacak çalışmalar, demografik özellikler açısından bireylerin siber güvenlik farkındalık ve ilgi düzeylerinin farklılaşıp farklılaşmadığını inceleyebilir.

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Investment and economic advancement

Associate Professor Dr. Nadya Marinova[1]

[1] nmarinova@nbu.bg

Abstract:

Objective

Investments are a fundamental factor in renewing and expanding production resources, as well as in ensuring economic growth. The primary goal of this study is to analyze the role of investments in national economic development, particularly their impact on GDP, employment, infrastructure, and overall economic stability. The research aims to highlight the importance of foreign direct investment (FDI) and domestic investments in shaping long-term economic growth, particularly in developing economies and Bulgaria's specific context.

Materials and Methods

The study is based on a review of existing economic theories and empirical data on investment dynamics. It utilizes macroeconomic indicators such as GDP, FDI inflows, national income, and foreign trade statistics. Comparative analysis is conducted to evaluate investment trends at both international and national levels. The research includes statistical data from Eurostat, the World Bank, and national institutions such as the National Statistical Institute of Bulgaria and the Bulgarian National Bank.

Additionally, the study examines the role of investment policies, taxation incentives, and regulatory frameworks in fostering a favorable investment environment. Case studies from developing countries are used to demonstrate the correlation between investment inflows and economic growth. The methodology also includes trend analysis of investment activity before and after major economic disruptions, such as the COVID-19 pandemic, to understand their influence on national economies.

Conclusion

The study confirms that investments are a key driver of economic growth, leading to increased production, job creation, and improvements in infrastructure. Foreign direct investments play a crucial role in international economic integration, facilitating technology transfers, business development, and increased competitiveness. While investment inflows contribute to the expansion of production capacities, they are also highly dependent on the overall economic environment, financial stability, and government policies.

The analysis of Bulgaria's investment landscape suggests that the country remains an attractive investment destination due to its low corporate tax rates, EU membership, and strategic geographic location. Despite short-term fluctuations, Bulgaria demonstrates stable investment trends, with a focus on industrial and service sectors. The study also highlights the importance of sustainable economic policies that encourage long-term capital investments while mitigating risks associated with economic crises.

A key finding is that investment-driven economic growth is more pronounced in countries with well-developed financial markets and strong institutional frameworks. The research underscores the necessity of a balanced approach that includes both foreign and domestic investment strategies to ensure stable and sustainable economic progress.

Ultimately, the study emphasizes that effective investment management, transparent policies, and risk mitigation strategies are crucial for maximizing the economic and social benefits of investment activities, fostering long-term national prosperity.

Keywords: Investments, Economic Growth, Foreign Direct Investment (FDI), Macroeconomic Indicators

1. Introduction

Investments play a crucial role in the renewal and expansion of production resources within enterprises, as well as in the reproduction system and the facilitation of specific rates of economic growth. They are fundamentally linked to production and the establishment of the material foundation for its advancement, resulting in an increase in real capital and the enhancement and expansion of the production apparatus.

Investments profoundly influence the national income of each country, as well as key macroeconomic indicators such as gross domestic product (GDP1), gross national product (GNP2), national income, and national wealth, all of which are contingent upon their dynamics.

Furthermore, they play a crucial role in the enhancement of production processes. The actual investment of capital catalyzes the establishment of new industries, which serves as a foundation for job creation, infrastructure development, increased population income, and overall improvement in the well-being of individuals.

1.1. Definition and Key Aspects of Investment

The term "investing" encompasses a range of activities, all of which share a common objective: to utilize resources over time in pursuit of increasing the investor's profit. The funds for investment typically derive from existing assets, borrowed capital, and savings.

In the specialized literature, numerous definitions of the concept of "investment" exist. Some characterize it as "allocating capital to any type of business with the objective of subsequent growth. The capital gain realized from the investment should adequately compensate the investor for the decision to forgo the immediate use of available funds, reward them for the associated risks, and offset potential inflationary losses in the future." Consequently, "investment" is depicted as a long-term endeavor. Furthermore, while emphasis is placed on capital appreciation through investment, this growth is also viewed through the lens of inflationary losses and as a means of compensating for the risks undertaken.

Others characterize "investment" as "the total expenditure incurred in the form of long- term investments, which signify the allocation of funds to a specific activity over a designated period, for which the owner will receive compensation in the form of income exceeding the initial investment amount." "Investment" is also described as "expenditures for the acquisition of securities" and as "the procurement of physical assets, such as buildings, structures, equipment (investment in fixed assets), and inventories (investment in inventories), i.e., tangible or real investments." In this context, the first definition delineates investment as a method of acquiring securities, while the second defines it as a means of acquiring assets.

Other definitions describe investment as “the allocation of temporarily available capital into a specific asset with the objective of safeguarding this capital while achieving a profit or other beneficial outcome.” This definition further underscores the essential function of investments, specifically the preservation of capital and the generation of profit.

Similar definitions are articulated by other authors, who assert that the objective of investments is the prospective growth of capital, which should adequately compensate the

investor for the decision to forgo immediate expenditure of available funds and the associated risks. Consequently, the following definition of "investments" may be embraced:

Investment involves the allocation of various forms of value, including property and intellectual assets, into entrepreneurial activities with the objective of generating new capital, which encompasses both means of production and human potential. By incurring expenses, such as the acquisition of financial or tangible assets, one anticipates the formation of future profits, benefits, and/or a positive social impact.

1.2. The Role of Investment in Economic Growth

Domestic and international sources of investment in the nation's economy are pivotal to economic growth. The developmental experiences of various countries worldwide demonstrate that investments are integral to economic advancement. According to the classical definition, foreign direct investment (FDI) flows are typically characterized by "an increase in the book value of net investments held by an investor from one country in another." While direct investment represents a more specific category of cross-border investment, it occurs when investors residing in one country establish long-term interests in another, thereby possessing the capacity to significantly influence local companies, competition, economic growth, and welfare in the host nation.

[1] gross domestic product

[2] gross national product

This form of investment is also essential for international economic integration, fostering stable and enduring connections between efficient economies. Furthermore, it serves as a primary conduit for the exchange of knowledge, technology, and expertise between countries and foreign markets, acting as a catalyst for business development and the dissemination of innovations, which enhances the overall efficiency of national economies. Such investments can be a crucial instrument for economic development by facilitating international trade and providing access to global markets.

The positive influence of investment on economic growth becomes increasingly pronounced when financial development surpasses a specific threshold. This phenomenon is evident when financial development is assessed through both the banking sector and the stock market. Domestic investment and trade openness, in fact, foster job creation in developing nations. Such investments enable the establishment of local enterprises that necessitate a workforce, thereby enhancing employment, decreasing unemployment, and improving living standards. Furthermore, domestic investment in infrastructure, technology, and training contributes to heightened labor productivity. This enhancement allows developing countries to generate a greater volume of goods and services, thereby stimulating economic growth. Additionally, trade openness promotes the transfer of knowledge and technology from more developed nations to developing ones. Consequently, local enterprises are empowered to adopt more efficient and innovative practices, thereby bolstering their competitiveness.

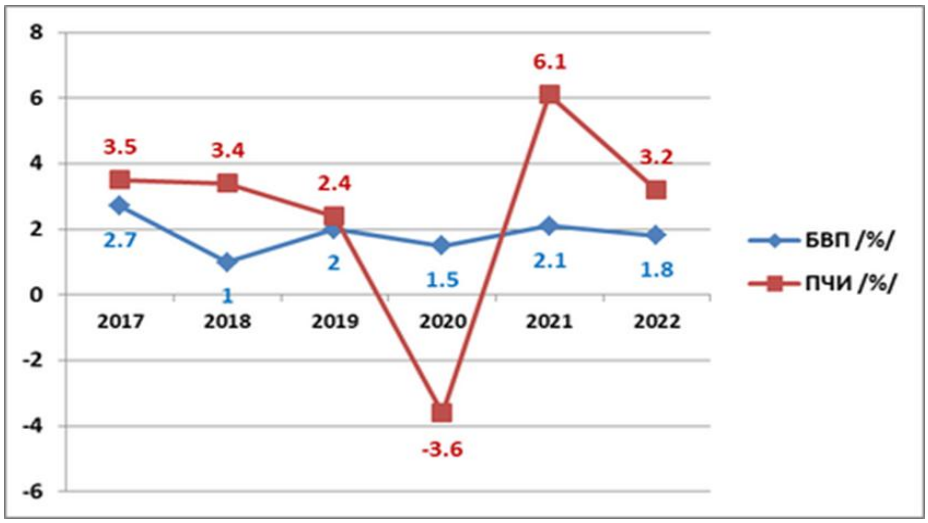
Conversely, domestic investment and trade openness foster economic diversification in developing nations. Rather than relying solely on traditional sectors like agriculture or raw materials, these countries can cultivate new industries, including manufacturing, services, and information technology. This approach mitigates economic dependence and establishes a more robust foundation for sustained growth. Furthermore, capital investment is increasingly recognized for its significance in promoting sustainable economic development. Such investment stimulates consumer spending and market demand, thereby contributing to an overall enhancement of economic growth. As household disposable income rises, coupled with a multiplier effect, the economy flourishes, enabling individuals to access a broader array of products and services.

2. Empirical Data and Analysis

2.1. Global Investment Trends

International studies have demonstrated a correlation between investment growth in developing economies and the gross domestic product (GDP) of these nations (Fig. I.1). This indicates that investment is pivotal to the economic growth of any country. Specifically, middle-income developing countries depend significantly on investment to rejuvenate their economies and foster sustainable development.

Fig. I.1. Summary data on the dynamics of gross domestic product and direct investment in developing countries for the period 2017-2022 /%/. Adapted from Eurostat data and the World Bank's summary of exported data.

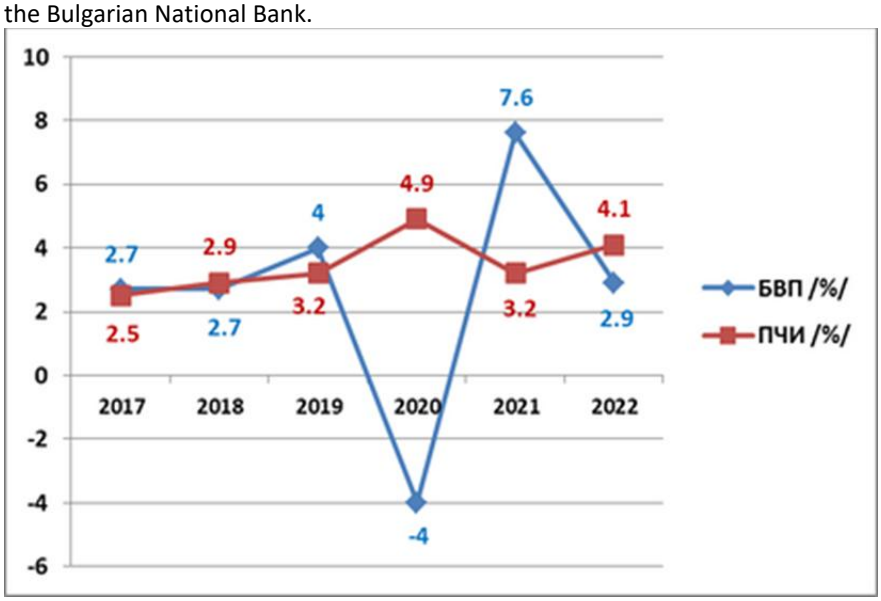


The data presented in Fig. I.1 indicate a relatively stable investment volume at the beginning of the period, followed by a significant decline in foreign direct investment (FDI3) in 2020, likely attributable to the onset of the global Covid-19 pandemic. This is succeeded by a notable increase in FDI in 2021, which is then followed by another decline in 2022, although not as pronounced as that of 2020. Throughout the entire period from 2017 to 2022, a relatively stable GDP volume is observed, and, in contrast to FDI, there are no negative values or excessively sharp fluctuations in the dynamics of this indicator.

To conduct a comparative analysis of the data presented in Fig. I.1., the situation is also observed at the national level:

2.2. Investment Trends in Bulgaria

Fig. I.2. Summary data on the dynamics of gross domestic product and direct investments in Bulgaria for the period 2017-2022 (%). Adapted from data provided by the National Statistical Institute, Ministry of Finance, and the Bulgarian National Bank.



The data presented in Fig. 1.2 illustrates that investments in our country are primarily influenced by fluctuations stemming from crises in the countries of origin, as well as by developments within the host economy of Bulgaria, particularly during the pandemic. Notably, two intriguing dynamics emerge following the initial two years of the period:

[3] foreign direct investment

2.2.1 Initially, investments during the first year of the pandemic (2020) reached a peak with a growth rate of 4.9%, whereas GDP (real, %) recorded its lowest negative value at -4.4%.

2.2.2. Secondly, the significant increase in GDP for 2021 to 7.6% can likely be attributed, at least in part, to the largest investments made during the entire period in 2020. It is reasonable to conclude that this growth was primarily fueled by domestic demand, as net exports for 2021 contributed negatively.

In contrast to the international landscape regarding investments and GDP (Fig. I.2.), our country exhibits a relatively stable trend in investments throughout the period, with a notable increase in 2020. Conversely, GDP demonstrates significant fluctuations during 2020-2021. Within the broader context of developing nations (Fig. I.1.), a contrasting trend is evident—investments experience substantial dynamic shifts between 2020 and 2021, while GDP levels remain largely unchanged.

However, both Bulgaria and other developing countries exhibit a trend in investment patterns characterized by a gradual decline in the number of investing companies, despite an increase in the volume of foreign direct investment (FDI). A general trend is also evident, with the largest volume of direct investment concentrated in the industrial sector, followed by the services sector.

3. Investment Climate and Policy in Bulgaria

Examining the current investment landscape in Bulgaria reveals a favorable outlook, as evidenced by the data presented above, which indicates a preference for investments. Our environment possesses distinct competitive advantages that must be considered when analyzing the investment climate in Bulgaria:

3.1 The country operates under a currency board until it joins the eurozone, thereby ensuring financial stability.

3.2 Bulgaria is a member of both the European Union (EU4) and NATO5.

Our country is appealing for investment due to its corporate tax rate of 10%, the lowest in the European Union.

3.3 A minimal "flat tax" on personal income (10%) and a reduced tax on dividends (5%); ● The most minimal operating costs in the EU.

3.4 Robust geostrategic position;

3.5 Facilitates liberalized access to markets comprising over 560 million consumers;

3.6 Provides enhanced depreciation rates (by 50%) for investments in new machinery and production equipment, including computers, hardware, and software devices.

3.7 Permits the utilization of a tax credit through the special procedure for VAT assessment on imports for the execution of investment projects exceeding BGN 10 million, among other provisions.

It is essential to recognize that the enhancement of the administrative environment for investments in Bulgaria is ongoing: approximately 83% of all proposed relief regimes have been eliminated or relaxed. Certain regulatory frameworks within the non-governmental sector have also been abolished, modified, and reassigned. Furthermore, incentives for investment promotion have been established under the Investment Promotion Act and its Implementing Regulations.

4. CONCLUSION

The analysis of the data, along with the investment environment, underscores the significance and function of investments in our country, highlighting their increasing importance. This indicates that, both internationally and within Bulgaria, the role of investments in socio-economic development is expanding.

Recognizing investments as a crucial element in the economic growth of nations positions them as vital and highly beneficial instruments for long-term development and prosperity. Conversely, it is a misconception to assert that investments solely benefit national economies. From a broader perspective, investments play a

[4] European Union

[5] North Atlantic Treaty Organization

fundamental role in the overall welfare of societies. This role is intricately linked to social systems, thereby enhancing value and providing additional advantages to the community. When the attraction of investments is paired with an effective management process, along with appropriate oversight and risk mitigation, the successful administration of investment projects can be assured through transparency, safeguarding the integrity of investments, protecting the interests of investors, and fostering long-term national development.

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Analysis of Sustainable Growth Through Energy-Effıcient Production In The Agricultural Sector

Natally STOYANOVA[1]

[1]Accos. Prof. PHD, University of Agribusiness and Rural Development e-mail : natally_1971@abv.bg

Abstract: Encouraging Entrepreneurship Access to financing poses a challenge for every startup, and enterprises engaged in green economy activities are no exception. The Commission, along with the European Investment Bank, has established the Natural Capital Financing Facility to support projects utilizing such capital, including small innovative enterprises focused on biodiversity and climate change adaptation. Due to the recent growth in microfinance activities in Europe, over 30% of microcredit providers now offer microcredits for the green economy, with another 10% in the process of developing such credits.

Key words: sustainable growth through energy-efficient production in the agricultural sector

I. INTRODUCTION

Social economy and social enterprises have significant potential to provide high-quality employment in areas such as energy efficiency, renewable energy sources, organic agriculture, ecotourism, or circular economy activities related to reuse, repair, and recycling. Developing effective strategies for the growth of social eco-enterprises, as well as raising awareness of opportunities, can stimulate entrepreneurship.

According to recent forecasts, 42% of SMEs have at least one full or part-time employee engaged in "green" activities, representing a 5% increase since 2022, equivalent to over 20 million jobs in the EU. The Small Business Green Action Plan includes actions to support eco-friendly entrepreneurship and innovative circular business models of future enterprises.

To stimulate job creation, the Commission:

- Will support the development of methodologies for assessing the impact of investments on skills and employment, particularly through technical assistance, exchange of best practices, pilot projects, and awareness-raising actions in 2022 and 2013.
- Will continue to monitor the reform of environmental taxes in Member States within the European Semester.
- Will support capacity building in the field of environmentally friendly public procurement, providing guidance on how to best use them within the recently adopted reform in public procurement and creating networks of public authorities on issues related to environmentally friendly public procurement.
- Will facilitate access to financing for social enterprises, including those engaged in the green economy, and "green" microfinance under the EaSI program.
- Will encourage European-level microcredit provider organizations to promote the exchange of experience in microfinancing for the green economy.
- Will strengthen targeted support under the Green Action Plan for SMEs through EU-level financing and support networks for SMEs (e.g., the Enterprise Europe Network), primarily to improve the necessary skills of the SME workforce in the green economy.

II. LITERATURE REVIEW

So far this discussion has been set in the context of commercial marketing but social marketing should also be acknowledged. Social marketing identifies human needs in non-competitive economies and/or sectors of society and defines the means of delivering products and services to meet these needs. The marketing mix of social marketing strategies is evaluated using quite different criteria from those employed in assessing purely commercial marketing strategies. Criteria such as the percentage of the target population reached with the technology, products, processes or services, quantities produced and distributed and uptake of the product, service or technology are more often employed. Benefits are measured in terms of development goals, such as improved nutritional status or increased rural incomes. The use of economic criteria is usually limited to the

latter and to selecting the least-cost strategy to achieve a quantitative goal. However, the criteria used to evaluate commercial marketing strategies should not automatically be eliminated, because these improve the efficiency of some aspects of social marketing strategy without preventing the attainment of social objectives.

Member States and regions are called upon to strengthen the employment and skills dimension of their financial support programs for "green" investments and technologies, and to assist social eco-enterprises in preparing to "scale up" and "replicate and adapt." Member States are also called upon to ensure the effective use of resources under the ESIF to facilitate the transition to a green economy in line with the Union's goal: 20% of the budget to be spent on climate-related measures.

III. IMPROVING DATA QUALITY

Green economy, green growth, and green employment have been subject to various definitions, supported by various statistical data. Regular collection of harmonized statistical data will enable policy-making and monitoring based on solid data.

Green economy, green growth, and green employment have been subject to various definitions supported by different statistical data. Regular collection of harmonized statistical data will enable the creation of policies and monitoring based on specific data, as well as better anticipation of transitional effects on the labor market and identification of skills needs.

The Commission, together with the Member States, is developing indicators to monitor progress towards environmentally sustainable growth within the context of the European Semester. Additionally, data on Environmental Satellite Accounts (ESA) are collected at the EU level to provide harmonized European information on environmentally related employment activities. Furthermore, the Commission is in the process of developing an econometric model (FIDELIO) to assess the impact of environmental policies and other policies on the economy, environmental protection, and employment.

At the international level, guidelines for statistical definition of employment in the environmental sector were adopted at the 19th International Conference of Labour Statisticians to assist countries in developing statistical standards and methods for green employment, the green economy, and employment in the environmental sector, as well as to improve international comparability.

1. To improve data quality, the Commission:

- Will support national statistical offices in data collection and development of environmental accounting in the European Statistical System, through financial support and training.
- Will promote the use of quantitative modeling tools to enable a more detailed analysis of the impacts on the labor market at EU and Member State levels, as well as at the regional level.
- Based on employment and environmental indicators developed by the Employment Committee, will support policy monitoring within the framework of the "Europe 2020" strategy.

Member States are urged to minimize transitional periods for implementing the ESA module and the time required for data submission.

2.Promotion of Social Dialogue

To facilitate the transition to a green economy, it is essential that social partners are involved at all levels.

Through joint or separate initiatives, social partners at the EU level have already contributed to the EU debate on the transition to green employment, focusing on the principle of a fair transition, synergies between the 2030 climate and energy package and EU industrial policy, and the skills needed for green employment and the skills required for green jobs. As the transition to a green economy with efficient resource use has a strong sectoral impact, social partners have a direct interest in expressing their views in EU sectoral social dialogue committees.

The Commission will encourage European social partners to develop future joint initiatives within the context of the European social dialogue, both at intersectoral and sectoral levels, taking into account the recommendations of EREP to ensure close collaboration of workers on issues related to environmental management, energy and resource use, and emerging workplace risks, to strengthen workers' rights to information and consultation, and to develop sectoral roadmaps for resource efficiency.

3.Strengthening International Cooperation

In line with the conclusions of the United Nations Conference on Sustainable Development, Rio+20, the EU is committed to striving for a just global transition to an inclusive green economy in cooperation with other international partners. This requires taking into account the social dimension of environmental and climate change policies and their interrelations within the framework of the post-2025 development framework and sustainable development goals.

The EU is closely cooperating with the ILO on challenges related to green employment, including ensuring that these are decent jobs, implementing labor standards, particularly Inspection of Labor and Occupational Health and Safety Conditions in Green Employment; combating the informal economy in green sectors, such as waste management; anticipating future skills needs and adopting training policies that facilitate the acquisition of green skills.

The transition to an inclusive green economy has also been discussed in bilateral discussions with strategic partners of the EU, such as the United States, Canada, and China, and will continue to be subject to discussions in the future with other partner countries. Within its development cooperation policy and through a set of instruments and programs it finances, the EU will also encourage partner countries to adopt an integrated approach to transitioning to a green economy.

The Commission will participate in the knowledge platform for green growth established in 2012 by the Global Green Growth Institute, OECD, UNEP, and the World Bank. This global network of researchers and development experts aims to identify and overcome major knowledge gaps regarding the theory and practice of green growth.

IV.CONCLUSION

The transition to a green economy with efficient resource utilization is primarily an opportunity to increase European competitiveness on a global scale, ensure the well-being of future generations, and support the creation of sustainable and high-quality jobs, while also contributing to recovery from the recent economic crisis. Employment and labor market policies as a whole should play a more active role in supporting job creation and achieving alignment between labor demand and the skills associated with the transition to a green economy with efficient resource utilization. To this end, the following priorities should be pursued:

- Improving the integration and coordination of existing policies and initiatives at European and national levels.
- Further developing management structures and methodological tools to facilitate the transition to a green economy with efficient resource utilization, better coordination of policies, ensuring consistent monitoring of reform measures; also establishing closer working relationships and dialogue with social partners regarding employment challenges related to the green economy.
- Further strengthening existing skills instruments and information networks available to the Commission to better anticipate and monitor developments in sectors and professions related to green growth and a circular economy based on efficient resource utilization.
- Ensuring that EU and Member States' financing programs and policies encourage job creation in the green economy.
- Monitoring progress in green employment within the context of the Joint Employment Report.
- Working towards achieving equality on the international stage to promote sustainable and inclusive growth.
- Borrowing recommendations from EREP for developing a comprehensive strategy for transitioning to a green economy in terms of employment, skills, and education.

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Artificial Intelligence and the Future of the Accounting Profession. The Case of Albania

Dr.Natasha Hoda[1], Coauthor Prof As. Dr. Albana Demi (Mosho)[2], Dr.Hysen Hoda[3]

1. Lecturer Aleksander Moisiu University natashahoda@uamd.edu.al
   ORCID: https://orcid.org/0009-0008-5742-0926
2. Lecturer Aleksander Moisiu University albanamasho@uamd.edu.al
   ORCID: https://orcid.org/0000-0003-2205-5443
3. Lecturer Aleksander Moisiu University hysenhoda@uamd.edu.al
   ORCID: https://orcid.org/0009-0001-8527-4806

Abstract

This paper introduces the impact of AI on the accounting profession, the opportunities that Artificial Intelligence provides to the accountants, as well as the challenges that this profession faces in conditions of the advanced technology and Artificial Intelligence, with a focus on Albania country. In today's world, when technology is advancing rapidly and AI is evident, the accounting profession is undergoing a profound transformation. Accountants should not be afraid by improving the technology and AI, but should embrace and adapt to this evolving environment and use it to increase operational effectiveness. Cultural barriers make the proponents of the traditional accounting method reluctant to use advanced Artificial Intelligence systems.

The purpose of this paper is to highlight the impact of the Artificial Intelligence on the accounting profession, from the perspective of the opportunities and challenges.

The methodology of this paper consists on the use of the qualitative methods, systematic review of the literature and examination of the information obtained from interviews conducted with the specialists in this field.

The conclusions of this paper show that, Artificial Intelligence does not eliminate the role of the accountant or replace it with machines, but leads to the remodeling of his role.

Accountants must improve their capacity as new knowledge is needed in order to adapt new technology and to be able to put it to work, this constitutes one of the challenges for accountants in the face of the Artificial Intelligence.

Accountants must develop mechanisms in order to preserve the characteristics of their profession and make it possible to have control over the Artificial Intelligence.

The important issue is to make it possible for people to work together with computers (machines) or advanced systems and have control over them, because no matter how smart and advanced the technologies, machines or systems are, humans are above them.

Artificial Intelligence improves the workday of accountants and makes them more productive, reduces the rate of errors and eliminates fraud, enables predictive analysis for strategic decision-making, but there is a possibility that data privacy and security will be violated, while high costs are required for the implementation of Artificial Intelligence.

This paper contributes to the perception of the accounting profession in terms of the Artificial Intelligence and how accountants face the challenges and how they use the opportunities offered by AI to be more productive.

Keywords: Artificial Intelligence, Accountant, Challenges, Opportunities, Capacity Building

I. Introduction

In the last decade, technology has been advancing rapidly, Artificial Intelligence in many fields and professions has become a fact. Meanwhile, not all segments of the population embrace technological advancements or Artificial Intelligence. Cultural barriers lead to hesitation towards advanced technology as a result of being comfortable with the traditional methods and then competition forces them to increase the demand for the qualification and capacity building to be able to face the challenges of Artificial Intelligence. The resistance to change from employees and stakeholders accustomed to traditional accounting methods can impede the adoption of innovative practices. Cultural and organizational inertia may create challenges in the fostering a mindset that embraces technological advancements and new ways of conducting financial operations[1].

Especially in developing countries such as Albania, the elderly generally find it difficult to adapt to the technology that changes and develops rapidly from day to day. This category of employees, especially in the accounting profession, hesitates in the face of new technologies, they are loyal to the traditional method of work, and they are content with using of the simple software but in the same time keeps the notes manually. Such an accountant can be very correct and tries to be accurate but spends a lot of time with routine operations and the possibility of making mistakes is inevitable. On the other hand, the training of accountants or all types of professions should be at the center of the company policies.

Artificial Intelligence includes functions such as automation, data analytics, predictive modeling, and fraud detection. This product's characteristics encompass machine learning, natural language processing, and robotic process automation[2].

The accountant is the "owner" of transaction information and summarizes it into the business reports that are used by the interested parties inside and outside the business. The accountant maintains accounting books such as the Journal, the General Ledger and the Trial Balance, prepares financial statements, etc., all of the above, before the year 2000, accountants in Albania performed manually. The use of computers and software makes the day work of accountants easier. Science evolves and here we are today in the face of Artificial Intelligence. Under these conditions, the accountant simply must face the challenges of AI and should use the opportunity to reposition his role as part of the strategic decision-making working group. Artificial Intelligence is fact and accountant is much more important, for the continuation of business activity. According that Susanne and Othmar said: Furthermore, the bookkeeper is responsible for storing paper and digital files[3]. The accounting profession has long served as the backbone of business operations, providing essential financial insights that guide managerial decisions and strategic planning[4].

AI in accounting encompasses a range of the technologies, such as natural language processing, robotic process automation, and predictive analytics, collectively aiming to augment and optimize accounting practices[5]. To face to the challenges of Artificial Intelligence, the accountant must be trained to enhance soft skills in order to effectively use automated systems, intelligent machines, as well as to adapt to the innovations offered by the new work environment.

1. Beryl Odonkor1, Simon Kaggwa2, Prisca Ugomma Uwaoma3, Azeez Olanipekun Hassan4 & Oluwatoyin Ajoke Farayola5 Paper January 2024 A Review of Advanced Accounting Techniques in US Economic Resilience. Finance & Accounting Research Journal, Volume 6, Issue 1, January 2024
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4. Mohammad Reza Gitinejad1, Hossien Badeie Paper September 2024 The Role of Artificial Intelligence in the Future Changes of Accounting **https://powertechjournal.com**
5. Oluwatobi Opeyemi Adeyelu1, Chinonye Esther Ugochukwu2, & Mutiu Alade Shonibare3 Volume 6, Issue 4, P.No.1200-1210, April 2024 The Impact of Artificial Intelligence on Accounting Practices: Advancemnts, Challenges And Opportunities. Journal Homepage: www.fepbl.com/index.php/ijmer

The successful implementation of AI in accounting necessitates a skilled and adaptable workforce. Training and upskilling accountants to effectively use and manage AI tools is a critical challenge[6].

I.a Situations in Albania

The traditional profession of the accountant in Albania was carried out manually, where all transactions were recorded manually and reports were produced manually. Computers in accounting offices in Albania began to be used around 2000, while financial software after 2000. The computerization of the accounting process came slowly until it became mandatory for all private businesses and state institutions. Initially, there were accountants who were afraid of software and kept transactions both manually and in software. Countries like Albania find it difficult to break away from the traditional method. Globalization has made technology progress rapidly in Albania, as well as in other countries of the world. This traditional method is now changing as technology is becoming even more of a necessity to avoid wasting time recording routine operations, to minimize errors, and to make the accountant increasingly part of the organization's strategic decision-making and a promoter of its development As a result of technology and intelligent systems, the work of an accountant is becoming increasingly productive, avoiding routine and manual work, and almost all processes are automated. Some of the benefits achieved as a result of intelligent systems implemented by Artificial Intelligence for all businesses or state institutions in our country are: Digital seals for all businesses, payrolls are available online, VAT invoices, even in the last 2-3 years it has become possible to authorize payments directly from the office computer without the need to go physically in the bank.

It is also been possible to authorize many other tax payments direct by office, such as payment of profit tax, payment of personal income tax, etc. All businesses now have the opportunity to submit summary balances through e-Albania, a government portal that offers many services to citizens. On this portal, citizens can contact a virtual assistant created by Artificial Intelligence for any questions they have regarding public services. Chatbots are also being widely used in Albania to get answers to a variety of services or requests. Chatbots are text – based conversational applications that let a human user talk with a bit that replies immediately to them. A study conducts by SAP (a market research firm) revealed that only 9% of future 500 companies are implementing chatbots (SAP, 2018)[7].

Artificial Intelligence in Albania has found widespread use in telecommunications companies, financial institutions and other businesses, but also in some public services. Currently, Albania has become part of the Digital Europe Program (2021-2027), where one of the five objectives is Artificial Intelligence[8].

From the workshops held in accounting offices near private businesses but also in state institutions, it was concluded that, initially in general there is a certain hesitation, fear of technology especially for the elderly and later competition forces them to be involved in training to learn how to use

6.Oluwatobi Opeyemi Adeyelu1, Chinonye Esther Ugochukwu2, & Mutiu Alade Shonibare3 Volume 6, Issue 4, P.No.1200-1210, April 2024 The Impact of Artificial Intelligence on Accounting Practices: Advancements, Challenges, and Opportunities . Journal Homepage: www.fepbl.com/index.php/ijmer

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smart systems, machinery (Machine Learning) and to have control over the Artificial Intelligence.

On the other hand, businesses are interested in implementing smart systems, to be more effective and efficient in managing short-term and long-term situations. More there are not enough people who know how to operate machines which think and learn by themselves. Some fewer people can make understand other businesses the machine powered progress[9].

I.b Research methodology, purpose, objectives and questions

The methodology of this paper consists on using qualitative research methods, analyzing the transcripts of the interviewees, as well as a systematic review of the literature of many authors in this field. Workshops were organized in several businesses but also in state institutions with managers and specialists in the field of accounting.
25 specialists in the field of accounting were interviewed, where approximately 50% had 3-4 years of experience in the use of Artificial Intelligence systems. The interviewees were employed in private business but also by state institutions. During the organized meetings, the current role of the accountant and the future role in the conditions of AI were discussed. In the framework of the systematic review of the literature, we have referred to potentially important works, related to the subject under study and in the function of answering the questions raised in this paper. Authors Cook, Mulrow, Haynes, Higgins, Green, Kitchenham etc. in their works have explained the importance of using qualitative methods and systematic literature review. According to these authors, the more systematic the approach of the literature review, the much more transparent and reliable the conclusions related to the subject under study. Systematic literature review is a replicable scientific process using criteria-based selection and analysis of published studies, allowing for an evidence-based summary of research[10].

A systematic review of qualitative literature is a form of secondary study, synthesizing the results of multiple primary investigations. It is a means of identifying, evaluating, and interpreting all available research relevant to a particular research question, thematic area, or phenomenon of interest[11].

A systematic literature review is a means of identifying, evaluating and interpreting all available research relevant to a particular research question, or topic area, or phenomenon of interest[12].

Undertaking a review of the literature is an important part of any research project. The researcher both maps and assesses the relevant intellectual territory in order to specify a research question which will further develop the knowledge base[13].

The purpose of this paper is to highlight the impact of Artificial Intelligence on the accounting profession, from the perspective of opportunities and challenges, and also highlighted the fact that AI does not replace the accounting profession but leads to a reformation of this profession.

9.Neetu Dongre*Alka Pandey Dr. O. P. Gupta***** Article March 2024 Artificial Intelligence in Accounting: Opportunities & Challenges. An International Bilingual Peer Reviewed Refereed Research Journal

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Objectives:

Objective 1. To underline the approach that under AI conditions, the accounting profession will be oriented from a data entry operator towards a strategic advisor in the function of improving decision-making.

Objective 2. It showed that the accounting profession will not be eliminated in the presence of AI, but will change and that humans will remain the main and important factor.

Research questions:

1. Will AI lead to the replacement of the accounting profession by machines (technology)?

2. Is the rapid improvement of technology and AI creating new opportunities for accountants?

3. Is Artificial Intelligence associated with threats to privacy and data security?

II. Literature review

The advancement of technology and artificial intelligence is having an impact not only on the accounting profession but also on many other professions, as well as affecting the entire business process throughout the value chain.

AI's impact on accounting is profound, offering a modernized approach that surpasses traditional systems. It facilitates the automation of complex tasks, leading to a reduction in errors and an increase in process efficiency[14].

This modernization is not just a technological upgrade but a strategic enhancement that aligns with the evolving needs of the accounting and finance industry[15].

A challenge for accountants in the context of Artificial Intelligence is the difficulty in adapting as a result of cultural barriers, the fear of losing their job. Training, continuous professional development is essential, with the aim of increasing capacities to cope with new advanced technology.

In the rapidly evolving landscape of artificial intelligence (AI), the accountancy profession stands at a crossroads. Rather than succumbing to fears of obsolescence, accountants can harness the power of AI to not only remain relevant but to enhance their role as trusted financial advisors[16].

In addition to the challenges, AI also offers opportunities for the accounting profession, some of the opportunities can be, automation of routine processes, reduction of the possibility of errors, improvement of the quality of reporting and increase of efficiency at work.

Artificial Intelligence compared to other technologies has as its characteristic its autonomous learning capabilities. Instead of a programmer specifying the course of action of the machine for all possible outcomes, AI algorithms can find solutions themselves, some of which are unpredictable, even for human programmers. But this does not mean that AI endangers the accounting profession but rather brings about necessary remodeling of this profession.

14.Beryl Odonkor1, Simon Kaggwa2, Prisca Ugomma Uwaoma3, Azeez Olanipekun Hassan4, & Oluwatoyin Ajoke Farayola5 Integration Artificial Intelligence in Accounting: A Quantitative Economic Perspective for the Future of U.S. Financial Markets . Finance & Accounting Research Journal, Volume 6, Issue 1, January 2024

15. Oguljan Berdiyeva Muhammad Umar Islam Mitra Saeedi, July 2021. Artificial Intelligence in Accounting and Finance: Meta-Analysis. NUST Business Review An International Jurnal

16.Dinabandhu Mukhopadhyay December 2023. Artificial Intelligence and the Future of the Accountancy Profession: Implications, Challenges, and Opportunities-A Critical Study. THE COST AND MANAGEMENT ISSN 1817-5090, VOLUME-51, NUMBER-06,

The accountant will be there and it will be stronger to help the business "sail" in inappropriate water. Artificial intelligence will do voluminous work, while the accountant stays there, thinking and interpreting the figures, as the technique cannot do everything.
Therefore, AI is considered smarter than traditional information systems, as it builds intelligent systems that are capable of learning, reasoning, adapting, and performing human-like tasks[17].
The most important aspect of this reality is the competence of accountants in quickly adapting to the new status quo, acquiring the necessary knowledge and skills to work with Artificial Intelligence, and overcoming the fear of losing their jobs[18].
Factors such as the acceleration of business transactions, heightened regulatory scrutiny, and the increasing volume of data necessitate a shift towards more efficient and error-resistant processes. In the wake of these challenges, digital technologies have emerged as transformative forces within the accounting landscape[19].
The age we live in is the age of digitization and integrated systems of advanced technology, Artificial Intelligence. In these conditions, the economic and social environment must change and adapt to the advances of science. Some professions may even be at risk, others may be remodeled, in this context the accountant will work together with intelligent machines and will control them while having to strengthen and protect their challenging professional skills.
Therefore, the premise is that AI can not only partially or completely replace human resources, it can also boost efficiency beyond the thresholds of humans[20].

Digitalisation is considered one of the biggest and most lasting changes in today's society, which already affects many areas of our lives. Robots and AI assistants have become ubiquitous and are changing the way we work and live at an increasing speed[21].

Artificial Intelligence (AI) in accounting encompasses a broad spectrum of technologies and applications, fundamentally altering how financial data is processed and analyzed. AI in accounting is not merely about automating routine tasks; it represents a paradigm shift in the way financial information is managed and utilized for decision-making[22].

For an accountant to work alongside smart machines and use smart systems, they must develop soft skills, be trained, and learn algorithmic languages and complex technology.

17.Maria C. Tavares, Graça Azevedo, Rui P. Marques & Maria Anunciação Bastos. 30 June 2023 Challenges of education in the accounting profession in the Era 5.0: A systematic review. **ISSN: (Online) Journal homepage: www.tandfonline.com/journals/oabm20**

18.Lilian Ifunanya Nwosu Makuena Clementina Bereng Hester Vorster Tlotlo Segotso Conference Paper · December 2022 . Artificial Intelligence and Its Effect on the Accounting Profesion For Future Accauntants: A Systematic Literature Reviw. https://www.researchgate.net/publication/366066043

19.Mohammad Reza Gitinejad1, Hossien Badeie Paper September 2024 The Role of Artificial Intelligence in the Future Changes of Accounting **https://powertechjournal.com**

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22. Beryl Odonkor 1, Simon Kaggwa 2, *, Prisca Ugomma Uwaoma 3, Azeez Olanipekun Hassan 4 and Oluwatoyin Ajoke Farayola 5 The impact of AI on accounting practices: A review: Exploring how artificial intelligence is transforming traditional accounting methods and financial reporting. World Journal of Advanced Research and Reviews, 2024, 21(01), 172–188

Machine learning, for instance, allows algorithms to learn from historical data and recognize patterns, thereby informing decision-making and predicting future financial trends (Seetharaman, 2020)[23].

Artificial Intelligence and Machine learning are technologies with the potential for enormous societal and economic impact, bringing new opportunities and benefits. Recent technological advances in computing and data storage power, big data, and the digital economy are facilitating rapid AI/ML deployment in a wide range of sectors, including accounting and finance[24].

Artificial Intelligence (AI), a field of computer science dedicated to developing systems that can perform tasks that usually require human intelligence, such as learning, problem-solving, and decision-making, has significantly impacted various industries by improving efficiency and accuracy[25].

If accountants learn about Artificial Intelligence at university, they will have an easier time when they encounter it concretely in their work. Currently, in our country, learning about Artificial Intelligence is not included in university curricula. The high amounts of investment in technology must go hand in hand with increased investment in the qualification of human beings.

The key is updating and developing new skills, in particular soft skills (e.g., communication, teamwork, or conflict management) and professional retraining for those who want to ensure their employability with sustainability[26].

Potentially transcending the current challenges posed by AI are a range of ongoing – and arguably more important – imperatives for improving both AE (accounting education) and practice to better address contemporary social and environmental issues. These challenges extend well beyond the financial challenges and themes that tend to dominate conventional discussions in accounting[27].

For AI to achieve full economic impact over time, it must be accessible to all sectors of the economy, and to companies large and small[28].

Since we are living in a time where technology is changing very rapidly and Artificial Intelligence is a fact, it is necessary for accountants to complete their studies by including Artificial Intelligence as part of their university curricula, in order to effectively respond to the challenges of today's social and economic environment.

23.Cituar edhe nga **Mohammad Reza Gitinejad[1], Hossien Badeie[2] ne punimin me titull "**The Role of Artificial Intelligence in the Future Changes of Accounting"

24.El Bachir Boukherouaa and Ghiath Shabsigh Y.2021 **IMF** DEPARTMENTAL PAPERS. Powering the Digital Economy: Opportunities and Risks of Artificial Intelligence in Finance. International Monetary Fund

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27.Joan Ballantine a, Gordon Boyce b, Greg Stoner c,*January 2024Critical Perspectives on Accounting A critical review of AI in accounting education: Threat and opportunity journal homepage: www.elsevier.com/locate/cpa

28. Michael Spence International Monetary Fund Report September 2024 AI'S PROMISE FOR THE GLOBAL ECONOMY

As organizations grapple with the challenges of an ever evolving business landscape, cost and management accountants equipped with AI-driven insights stand at the forefront, shaping strategic decisions and fostering the sustainability of businesses[29].

Organizations today, have shifted their attention to the need for AI in their business and product development and how integrating it with their business processes will change the future of their business[30].

By analyzing vast datasets and identifying potential risks, AI systems can assist in evaluating and mitigating financial, operational, and compliance risks[31].

With its enormous potentials, artificial intelligence provides huge promise in augmenting human intelligence with ways that radically changes consumer's access to products, services and information[32].

III. Findings and discussions

Countries like Albania find difficult to break away from traditional methods of bookkeeping, but the globalization and competition make any new of science spread quickly.

As in the whole world, and in Albania, Artificial Intelligence is a fact. Based on this reality, at the topic of policies should be the creation of the necessary mechanisms for people to control Artificial Intelligence. Humans stand above of the technology, Artificial Intelligence is a human-made system that lacks emotional intelligence and conscience. Artificial Intelligence will not replace the accounting profession as it is leading to the repositioning of this profession. In Albania, Artificial Intelligence is used in every field of the economy, but it is widely used in telecommunications companies, hotels, restaurants, financial institutions, mainly banks, social media, in medicine, etc.

The working conditions of the accountant are constantly changing as a result of Artificial Intelligence, this situation makes it necessary to combine the traditional role of the accountant with the increase of technological skills through continuous training. Artificial intelligence will do voluminous work, while the accountant stays there, thinking and interpreting the figures, as the technique cannot do everything. Accountants as human beings have intuition, reasoning, conscience and emotional intelligence, advantages that artificial Intelligence does not have. Accountants must maintain these competitive advantages and exercise control over Artificial Intelligence.

This study contributes to managers' and employees' understanding of the importance of AI in the accounting profession.

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This research paper is valid for students who study in the field of accounting. The paper serves both private companies and state institutions, and accounting and finance employees as well.

We suggest that further studies should be done in relation to the importance of including the Artificial Intelligence into university curricula, especially for students studying accounting and finance.

IV. Conclusions

Humanity should not consider the Artificial Intelligence as a threat, all businesses, companies and state institutions should train staff to be able to control AI.

AI has a positive impact on most professions that operate in the field of various businesses.

AI does not replace the profession of accountant with machines but improves the daily routine work by reducing the time needed for operational work in order for accountant to be a strategic advisor for the company.

AI changes the daily work of accountant, which is characterized by many routine processes and repetitive task that require a lot of time. Artificial intelligence is also a chance for the accountant to level up and become more valuable than ever before.
If Artificial Intelligence is used properly, it will be a promise for the economy and not a threat.

The implementation of AI systems or applications is associated with relatively high costs.

In conclusion, we can say that Artificial Intelligence improves the accountant's workday and makes it more productive, reduces the rate of errors, and prevents fraud, but there is a possibility that data privacy and security will be compromised.

The paper addresses the challenges that the accounting profession will face in terms of the implementation of AI as well as the opportunities offered by the introduction of systems based on Artificial Intelligence. The future of the accounting profession will require new knowledge in order for accountants to be coherent with the new trends of Artificial Intelligence.

At the end of this work we can say that the era we live in is the era of advanced technology and artificial intelligence.

Businesses are interested in changing their economic and social environment in adapting to artificial intelligence.

Artificial intelligence is able to process a very large volume of data and automatize the routine jobs of the accountant, who are repeated and repeated in the continuity and consequently improves the accuracy of financial reports by providing predictive analysis for strategic decision -making.

But the theoretically qualified staff is required to know how to behave in IA conditions, on the other hand the concern about data privacy is evident and the implementation of artificial intelligence requires high costs.

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Accounting System Framework in Albanian

Dr. Natasha Hoda[1] **Dr. Hysen Hoda[2]** **Prof Asc. Dr. Albana Masho[3]**

[1] Lecturer "Aleksander Moisiu" University of Durres, Albania, natashahoda@uamd.edu.al, ORCID: https://orcid.org/0009-0008-5742-0926

[2] Lecturer "Aleksander Moisiu" University of Durres, Albania, natashahoda@uamd.edu.al, ORCID: https://orcid.org/0009-0001-8527-4806

Abstract: This study aims to present Albania's accounting system, which is crucial for economic entities' management and decision-making at all levels. Accounting processes economic data using computers programs, ensuring transparency and accountability within the economic framework.
It helps stakeholders make informed decisions, promotes sustainable growth, and enhances resource allocation efficiency. Accounting provides financial information, enabling managers to identify trends, assess risks, and develop improvement strategies. It fosters trust among investors and external partners by presenting a clear picture of the organization's fiscal review.
The study will identify the specific needs of stakeholders to enhance the effectiveness of financial reporting and ensure the information provided is relevant and useful. Accounting information systems gather, process, and present data from events and activities, enhancing decision-making and fostering trust among investors and external partners.
The research will examine how accounting and budgeting relate to the management of financial resources. Public entities must budget and use their resources in compliance with budget law, borrow as much as necessary, and provide goods and services to the population. Effective accounting practices aid in tracking expenditures and evaluating the efficiency and effectiveness of public service delivery.
This paper defines the public sector as entities that provide services to the public over for profits, with funding controlled by the state. This includes central government, local/regional government departments, housing associations, educational institutions, and health service entities. Public sector entities are primarily financed from the public and primarily focus on meeting economic, social, and political needs, varying in nature, cost, and resources.
Keywords: Accounting, financial reporting, efficiency, decision-making, budged.

1. INTRODUCTION

Accounting data is of great importance in the decision-making process for the management of economic entities. Accounting and the information it provides are indispensable for all levels of economic management, both for natural persons and for legal entities that carry out economic activity. The role of an accounting system is to process and analyze economic data of operations carried out within an economic entity, providing an accurate basis for financial reporting and internal control.

Today, accounting information systems have evolved significantly and play an essential role in business management and financial administration of public institutions. These systems collect and process data from economic operations and financial transactions, organizing them in understandable and useful formats for decision-makers. In the digital age, advanced technologies such as artificial intelligence and data analysis have been increasingly integrated into accounting systems, facilitating the automation of processes and improving the efficiency of financial reporting. Meanwhile, with the increasing complexity of business operations and the need for fast and accurate information, accounting information systems have become more important than ever. All decision-makers, both in the private and public sectors, need to have knowledge of the functioning and use of these systems to increase transparency, effectiveness and financial control. Recognizing the limitations of information, accurately measuring financial indicators and implementing advanced analytics help decision-makers make data-driven decisions, better balancing the risks and benefits of different strategies.

Economic entities operate as part of a broader economic system and are interconnected through financial and operational relationships. Each economic entity uses various resources, including capital, labor, and technology, to achieve its strategic objectives. The preparation of financial statements and performance reports is an essential aspect of economic management, which helps analyze financial performance and assess the effective allocation of resources. Financial reporting is particularly important for the public and private sectors, as it helps with the transparency and accountability of institutions, enabling decision-makers to take action based on accurate and up-to-date data.

2. Materials and methods

An economic entity is a key concept in accounting, which is related to any organized entity that carries out an independent economic activity within the economic system of a society. In accounting terms, an economic entity is known as an accounting unit and represents the subject on which accounting processes are focused. These units can be private or state enterprises, various financial institutions, social organizations and other economic units. In structural terms, economic units are divided into two main categories: profitable economic units and non-profit economic units.

The differentiation between public and private sector entities has a direct impact on the financial reporting structure and objectives of these entities. The private sector focuses primarily on capital growth and return on investment, while the public sector focuses on providing services to citizens and managing shared resources. The growth of technology and international accounting standards has contributed to the improvement of financial reporting and analysis methods, ensuring that both sectors meet the requirements for transparency and responsible management of financial resources.

Users of information collected in local government bodies

 Consumers of services, area taxpayers/voters – information on performance against objectives and on the best use of resources to judge the implementation of tasks by the councils.

 Private sector partners – e.g. an economic entity seeking to enter into a contract with local government bodies to provide education services would be interested in the total amount spent on education in previous years.

 Private sector competitors – services provided by local government, such as waste disposal or greening services, which may also be carried out by competing private sector entities, which would be interested in information on revenues and expenditures for these types of services.

 Other local government bodies – for benchmarking and comparison purposes.

 Government – for compiling statistics on public sector loans to act in accordance with fiscal laws.

Legal regulation of public accounting in Albania

 Law on accounting of budgetary organizations and non-profit organizations.

 International Public Sector Accounting Standards approved by the IASB for the Public Sector.

 Law no. 9228, dated 29.04.2004, “On accounting and financial statements”.

 Accounting plan for local government bodies, state and central institutions as well as unit’s dependent on them and DCM approved by the Council of Ministers.

The main users of private sector financial statements are shareholders and investors, and accounting standards aim to focus on providing the information that shareholders and investors need (such as information on earnings per share, return on investment, return on invested capital, etc.). While financial statements in the public sector aim at a wider and more diverse circle of users, from taxpayers to central government bodies. In order to understand the objective of accounting in the public sector, we will see who the other users of financial reports are and what information they require in financial statements. Therefore, we will list the specific users of financial statements, taking into account the information in which they are interested.

2.1 Distinguishing public sector units from private sector units

In order to clearly distinguish between the public and private sectors, it is best to focus on the definition given to both sectors.

The term “public sector” is defined in various ways. In this context, the public sector includes any entity that operates primarily to provide public services and is not for profit, and whose financing is supervised by the state. This sector includes central and local government departments, housing associations, educational institutions such as universities, and health service entities. Public sector entities are financed by taxes and fees, and are dependent on public revenues. The public sector aims to meet the needs of the public in areas such as the economy, education, health and social security, by providing services that are different from those of other sectors in a market economy.

The private sector includes economic entities that operate primarily to make a profit, with a particular focus on creating value for shareholders. This sector includes companies and organizations that operate in the market to provide the highest possible return for their owners and shareholders. Private sector entities are financed by shareholders and their income is generated from economic activities, such as the sale of products and services. Although the private sector strives to maximize profits, there are some cases where privatized entities may have a different purpose, such as charities that are not focused solely on profit.

Despite their differences, the two sectors share many similarities in terms of accounting treatments.

 Both sectors use double-entry bookkeeping, apply the same fundamental accounting principles, such as the going concern basis of accounting, and both apply the same accounting standards.

 The main objective of private sector economic entities is to maximize the well-being of shareholders. This is achieved by maximizing profits through maximizing the return on capital employed and increasing earnings per share. As an intermediate step, managers of economic entities may pursue other objectives that will maximize profits in the longer term, such as introducing new products to the market or attempting to expand into new markets, thus increasing market shares, which will eventually increase profits. The main purpose of public sector entities, such as state bodies, local authorities or health care providers, is not only the production of goods or services for resale, so they do not have profit as their primary goal.

 Their financial objective is secondary in relation to social objectives, which range from housing, education and tax collection.

 The main function of the public sector is to undertake and implement public policies through services that benefit the entire community of people in a country and the entire society, as well as to transfer income from units in other sectors of the economy using fiscal policies for this purpose.

 The public sector has as its primary function the provision of public goods and important services such as public order, national defense, culture, education, social, health and economic assistance.

Differences between the two sectors

They have several features that distinguish them from private businesses:

 They are not created to make a profit. For this reason, most of them are exempt from profit tax.

 The purpose of most of them is to provide goods and services to the population throughout the year, using the financial resources they have.

 A significant part of the financing sources is provided by taxes and fees, which are collected from public units and the population, as well as from businesses.

 Public services are not voluntarily chosen by consumers, and they are often obtained without payment. In these conditions, it is difficult to judge the quantity and quality of services, since they are not valued in the open market.

 There is no direct link between the financial contribution and the benefit for the services that these organizations provide.

 Decisions regarding major policies are made by councils voted by the people or by councils with leaders appointed by consensus.

Due to the strong legal regulation of public units, their managers have more limited freedom of action than managers of business units.

The role of accounting and financial reporting in public units also differs compared to businesses.

 The main goal of companies in the private sector is usually to maximize the wealth of the shareholders - the owner of the capital.

 As an intermediate step, the directors of the companies may also pursue other objectives, which will ultimately maximize their profits, as they may launch new products on the market, or may enter new markets to eventually increase profits, etc.

 The main goal of organizations in the public sector is not to produce goods or services to sell, and thus they are not guided by the realization of profit. Their financial objectives are usually secondary in comparison to their social objectives.

3. Features of the environment and objectives of public accounting

The economic, social, legal and political environment in which public organizations operate is different from that of businesses and consequently the needs of public entities for information as well as their accounting and reporting practices differ from businesses. Important features of the environment in which non-profit public entities operate are:

 The inability to measure their efficiency and effectiveness through profit measurement since they do not have profit as their main goal.

 Lack of harmony in the objectives of the entity because public entities have several objectives and the value of economic resources that each public entity uses for each activity is different and determines priorities regarding their financing.

 Disruption of continuity in the management policies of public units, with the change of administration, the management personnel also change, which makes it difficult to assign managerial responsibility.

 Making decisions on daily activities in accordance with the laws and regulations in force, this means that public units are obliged to provide the goods and services that the population needs regardless of their cost, to budget and use their resources in full financial compliance with the budget law and to borrow as much as the law in force determines.

Accounting of non-profit public units due to the characteristics of the environment in which they operate focuses on controlling the activity and performing it in accordance with the laws and regulations in force. Some of the most important objectives of accounting in non-profit entities are:

 Determining whether the budgeted amounts have been used to achieve the expected level of services

 Measuring the ability to achieve the expected level of services with a limited amount of financial resources and within the laws and regulations in force.

 Controlling and safeguarding assets.

 Assistance in implementing social control over the functioning of public entities.

Table 1: Key comparisons of financial resources

SECTOR					
GOVERNMENT	For operations	Taxes	For capital	Grants	Debt
Business	For operations	Sales	For capital	Reserves	Debt

4. CONCLUSION

Public accounting is a key component for the transparency and effectiveness of public institutions. It helps in managing public finances and in building economic policies based on accurate data. Albania is implementing important structural reforms that will support equitable economic growth, increase productivity and competitiveness, create more jobs, and improve governance and the delivery of public services. Improving regional connectivity and access to regional and global markets, coupled with market and export diversification, would also support faster economic growth. The Albanian government is working on a broad reform agenda, focused on macroeconomic and fiscal sustainability, financial sector stabilization, energy, social assistance and disability, and territorial decentralization. To reduce information risk and enhance the integrity of financial statements, corporations should have their financial statements audited regularly and by different auditors, and the disclosures should be very clear and accurate. This issue is essential in terms of the proper use of creative accounting. An Audit Committee composed of independent non-executive directors can play an effective role in preventing the misuse of creative accounting techniques (which then leads to fraud) and respecting ethical standards of financial reporting. Different interest groups require different information from financial reports. What is most interesting in the discussion of stakeholders is the impact on accounting choices due to the reports they are addressing and the most important question is: who is the user of financial reports? For example: Is it

the tax office aiming to claim maximum tax on profit, or is it the bank trying to create a measure of the company's liquidity ratio to manage the bank's demand for credit? The bank as an intermediary and lending institution carefully analyzes the financial reports on the financial statements of economic entities that apply for credit.

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From Vision to Reality: Green Innovation Strategies OF Emerging Economies IN China and Vietnam

Nesrina AHMAD[1]

[1]PhD Student, University of Sopron, Alexandre Lamfalussy Faculty of Economic

Abstract: Sustainable development requires radical change as a society in relation to consumption and production patterns. A case analysis of this study explores the factors and processes that define the transformation of new established economies from traditional modes of industrialisation towards sustainable modes, including policy measures, digital platforms, and spatial contexts for green innovations. Employing the comparative case study research design, this study discusses coordinated frameworks of government policies, collaborative networks, and technological adaptations to foster sustainable economic development. The studies highlight the gap in the literature for a contextualised green innovation framework, and also exemplify how digital platforms reduce efficiency and knowledge exchange deficits in both countries of China and Vietnam. These have implications for organisations and policymakers to execute sustainable strategies through large – scale solutions for change towards an innovative green economy for countries across the world.

Keywords: Green innovation, sustainable development, emerging economies, policy, frameworks, digital solutions.

JEL: Q01, O33, O44

1. INTRODUCTION

To achieve sustainable economic development, a drastic transformation is needed in how industries are developed, government policies are formed and technologies are embraced. With rising environmental degradation due to rapid economic development, emerging economies need to balance economic development and environmental degradation; thus, green innovation strategies should include digital transformation and policy coordination in emerging economies (Ma & Zhu, 2022). However, the digital economy has emerged as a key engine of green growth that makes full use of resource efficiency, carbon emissions reduction, and knowledge transfer (Liu et al., 2024). Nevertheless, the Institution of Technology forecast report recognises that the effects of digitalisation on sustainability are subject to considerable variation in scope in national and regional contexts, which suggests a role for comparative analyses of digital-driven green innovation (Chen & Xing 2024).

This paper examines the role of the digital platforms, policy measures and collaborative networks of China and Vietnam, two rapidly growing economies, in their trajectories toward sustainable industrialization. China serves as a model for leveraging national digitalization to achieve large-scale, synergetic environmental transition led by the government, facilitated by its advanced digital infrastructure (Liu et al., 2024). In contrast, Vietnam's market-based sustainable adaptation model is based on an enterprise-oriented green innovation system and knowledge management and digitization efforts (Vo-Thai & Tran, 2023). Through a comparative analysis of these two cases, this study investigates the effectiveness of digital innovation policies, the role of government-business collaboration, and the spatial differences in the diffusion of green technologies (Chen & Xing, 2024).

While academic interest in green innovation and the digital economy has increased, existing studies frequently do not include a contextualized framework controlling for institutional differences, economic structures, and regional constraints in the process of digital transformation (Ma & Zhu, 2022). Moreover, knowledge transfer and efficiency gaps are among the main obstacles impeding the scaling-up of sustainable digital solutions in numerous emerging economies (Vo-Thai & Tran, 030). To fill these gaps, this study explores how coordinated policy frameworks, digital infrastructures, and industry collaborations interact to enhance the effectiveness of digital-driven green innovation (Liu et al., 2024).

Using a comparative case study analysis, this study helps us better understand how digital transformation supports sustainability, giving practical insights to policymakers, corporate world and international bodies seeking large-scale digital green solutions (Chen & Xing, 2024). The outcome extends into the broader conversation of ubiquitous digi-economic integration, environmental governance and cross-national green innovation strategies, serving as springboard for future studies of scalable digi-sustainability models in emerging economies (Ma & Zhu, 2022).

2. Theoretical Background / Literature review

3.1 Digital economy, green innovation and high-quality economic development

Green innovation serves as a mediator to enhance the interplay between the development of the digital economy and high-quality economic transition towards ecological sustainability (Chen and Xing, 2022). Their research verified that, without a doubt, digital transformation improves economic quality, whether directly or indirectly, through birthing environmental technology advances. Green innovation was distinguished as substantial, describing breakthrough environmental technologies, and strategic, describing the incremental adaptation of sustainability within the existing business model. The findings further revealed the stronger role of radical green innovators in sustainable development, which strengthened the importance of technological advances towards greening.

The research also analyzed geographical inequalities and found that economically advanced areas gained more from digital transformation, while less developed locations are confronted with barriers in infrastructure and policy. China's eastern regions with better digital infrastructure and facility with finance experienced the greatest benefits from green digital innovations whereas the western regions lagged behind due to slower take-up of technology. These findings highlight the necessity for region-specific policy measures that promote digital infrastructure, nurture innovation ecosystems, and ameliorate structural barriers hindering the equitable spread of digital technologies.

This study adds to the literature by furnishing empirical evidence for the causal nexus between digitalization and green economic development, underscoring the need for effective, country-specific policy measures that drive inclusive, environmentally sustainable, and digital-led growth in emerging economies.

Table 2. Correlation Matrix Chen, Z., & Xing, R. (2025).

Variables	(HQD)	(DIGECON)	(lnGI_sz)	(lnGI_cl)	(PS)	(FD
HQD	1.000					
DIGECON	0.368***	1.000				
lnGI_sz	0.580***	0.396***	1.000			
lnGI_cl	0.543***	0.392***	0.896***	1.000		
PS	0.329***	0.225***	0.484***	0.461***	1.000	
FD	0.278***	0.241***	0.431***	0.424***	0.062***	1.0(
FDI	0.358***	0.018	0.303***	0.274***	0.127***	0.0{
FI	0.005	0.040**	0.265***	0.269***	0.074***	−0.1
HC	0.357***	0.094***	0.518***	0.464***	0.096***	0.5{
MT	0.013	0.121***	0.156***	0.176***	0.042**	0.0{
ES	−0.207***	0.071***	−0.081***	−0.085***	0.080***	0.2{

Notes: ***p < 0.01, **p < 0.05, *p < 0.1.

3.2 Green innovation strategies in Vietnamese enterprises: leveraging knowledge management and digitalization for sustainable competitiveness

Green innovation (GI) is one of the vital strategies for the enterprises in emerging economies to bring sustainable competitiveness, environmental efficiency and regulatory compliance. Therefore, KM and DG is found to be significantly enhancing green product and process innovations that are allowing businesses to lower carbon footprints and also improve operational resilience (Vo-Thai & Tran, 2023) Through digital platforms, cloud-based knowledge management systems and AI-based analytics, firms can improve their sustainability approach to align with globally accepted environmental standards.

Research that analyzed 301 Vietnamese enterprises with structural equation modeling showed that effective knowledge management and digital adoption accelerate the pace of green innovation, enabling firms to increase resource efficiency and achieve sustainability objectives (Vo-Thai & Tran, 2023). KM communicates and disseminates sustainability-related knowledge that aids in the establishment of green mechanisms, eco-friendly technologies, energy-efficient technologies, and low Carbon-based production techniques. On the other hand, DG offers businesses data-driven decision-making capabilities, allowing them to forecast environmental trends, optimize resource utilization and automate sustainability-driven solutions (Ma & Zhu, 2022).

Digital transformation plays a big role in production efficiency, resource allocation, and energy consumption. AI-powered monitoring systems, blockchain for transparency in supply chains, and Internet of Things (IoT) devices aid companies in tracking and reducing waste, increasing energy efficiency, and improving lifecycle management of products (Chen & Xing, 2024). Such digital instruments aid the automation of sustainability reporting, enabling organizations to adhere to environmental regulations and enhance operational transparency (Liu et al., 2024).

In addition, companies that actively implement mechanisms for digitalization and knowledge sharing have a competitive advantage over other domestic and foreign firms. Digitalization allows companies to respond to changes in environmental regulations and market demands rapidly, thus paving the way for their sustainability and compliance with green policies in the long run (Vo-Thai & Tran, 2023). Cloud-based data sharing combined with AI-driven policy options analysis helps enterprises make quick decisions on sustainable best practices and cost-effective green technologies (Ma & Zhu, 2022).

The results have indicated that the approach should be embraced as an important driving force for enterprises in Vietnam—and other developing economies—to penetrate the dynamic green economy through the application of digitalization and knowledge management strategies. To enhance this shift, the general public is encouraged to facilitate (Chen & Xing, 2024) with government and industries, such as investment in digital infrastructures (e.g., expanded broadband access), financial incentives that promote green technology adoption, and multi-sector collaborations to inspire innovative technologies. Furthermore, businesses need to expand its digital-driven sustainability initiatives, allows them to continuously evolve its international market positioning in the perspectives of the fact that international trade are focusing more on environmental responsibility and the digital transparency (Liu et al., 2024).

3.3 Innovation in emerging economies: Research on the digital economy driving high-quality green development

The role of the digital economy in driving high-quality green development has become one of the key research areas in emerging economies. According to Ma and Zhu (2022), digital transformation is a catalyst for sustainability, leading to industry restructuring, innovation of green technology, and effective resource management. Automation, AI-enabled decision making, digital connectivity, etc are required through which businesses can save energy and minimize environmental pollution and enhance overall sustainability across the supply chain. These developments well illustrate the power of digitalization for green economic growth impact.

One of the key findings of the study is the geographic differences in the benefits of digital transformation. Better-Developed Digital Infrastructure and More Policy Support in Urban Areas Promote Then Transition of Sustainability-Driven Industry in Urban Areas Compared with Rural Areas (Ma & Zhu, 2022) Unlike prior studies, we identify a differential and additional impact in that spill-over effects of digitally simple cities can circumvent this trend by enforcing the diffusion of green innovations throughout neighboring areas (this points to the notion that those areas may experience them through receiving spill-over effects from cities that are significantly more advanced) thus increasing the need for well-targeted interventions, which are the answer to bridging the digital divide and for equitable green development.

These lessons further highlight the need to include digital economy policies within sustainability frameworks to enable inclusive growth. Building digital infrastructure, investing in smart technologies, and facilitating cross-region innovation partnerships will help developing countries transition toward a sustainable, resilient digital economy. Governments need to adopt comprehensive policies that unlock the full potential of digital transformation in terms of environmental and economic dividends, address inclusive access to digital technologies, accelerate green innovations, and bridge infrastructure divides.

3.4 Examining the Impact of Digital Economy on Environmental Sustainability in China: Insights into Carbon Emissions and Green Growth

Liu et al. (2024) examined the relationship between digital transformation and environmental sustainability in China, specifically highlighting how digital transformation enables carbon emission reduction and green economic growth. Using panel data from Chinese provinces (2011–2022) with a fixed-effects panel approach, their study observed that digitalization significantly promotes trade efficiency, optimizes resources allocation, and reduces the overall carbon footprint. Utilizing advanced tools such as AI powered analytics, blockchain-based transparency in supply chains, and big-data for sustainable decision making, the digital economy has been instrumental in achieving industrial emissions reduction alongside economic growth.

Digital trade has transformed the traditional commerce and industrial clustering, creating synergetic effects between digital transformation and environmental policies. The study's findings suggest that developed digital infrastructure and high digital penetration have amplified success in realizing sustainable industrial practices in these areas, whereas poor digital access has impeded their low-carbon strategies (Liu et al., 2024). These findings highlight the importance of policy echoes bridging the digital gap to achieve a more universal green transition in China.

As a part of their research, they also examined carbon emission trading markets as regulatory measures, which showed how digital commerce strengthens carbon trading effects, guarantees market transparency, and contributes to real-time emissions monitoring based on data. Digital finance is able to create integrated environmental governance models that enable positive part of the climate equation and eliminate negative solving the puzzle in integrating sustainability with technology and business sectors which depend on the role of regulatory frameworks and technology data.

The implications emphasize the importance of investing in digital infrastructure, establishing government policy frameworks, and implementing technology-driven regulatory measures to optimize the environmental dividends from the digital economy. These actions should be underpinned by faculty training programs to improve digital skills and continue to build on research spanning carbon trading and joint industry solutions to mitigate climate change impacts and foster long term environmental sustainability and economic resilience.

4. Methodology

Using a context comparative case study approach, this study examines the drivers of the digital economy on green innovation in emerging economies. Based on Chinese and Vietnamese experiences, it identifies systems of policy, technological innovation, and structural economic transformation that catalyze sustainable industrial restructuring. Using secondary data from government reports, industry publications, and academic studies, we conduct thematic and spatial analysis to explore the role of digitalization in the adoption of green innovations. While triangulation methods enhance reliability, the use of secondary data has some limitations; for instance, it does not capture real-time developments within the industry. The study is ethically conducted with public data. The findings aid in our understanding of scalable digital tools for accelerating green innovation, offering recommendations for policy makers and decision makers involved in sustainability transformations.

4.1 Research Design

This study takes a comparative case study to scrutinize the influence of the digital economy on green innovation and sustainable development in some emerging economies. This data is further analyzed in multiple cases to illustrate opportunities, problems, common grounds, elements and challenges of digital transformation and regards for environmental sustainability specific to the region. This study effectively combine factors of policy frameworks, technological advancements, and economic drivers of green innovation to a multi-national perspective to better understand cross-national innovation strategies.

4.2 Data Collection and Analysis

The study is based on secondary data sources, such as the government reports, industry magazines, and scientific studies on green innovation adoption and digital economy development. China, Vietnam, and other developing economies are examined for comparative analysis regarding adopted digital strategies in the pursuit of sustainability. The thematic analysis evaluates policy mechanisms, technological innovations, and economic

indicators driving green transformation. Furthermore, spatial econometric approaches evaluate the regional diffusion effects of digitalization on environmental sustainability.

4.3 Comparative Framing

This research uses a comparative case study method to investigate how the digital economy contributed to green innovation in selected emerging economies. It compares how national policies, technological advancements, and economic structures affect the potential of digital transformation to achieve sustainable development goals.

The study analyses case studies drawn from China and Vietnam, which are growing rapidly but have different (albeit analogous) digitalization strategies. With its advanced digital infrastructure and national environmental strategies, China sets an example for high-impact, transformative, digital-led green programs at scale. Vietnam, in contrast, is an emerging economy harnessing digitalization to improve competitiveness and environmental performance. The comparative framework identifies salient similarities and differences in relation to digital adoption, regulatory frameworks, and industry-led green innovations.

Furthermore, through analyzing these cases, the study clarifies best practices and encountered challenges in the integration of digital transformation into sustainability approaches. These systems' performance in comparison to one another lends itself to a context-conducive evaluation of the pertinent digital strategies in question, meaning that comparative framing enables insights into the applicability of scalable approaches for green innovation within other developing nations.

4.4 Validation and Reliability

Triangulation methods are applied through validation of various data sources that enhance the findings' validity and reliability. To ensure consistency, the study compares cases with similar economic structures and levels of digital adoption. Additionally, policy counterfactual analyses are incorporated to measure the extent to which digital transformation has contributed to driving green growth outcomes.

4.5 Limitations

Although the comparative case study grants in-depth insights, it lacks generalizability owing to the specificity of national policies and economic conditions. Depending on the secondary data might also lead to measurement inconsistencies across the countries. Future studies should be equipped with traditional primary data collection methods, such as interviews or firm-level surveys, to augment the depth of analysis.

4.6 Ethical Considerations

This research complies with ethical academic standards by working with publicly available data from validated sources. No human participants were used, therefore there is no issue of informed consent and data privacy. Additionally, all sources are properly cited to comply with intellectual property and fair-use policies.

5. RESULTS

The comparative analysis reveals that both China and Vietnam have incorporated digital transformation as a catalyst for green innovation and high-quality economic development. But the approaches they take differ on how policy gets implemented, technology adopted and the economy tackles and the impact it has. With well-established digital infrastructure and good regulation, green innovation is more direct and measurable in China. On the contrary, Vietnam is at the forefront of digital-driven sustainability, where the business is utilizing knowledge management (KM) and digitalization (DG) to create sustainable advantages in their competition.

5.1 Transformation of Economies Toward Green Innovation

The findings show that both China and Vietnam are moving from traditional industrialization towards sustainable economic models, though both differ in terms of policy, technology and regional coordination. China’s government-driven approach has facilitated more centralized transformations, and Vietnam’s reliance

on enterprises creates a less cooperative, regulatory gap. This comparative analysis demonstrates the importance of a contextualized research-based green innovation framework for individual countries to examine their governing systems against their operational context as an empirical point of reference.

5.2 Policy and Collaborative Networks in Green Innovation

Both economies should pay significant attention to government policies and the role of collaborative networks on digital-driven green transformation. Structured policies like the Digital Economy Development Plan (Zaizhong Guojia Jianshe) and aggressive carbon neutrality targets paved the way for widespread adoption of AI sustainability tools, blockchain carbon trading, and industrial reorganization. There was also a new global effort for collaboration among governments, tech companies, and research institutions to strengthen the Green Innovation ecosystem (Liu et al., 2024).

On the contrary, Vietnam still does not have a unified national policy for the continuous development of digital-enabled sustainability. Green innovation, on the other hand, is mostly led by enterprises as they use knowledge management and help of digital services many help you build the strategy themselves in a sustainable way. Yet weak regulatory enforcement and limited government-industry collaboration is a barrier to wide-ranging change (Vo-Thai & Tran, 2023).

5.3 Economic and Environmental Outcomes

The proliferation of digital platforms has a strong influence on efficiency, knowledge sharing, and the dissemination of green innovation in both nations.

- The region's digital economy in China has also helped drive smart grids, machine learning-based environmental monitoring, and blockchain-based sustainability tracking, enhancing energy efficiency and reducing carbon emissions (Chen & Xing, 2024). Such big-scaled digital solutions cut down inefficiencies and facilitate an industry-wide real-time decision-making process.
- Despite their use of digitalization for green product and process innovation, Vietnamese firms are hindered by fragmented digital infrastructure impeding knowledge exchange. The transition towards an integrated green economy is hampered by limited access to advanced AI-driven sustainability tools and data-sharing platforms (Vo-Thai & Tran, 2023).

5.4 Regional and Spatial Disparities in Digital-Driven Sustainability

The impact of the digital economy on green innovation varies significantly across regions, influenced by differences in infrastructure, financial accessibility, and industrial ecosystems.

- China’s developed regions experience strong spillover effects, where cities with high digital infrastructure investment drive technological adoption and sustainability practices in surrounding areas (Ma & Zhu, 2022). However, talent migration from less developed regions limits the diffusion of green innovation across provinces.
- Vietnam faces larger spatial disparities, where rural and industrial zones lag behind urban centers in adopting digital sustainability strategies. Enterprises in major economic hubs benefit more from knowledge-sharing mechanisms, while smaller businesses struggle to access green digital transformation resources (Vo-Thai & Tran, 2023).

5.5 Implications for Large-Scale Green Innovation Strategies

Findings from both cases highlight the need for coordinated frameworks that integrate policies, collaborative networks, and digital infrastructure investments to achieve sustainable economic transformation.

- Policymakers must prioritize financial incentives and digital inclusion to reduce regional and industrial disparities.
- Collaborative digital platforms should be expanded to address knowledge exchange deficits and encourage cross-industry green innovation.

- Governments should adopt adaptive regulatory models, ensuring that digital transformation supports localized sustainability goals rather than a one-size-fits-all approach.

5. DISCUSSION

These results highlight the growing relationship between digital transformation and green innovation, confirming the vital importance of technological, policy coordination, and collaborative networks in achieving sustainable development in emerging economies. Digital economy can act as a promoter for green innovation and also act as a tool for the improvement of efficiency, emission reduction, and optimization of industrial processes. Its success in achieving these goals is inconsistent across various economic and governance systems; this calls for better harm appropriate strategies that take into account institutional, financial and territorial constraints.

The pursuit of digital-driven sustainability in China vs Vietnam: a key difference. In China, state-led initiatives offer an organizational scaffolding for wide-ranging green digitalization, with state-backed policies and investments driving the swift rise of AI-powered energy management, carbon trading platforms, and blockchain-enabled sustainability tracking (Liu et al., 2024). On the other hand, the significant emphasis placed in the green economy on country-driven innovation in addition to enterprise-driven innovation in Vietnam suggests that knowledge management and digitalization are employed by businesses to embed sustainability into their operations, even as the nation. faces regulatory fragmentation or infrastructure limitations (Vo-Thai & Tran, 2023). This distinction highlights that policy coordination and adequate institutional support are central aspects for bringing green innovation to scale.

A further important issue stemming from the analysis is the extent to which digital platforms can help fill gaps in efficiency and knowledge exchange. In such digitally advanced regions, platforms act as data-sharing gateways by facilitating real-time tracking of multiple monitoring and representations of sustainability practices, enabling cross-industry collaboration to support data-informed decision-making for the uptake of green innovations among businesses and policymakers (Chen & Xing, 2024). In contrast, in regions with a lower level of digital integration, such as certain areas of Vietnam, poorly developed regions of China, and the like, the access to advanced digital tools and sustainability network is limited, which constitutes a barrier for the diffusion of green technologies (Ma & Zhu, 2022). These results suggest that while expanding digital infrastructure and integrating open-access sustainability platforms, we could help bridge knowledge gaps and accelerate digital-driven environmental transitions.

In addition to digital access and policy support, the study also points to a regional lack of economic and grid innovation diffusion, showing how digital transformation is more beneficial to economically developed regions than rural or industrial ones. The digital spillover effects of advanced technology in sustainability can be a beneficial opportunity for coastal and urban centers in China, where sustainability drives technological innovation with neighboring provinces (Liu et al., 2024). The inland and economically weaker areas are facing migration of talent and lack of infrastructure reducing their ability to adopt digital green solutions. In Vietnam, regional inequalities cut even deeper, as major economic hubs focus on implementing digital sustainability strategies faster, while many rural industries do not have the financial power or technology for an efficient transition (Vo-Thai & Tran, 2023). The need for targeted investment in digital infrastructure, adaptations of relevant policy to local contexts, and the provision of regionally responsive incentives for sustainability are critical to effectively tackling these disparities, ensuring a more equitable diffusion of green innovation strategies across the landscape.

Ultimately, the comparative analysis of China and Vietnam also illustrates the opportunities and challenges in harnessing digital transformation towards sustainability objectives. Thus, there are two approaches for achieving large-scale digital sustainability, either through government-led initiatives, or enterprise-driven adaptation. However, to achieve the full potential of digital green innovation, there is a need for stronger collaborative networks between governments, industries, and technology providers to align policies, enhance access to digital sustainability tools, and scale green innovations across all economic sectors. The research stresses that ensuring green innovation strategies are inclusive, effective and adaptable across national or regional contexts, must be complemented by coordinated efforts in digital infrastructure development, policy enforcement and financial incentives.

This discussion emphasizes the broader implications of transformations in digital sustainability, which prove that digitalization can serve as a powerful engine for green economy advancement, provided that digital access,

industry cooperation and effective policy alignment are utilized. On the assumption that digital platforms already exist, enabling digital sustainability can be deployed with comparatively lower upfront costs in these regions and scalable responses necessarily respond to the needs of the clients.

6. CONCLUSIONS

This study further explores the significant impact digital transformation has on green innovation in emerging markets, specifically within China and Vietnam. Specifically, digital platforms and AI-driven technologies as well as policy frameworks shape the trajectory of sustainability transitions, but are contingent on government orchestration, industrial alliances, and regional development.

China's government-led strategy shows how robust policy frameworks and sovereign sustainability strategies can support digital uptake and green innovation at scale. And Vietnam's enterprise-driven development agenda exemplifies how firms can exploit digitalization and knowledge management to pursue sustainability while overcoming regulatory and infrastructural barriers. These different models stress the need for adaptive strategies consistent with economic variables and institutional capabilities in diverse regions.

A major challenge highlighted is that regional and economic differences in the uptake of digital-driven sustainability solutions have remained. Benefiting from green innovations spillovers, wealthier and electrically affluent places adopt green technologies, while both using information and financial access as barriers to entry to rural and underdeveloped settings. Overcoming these gaps will need targeted policy measures, expansion of digital infrastructure, and inclusive financial models that empower the wide-scale adoption of digital sustainability practices.

The research further emphasizes the importance of improved knowledge sharing and collaborative networks to address the efficiency gaps and drive green digital transformations more rapidly. Open-access sustainability platforms, industry-academic partnerships, and cross-border innovation exchanges will be crucial to leverage in order to scale digital sustainability solutions across borders.

Thus, despite the vast opportunities the digital economy opens up for green innovation, this research shows said success largely depends on policy-shaping, infrastructure investing and multi-stakeholder collaboration. Future works can address firm level adoption patterns, investigate the long run economic effects of eco-friendly policies and understand how emerging technologies like AI and blockchain are playing roles in green growth. Policymakers and industries work towards achieving large-scale environmental transformation by connecting digital and sustainability strategies to achieve inclusive and sustainability-based economic growth in the digital era.

Full Disclosure

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Data Availability

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Human Capital: A Theoretical Perspective in the Context of Entrepreneurship

Novac Alexandra[1]

[1]PhD, research associate professor, National Institute for Economic Research, Academy of Economic Studies of Moldova, novac.alexandra@ase.md, ORCID: 0000-0002-4158-4917

Abstract: From the simple factor of production view on labor, human capital has evolved through the pioneering works of Becker, Mincer, and Schultz into a more complex view that emphasizes individuals' competencies, education, and experience. This paper discusses a theoretical approach to human capital from the perspective of entrepreneurship, identifying human capital as one of the leading factors for entrepreneurial success and performance. Findings underscore the essential role of human capital in mitigating the liabilities of newness in start-ups, fostering adaptability, and driving firm performance through education, professional training, and experiential learning. These results emphasize that human capital investments, particularly during early venture stages, significantly shape entrepreneurial outcomes and support the broader entrepreneurial ecosystem. Desk research, critical analysis, and generalization of specialized literature and analytical material were applied in the investigation process.

Keywords: human capital, entrepreneurship, start-ups, firm performance, entrepreneurial ecosystem, education, skill diversity, entrepreneurial inclination

INTRODUCTION

The ever-increasing prominence of entrepreneurship as an important engine of economic growth and innovation has placed a renewed attention to the factors contributing to its success. Among these factors, human capital has probably emerged as the most significant and has therefore attracted considerable attention from both academic researchers and practitioners. Although its origins are in the neoclassical framework of economic thinking, highlighting the explanation of individual income differentials and national output growth, nowadays human capital covers much more aspects, extending into a variety of fields, most importantly that of entrepreneurial researches. This development reflects the growing recognition that the competencies, knowledge, and capacities residing in individuals are not only the bedrock for individual economic success but also the actual building blocks underpinning successful entrepreneurship and a viable economic base.

The seminal contributions of economists such as Mincer, Schultz, and Becker laid the foundation for modern human capital theory, underlining the central role of education, training, and experience in cultivating individual competencies and collective productivity. Their insights into the essence of labor profoundly transformed the perspective of economists and policymakers, shifting away from a mere quantitative focus to a more nuanced qualitative one, one that accorded significant value to investments in human potential. This shift in perspective has exerted a profound influence on entrepreneurship studies, given that entrepreneurship depends on an individual's ability to identify opportunities, mobilize resources, and navigate complex markets, which is largely determined by the depth and quality of their human capital.

Human capital today is considered one of the most major determinants in the entrepreneurial area. It is believed to be an important factor in various entrepreneurial activities, ranging from the recognition of opportunities and the creation of ventures to resource acquisition, formulation of competitive strategy, and, finally, firm performance. Available literature has established the fact that investments in education and experience are not only rewarding but, as a matter of fact, indispensable to sustainable competitive advantage-particularly for a start-up firm facing inherent legitimacy challenges, resource constraints, and the dire need for rapid adaptation to dynamic market conditions. Also, educational institutions have taken an increasingly vital role in the development of those special skills and types of knowledge indispensable for successful entrepreneurship. In addition to formal education, practical training, mentorship programs, and experiential learning opportunities have been crucial in fostering an entrepreneurial mindset and providing with competencies necessary to initiate and sustain successful businesses.

This article explores theoretical perspectives of the concept of human capital, its relevance to business development and performance, and how it can facilitate transition in the contemporary economic environment. It examines how different dimensions of human capital, such as education, skills, experience, and entrepreneurial inclination, interact and contribute to the success of entrepreneurial ventures.

RESULTS AND DISCUSSION

The concept of human capital in entrepreneurship research. The term "human capital" was brought into the vocabulary of researchers studying the role of the human factor in the economic context, especially in the second half of the 20th century. This transition has been influenced by a significant shift in the orientation of scientific research from approaching human capital mainly as labor force toward an approach underlining the quality of the potential of this capital. The emphasis thus has fallen on developing and assessing individual capabilities and skills of the workforce and understanding its dynamic structural change in the context of technical progress and other drivers of economic growth. It, therefore, shifts from a simplistic to a more complex vision that focuses on human resource development and fostering for maximum contribution towards economic growth.

Interest in the concept of human capital in entrepreneurship research is persistent and has grown considerably over the last decades. Human capital theory originates from early attempts to estimate the distribution of workers' earnings as a function of investment in knowledge and skill development and studies on the value of education (Becker 1964; Mincer 1958; Schultz 1961). Those ideas matured and gained popularity from the 1950s and 1960s by authors like Becker, Mincer, and Schultz, among others; the concept of human capital, used to explain income inequalities among individuals, was advanced for the first time by Mincer in 1958. Schultz (1961), on his part, observed that increases in national output could not be explained through classical factors of land and physical capital alone, thus calling for investment in human capital. Becker (1964) integrated the theory of investment in human capital and emphasized that educational attainment and skill is positively correlated with individual earnings.

Several key arguments highlight the importance and role of human capital in entrepreneurship. First, it plays a decisive role in identifying and exploiting entrepreneurial opportunities (Alvarez and Barney, 2007; Marvel, 2013). Also, human capital facilitates access to financial resources and business start-up (Bruns, Holland, Shepherd, & Wiklund, 2008; Dimov, 2010, Oberschachtsiek, 2013). In addition, human capital contributes to the accumulation of knowledge and competitive advantage for firms (Corbett, Neck, & DeTienne, 2007). Therefore, the concept of human capital is a central element in understanding entrepreneurial dynamics and performance, and is recognized as one of the critical success factors in the contemporary entrepreneurial environment.

Researchers have analyzed several factors that converge under the concept of human capital, encompassing formal education, vocational training, work experience, entrepreneurial experience, skills and knowledge. This approach emphasizes the complexity and diversity of factors involved in building and leveraging human capital in the contemporary economic and entrepreneurial environment.

Following Becker's 1964 definition, human capital refers to the skills and knowledge that people accumulate through investing in formal education, on-the-job training, and other types of experience. In this light, human capital may be considered as two distinct concepts: one of investments in human capital and one of outcomes from such investments. Human capital investments are those experiences, such as education and work experience, that may or may not result in knowledge and skill acquisition. Outcomes of investments in human capital are the actual knowledge and skills acquired by individuals.

From a broader perspective, the Organization for Economic Co-operation and Development (OECD) and the World Bank have given comparable definitions such as the stock of knowledge, experience, personality traits, and generally attributes that contribute to the capacity to generate economic value and contribute to overall economic activity.

In the context of the firm and entrepreneurship, Hitt et al. (2001) emphasize that human capital, which includes education, experience, skills, and leadership impact, is a key factor of competitive advantage and organizational performance.

Also, considering Isenberg's model of an entrepreneurship ecosystem, human capital is constituted of two important elements; the workforce and educational institutions (Isenberg, 2011). These institutions will not only offer focused entrepreneurship education and training but would also foster acquisition of capabilities and skills which are deemed essential to operate effectively within the entrepreneurial ecosystem.

In the following, we will present previous contributions within entrepreneurship research on the impact of human capital on startups, entrepreneurial experience, firm performance, and the relation between human capital and entrepreneurial inclination.

- *Human capital and start-ups*

Human capital has been identified as an important factor in the success of start-ups, also known to be particularly relevant for young enterprises (Davidsson & Honig, 2003). The distinctive characteristic of start-ups relates to the challenges and disadvantages they often face simply because they are new to the market or industry, which is associated with a higher probability of failure compared to more mature enterprises (Kücher et al., 2020; Aldrich & Wiedenmayer, 1993; Stinchcombe, 1965). This newness often implies skill gaps and lack of information, and human capital can play a significant role in reducing these deficiencies (Thornhill & Amit, 2003; Aldrich & Auster, 1986).

Owners of start-ups are often faced with a continuous stream of diverse and often unforeseen tasks. They have to respond quickly to unexpected and unpredictable situations, without having domain expertise and well-established strategies (Bantel, 1998). Thus, accomplishing day-to-day tasks, problem solving and entrepreneurial decision making pose significant cognitive challenges for these entrepreneurs.

Developed human capital can help entrepreneurs in new businesses to learn quickly and adapt to new tasks and roles, facilitating adaptation to the evolving challenges of the business environment (Weick, 1996). On the other hand, entrepreneurs in more mature businesses benefit from established experience and practices built over time. In these cases, human capital is no longer the sole or main determinant of success. In the early stages of business development, the human capital of entrepreneurs provides legitimacy to the business and can be a key driver of performance. As the enterprise becomes more stable and consolidates its position in the market, other factors may become more relevant than the entrepreneurs' human capital. Thus, entrepreneurial human capital is valuable in the early stages of an enterprise and can significantly influence its development.

- *Human capital and firm performance*

As human capital theory evolved, in addition to education and work experience, other aspects of human capital like employee diversity and characteristics of entrepreneurs have been identified as significantly affecting the productivity and success of firms. These are not only important at the individual level but also at the firm level. This theory has been supported by various research of Mincer 1958; Becker 1964; Romer 1990; Haltiwanger et al. 1999; Ilmakunnas et al. 2004; Fox and Smeets 2011.

Various studies on human capital focus on different aspects of human capital, such as worker productivity and skill diversity in relation to firm performance. Other works focused on the relationship between productivity and gender diversity, as stated by Fisher Ellison, Greenbaum, Mullin (2010), productivity and employee diversity according to Iranzo et al. (2008), measured by ethnicity and educational attainment as claimed by Parrotta et al. (2014). As evidence, Unger et al. (2011) indicate that human capital positively and significantly affects the growth, profitability, and firm size. Thus, one would be able to say in general that the more an enterprise is endowed with knowledge-as reflected by the level and diversification of education and work experience of its employees-the more productive and performing it will generally be.

Numerous contributions have been identified in the literature highlighting the influence of individual characteristics of personnel, especially entrepreneurs, on firm performance. Among these characteristics, education plays an important role, especially technical education, which has been associated with a positive impact on business success. For example, studies by Colombo and Grilli (2005) and Grilli and Murtinu (2018), found that entrepreneurs' technical education can significantly contribute to firm performance. Also, managers' prior experience in related industries is another important factor influencing firm performance (Mion and Opromolla, 2014). Overall, research in the field provides conclusive evidence that both human capital and individual traits of employees and managers significantly influence firm performance.

Among the specific entrepreneurial competencies one of the pioneering contributors was Shultz (1980) who argued that through experience, the entrepreneurs build up their skills and widen their knowledge. Thus learning by doing constitutes one of the principal mechanism through which entrepreneurs develop the skills relevant for business success. Thus, these alternative approaches consider that persistence and long-term engagement in entrepreneurial activity are associated with greater human capital in entrepreneurship for the individual. To put it another way, entrepreneurs who stay active and remain involved in entrepreneurship over the long term are better positioned to develop and enhance their managerial skills and domain-specific knowledge than those who leave it prematurely. These approaches, therefore, make a very important contribution to our knowledge as regards how entrepreneurial skills are learned and developed and how these in turn influence business success.

- *Human capital and innovation*

Human capital and innovation are closely interrelated in a very multi-faceted way, acting both as a direct driver and as an enabler of innovation. Education, experience, cognitive abilities, and entrepreneurial orientation-all

these factors determine the innovative capability of individuals and firms. Various studies emphasize the importance of a highly educated workforce, particularly in STEM fields, as a key factor in generating and implementing new ideas (Lucas, 1988; Romer, 1990). General education builds foundational knowledge, while specialized skills enable employees to contribute to more complex innovation processes. Beyond formal education, experience within a specific industry or technological domain fosters the development of tacit knowledge—an essential, yet difficult-to-codify, element of innovation (Nonaka & Takeuchi, 1995).

Cognitive skills, such as critical thinking, problem-solving, and creativity, are also fundamental to innovation. These abilities allow individuals to identify opportunities, generate novel solutions, and assess their feasibility. Additionally, entrepreneurial traits, such as risk-taking and proactiveness, have been linked to greater innovative output, as entrepreneurs with a strong orientation toward innovation are more likely to explore new business opportunities (Shane & Venkataraman, 2000).

Human capital is at the heart of knowledge creation and dissemination. Through R&D efforts, employees at work contribute to the creation of new knowledge. Firms employing an educated workforce are in more favorable positions concerning the absorption of outside knowledge-so-called absorptive capacity (Cohen & Levinthal, 1990)-and thus being able to employ such knowledge productively. On the whole, high human capital results in higher levels of interactive behavior, networks of knowledge, and technological change within innovation economies (Powell et al. 1996).

While technological, product, process, and organizational are different types of innovations, they rely on human capital in different ways. For example, technological innovation relies heavily on human capital in terms of expertise in STEM fields (Freeman, 1987), while product and service innovation rely on employees who understand the market needs and develop solutions to address them. Process innovation benefits from workforce expertise in improving production efficiency, whereas organizational innovation depends on human capital to devise new management and business models.

- *Human capital and entrepreneurial inclination*

Several studies have concluded that human capital has a directly positive relationship with the odds of becoming an entrepreneur (Bates, 1990; Davidsson and Honig, 2003; Kim, Aldrich, and Keister, 2006). This, might indicate that ecosystems with larger amounts of available human capital can accommodate a greater number of entrepreneurs compared to ecosystems with less human capital.

In an attempt to determine the nature of entrepreneurial human capital, Lazear (2005) developed a career choice model. The author emphasizes the importance of skill diversity for entrepreneurs. These diverse competencies prove effective in the business sector, as entrepreneurs have to perform a variety of tasks (Lechmann and Schnabel, 2014), including developing business models, recruiting employees, negotiating with customers, and raising financial capital. Given the benefits of skill diversity for entrepreneurial tasks, individuals with diverse skills are more likely to start a business than those with a narrower spectrum or without diverse skills (Oberschachtsiek, 2013; Chen & Thompson, 2016; Lazear, 2005; Silva, 2007; Wagner, 2006).

Based on the literature review, we believe that a broad definition of human capital from an entrepreneurial perspective cannot be confined to entrepreneurs alone. It also involves staff employed in existing enterprises and any individual involved in entrepreneurial activities or in business in general. Therefore, entrepreneurial human capital can be defined as the set of skills, knowledge, and personality traits of individuals that altogether contribute to the development, management, and success of businesses. It also covers the capability related to initiating and running the business, expertise in the different functional areas, skills in solving problems, and the ability to adapt to the changes and challenges in the business environment.

Consequently, entrepreneurial human capital is considered a core factor in organizational performance and economic development, impacting not only the success of start-ups but also the existing firms and the entire entrepreneurial ecosystem.

CONCLUSION

The underpinning theoretical position on human capital puts emphasis on the fact that it shape the nature of entrepreneurial outcomes and performance at the firm level. As illustrated, education, professional training, and experiential learning are an important investment in the development of both individual and organizational competencies for facilitating opportunity identification, mobilization of resources, and competitive positioning.

Human capital is rather important during the initial stages of a venture. Its impact helps to decrease the liabilities of newness while increasing adaptability.

The dynamic interaction of human capital investments and their outcomes underlines the continuous role of learning and development for economic relevance. Institutions like educational organizations and training centers play an important role in the development of entrepreneurial skills and thus support the general entrepreneurial ecosystem.

Furthermore, this research has emphasized the important relation between human capital and innovation.. We have maintained that human capital is not just a driver in entrepreneurial activity but also an enabling factor in innovation at various levels-right from generating new ideas and technologies to bringing out new products, services, and organizational processes. The capability to innovate is deeply embedded in the quality and depth of human capital. It involves education, experience, cognitive abilities, and entrepreneurial orientation. Moreover, human capital is an important contributor to knowledge creation, absorption, and diffusion, which are essential for fostering a dynamic and innovative environment.

This study therefore reiterates that human capital is an indispensable pillar of entrepreneurial research and practice. It forms the foundational basis on which successful ventures are built and is the engine driving innovation and economic growth. Whereas this study has provided insights into the theoretical underpinning of human capital in the context of entrepreneurship, future studies should further investigate the mechanisms through which human capital interacts with other entrepreneurial factors, providing deeper insights into its multifaceted contributions to economic growth and innovation.

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Environmental Assessment of Paper Production and Recycling

Prof. Dr. Nurcan ÖZKAN[1]

[1] University of Trakya, Faculty of Education, Department of Mathematics and Science Education, nurcanozkan@hotmail.com, ORCID: 0000-0001-5045-6186

Abstract: Paper, which has an indisputable place in the establishment of civilization and in the storage and transfer of information, is now present in every stage of life for a wide variety of purposes, and its consumption is gradually reaching incredible levels. In order to solve the raw material problem in the paper industry, it is necessary to develop sustainable recycling technologies rather than sustainable forestry studies. The main skeletal element of paper structure is cellulose. It is possible to recycle the cellulose in the structure of paper that has completed its use and become waste and use it in paper production again. During the production of paper from recycled cellulose fibers, some different practices are required compared to the production of paper from traditional wood pulp. Today, many countries support clean and sustainable production with circular economy policies to eliminate environmental problems related to production. In this sense, it is extremely important to separate all components of paper, which is classified as waste, except for fibers, with the most economical and environmentally friendly methods. In this study, the paper sector in Turkey was investigated environmentally in terms of recycling.

Key Words: Paper, Paper Properties, Cellulose, Recycling

Çevresel Açıdan Kağıt Üretimi ve Geri dönüşümünün Değerlendirilmesi

Özet: Medeniyetin kurulmasında, bilgi depolama ve aktarımında tartışmasız bir yeri olan kâğıt, günümüzde artık çok çeşitli amaçlar için hayatın her kademesinde yer almakta, giderek tüketimi inanılmaz boyutlara ulaşmaktadır. Kâğıt sektöründe hammadde problemine çözüm için, sürdürülebilir ormancılık çalışmalarından daha ziyade, sürdürülebilir geri dönüşüm teknolojilerini geliştirmek gerekmektedir. Kağıt yapısının ana iskelet elemanı selülozdur. Kullanımını tamamlayarak atık durumuna gelmiş kağıtların yapısında bulunan selülozun geri kazanılmasıyla yeniden kağıt üretiminde değerlendirilmesi mümkündür. Geri kazanılmış selüloz liflerinden yeniden kağıt üretimi esnasında, geleneksel odun hamurundan kağıt üretimine göre bazı farklı uygulamalar gereklidir. Günümüzde birçok ülke, üretime bağlı çevre sorunlarını ortadan kaldırmak için döngüsel ekonomi politikalarıyla temiz ve sürdürülebilir üretimi desteklemektedir. Bu anlamda atık sınıfına giren kâğıdın, lifler dışında bulunan bütün bileşenlerini en ekonomik ve çevreci metotlarla ayırmak son derece önemlidir. Bu çalışmada Türkiye'de geri dönüşüm açısından kâğıt sektörü çevresel olarak araştırılmıştır.

Anahtar Kelimeler: Kağıt, Kağıdın Özellikleri, Selüloz, Geri Dönüşüm

1. INTRODUCTION

According to the Turkish Language Association, recycling is defined as "the re-evaluation of waste" (TDK, 2022). Ak and Genç (2018) defined it as "a waste management method that enables the most efficient use of natural resources and the most potential resources to be left to future generations."

Considering the advantages that recycling will provide in areas such as employment creation, efficient use of natural resources, economic benefit and environmental improvement, it seems that it has great potential to increase national welfare. At the same time, wastes that create environmental problems are very important inputs for production and financial resources are required for their disposal (Republic of Turkey Ministry of Science, Industry and Technology, 2014).

1.1. The Importance of Recycling for the Environment

Since natural resources are limited, it is inevitable that they will eventually run out. In addition to saving resources, it is important to carry out effective studies on recycling and reusing waste in order to produce solutions to all kinds of problems that may arise regarding sustainable development. In this context, not only developed countries but also developing countries need to put an end to unnecessary resource use and implement recycling and reuse methods for materials with economic value in order to benefit from their natural resources in the long term and at the maximum level (Karagözoğlu et al., 2009; Ten, 2017).

The "take-make-dispose" idea in the Linear Economy model, which is insufficient in terms of waste reuse, sustainability and clean production, has been replaced by the "reduce-reuse-recycle" idea in the Circular Economy (Kirchherr et al., 2017). This approach, at the heart of the circular economy model, serves sustainable development through efficiency in resource use, waste reduction, reuse and recycling (Polverini and Miretti, 2019; Yeşilkaya et al., 2023). In this sense, industrial ecology (IE) and industrial symbiosis (IS) offer a perspective on how to reduce waste in the transition from a linear economy to a circular economy.

The idea that we do not have infinite resources and that we must use these resources in the most efficient way possible for our future has been reflected in both production processes and consumption behaviors, especially in recent years. Consumers have begun to prefer products that are produced with materials and methods that are harmless to the environment and human health, both during production and use, and that can be disposed of without harming the environment in case of waste (Ar and Tokol, 2010; Şenel, 2023). Various recycling programs aim to encourage individuals to engage in recycling behaviors as much as possible. Because recycling provides a number of benefits for society and the environment, such as reducing pollution and greenhouse gases, protecting natural resources and energy, promoting economic and technological development, and protecting funds allocated for waste disposal (Prestin and Pearce, 2010; Şenel, 2023). One of the steps taken in Turkey to achieve these benefits is the National Waste Management and Action Plan prepared by the Ministry of Environment, Urbanization and Climate Change for the years 2016-2023. Within this plan, policies and strategies for recovery, pre-treatment, storage and disposal methods for all waste types have been determined (Republic of Turkey Ministry of Environment, Urbanization and Climate Change, 2016). In 2017, the Zero Waste Project was announced for the first time in Turkey and was introduced under the auspices of the Presidency and the leadership of the Presidency of Environment and Urbanization (Gül and Yaman, 2021). Within the scope of the project, a total of approximately 45.5 million tons of recyclable waste, including 25.4 million tons of paper and cardboard, 6.6 million tons of plastic, 2.6 million tons of glass, 700 kilograms of metal and 10.2 million tons of organic and other recyclable waste, has been processed by businesses licensed by the Ministry and thus brought into the economy. In this way, an economic return of 96 billion TL has been provided, 4.9 million tons of greenhouse gas emissions have been prevented and 432 million trees have been saved (Republic of Turkey Ministry of Environment, Urbanization and Climate Change, 2023). Although it is important to develop such plans and make technological investments, the success of recycling programs depends more on the participation of people, and the development and maintenance of environmentally sensitive behaviors are very important in this regard (Kelly et al., 2006; Şenel, 2023).

1.2. Recycling of Paper in Turkey

While annual plants, agricultural production residues and old rag fabrics were used in paper production for many years, it is seen that cellulose fiber from trees began to be used as a raw material in production in the 1850s. Therefore, approximately 2000 years after its invention, papermaking, which exhibited an environmentally friendly production using herbaceous plants and fiber-based waste, unfortunately had to switch to mass production as a result of the increasing human population, product variety, excessive consumption and the industrial revolution, needed more raw materials and turned to forests. Inevitably, forest resources have become insufficient to meet the ever-increasing needs and consumption. For this reason, the paper and cardboard industry has had to focus on recycling. Recently, a principle called the 3R rule has been put forward in some countries for the balanced and rational use of raw materials. According to the approach formulated as Reduce+Reuse+Recycle, unbalanced and excessive waste of resources is highlighted. In order to use limited resources adequately, it has become extremely important to prevent waste and excessive consumption habits and to raise awareness of people defined as consumers (Karademir et al., 2002; 2012).

Today, pulp production in Turkey is almost non-existent (SKV, 2010). More than half of the total paper and cardboard consumed in the country is purchased from abroad. If we take into account that the pulp raw material (especially bleached kraft pulp) used for domestically produced paper and cardboard is imported, it is clearly seen that the paper industry has unfortunately become a sector that is seriously dependent on foreign sources in terms of raw materials and finished products. The fact that Turkey ranks 25th in world paper production and 16th in consumption also shows the inadequacy of paper production. It is reported that it ranks 50th in the world with a per capita consumption of 60.3 kg (Karademir, 2012; SKV, 2010).

Considering the countries' paper industry, forest resource status and income, and approach to natural resources, the importance of collecting waste paper more effectively and recycling it in a sustainable manner with modern methods without harming the environment is better understood. Any type of paper, cardboard and paperboard that has completed its function in any field of use and is thrown away is called waste paper (Kırcı, 2000). Today, approximately 5.5 million tons of paper/cardboard are consumed annually in Turkey. It is impossible to recover all of them due to some restrictive reasons and it is accepted that a maximum of 80% recovery can be made. The majority of the recovered waste paper is used in the production of corrugated cardboard and grey cardboard. However, as in many developed countries, waste papers need to be converted into writing papers by removing the ink and impurities they contain (Karademir, 2002; 2012).

In the process of evaluating waste paper, it is possible to count "ink removal processes" as the process that most affects the quality of the product to be obtained. In deinking methods, efforts are made to remove all the impurities in the paper pulp, especially those that darken the color, and as a result, white fiber with high brightness value is obtained. It is extremely important for those dealing with paper to know the waste paper they will evaluate well, the characteristics of the pollution they are trying to remove and how it adheres to the paper (Kırcı, 2006).

Türkiye started paper and cellulose production in the early years of the Republic with SEKA (Turkish Cellulose and Paper Factories Inc.). However, SEKAs were privatized and the activities of these factories were terminated in the following years. Currently, cellulose production from wood is carried out only in the Zonguldak/Çaycuma paper factory, which is a former SEKA facility. However, the lack of sufficient cellulose production facilities in the sector has made the sector dependent on foreign sources. Cellulose imports in the last 5 years are around $1 billion each year. Paper and paper products imports in the last 5 years are around $2.5 billion each year. Cardboard and corrugated cardboard are also produced in Turkey, and approximately 45% of the main raw material of this sector is met by the recycling of waste paper. The high capacities of fiber and particle board facilities in Turkey have led to an unbalanced use of raw materials in the forest industry. In this context, since most of the industrial wood is used for the wood panel industry, there is not enough domestic raw material for cellulose production. Another problem in cellulose production is that the cellulose production process is very costly. Industrial forestry activities need to be carried out to reduce external dependency in cellulose production. In this context, in order to increase the efficiency of the cellulose production process, the development of advanced technologies suitable for the sector should be supported and R&D studies that will reduce the use of chemicals in the process should be accelerated (Yeşilkaya et al., 2023).

1.3. Negativities Caused by Paper Recycling

Millions of tons of cellulose (secondary fiber) are recovered from waste papers worldwide and used in the remanufacture of many different types of paper (Biermann, 1993; Şahin, 2007). Typically, papers remanufactured from recycled secondary fibers have lower physical strength properties than those produced from wood pulp. In the formation of this situation, the changes that occur in the structure of cellulose as a result of drying are especially important. In order to regulate this negative situation to a certain extent, it is recommended to add some chemicals known to have an effect on cellulose during stock preparation and paper manufacturing or to apply sensitive refining processes (Şahin, 2009; 2013; 2014; Wistara and Young, 1999).

Recycled secondary fibers are typically shorter and stiffer than their original fiber length. Similarly, since the surface areas of the fibers are narrower, their bonding potential is lower (Minor, 1994; Üner and Şahin, 2004).

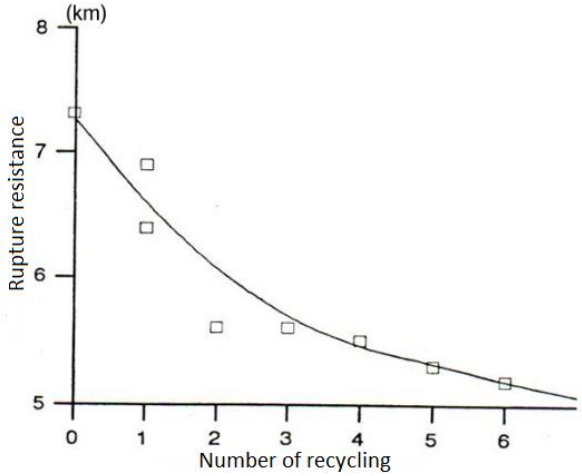
A significant portion of the non-fiber unwanted materials found in waste paper (dirt, adhesives, fillers and functional materials, etc.) begin to be removed in the fiber opening/pulping unit, which is the first stage of recycling, and then in the screening and washing stage. Heavier substances such as sand, glass, clay and metal residues that may be present in the fiber suspension can be removed by sedimentation with centrifugal cleaners. Surface coating residues, plastics, films, rubber-like particles and inks, which have a lower specific gravity and are called ‘stickies’, can be largely removed from the environment by using surfactants or adjusting the alkalinity of the suspension, as they mostly float on the fiber suspension. However, even in the most advanced processes, some of the undesirable non-fiber substances may be present in suspension with the cellulose fibers, either dissolved or in particle form. Examples of these substances include starch, inorganic ink substances, silicates and proteins in the structure of glues. For this reason, when the paper stock prepared from recycled secondary cellulose fibers is fed to the machine, unwanted non-fiber solids can create significant problems at the ruler mouth, sieves and wet end (Biermann, 1993; Şahin, 2014).

Recycled secondary cellulose fibers have typically been described in many studies to have less swelling/plasticization properties and lower individual fiber strength (Scott and Abbott, 1995; Şahin, 2013). Therefore, in order to minimize some of the negative effects that may occur in the paper machine during re-paper production, such as delayed percolation and foaming of the fiber suspension on the sieves, increased microbiological activities and frequent paper breakage in the machine, some non-fiber functional and process facilitating additional processes should be applied during the preparation of the paper stock. For this purpose, it is often recommended to add alkaline chemicals (NaOH) to swell the fibers and regulate their bonding potential. In addition, it is recommended to add wood pulp with longer fibers and individual fiber strength to the paper stock at a certain rate, as well as to apply sensitive and additional refining processes (Gurnagul, 1995; Şahin, 2014; Wistara and Young, 1999; Wistara et al., 1999).

Many paper and cardboard products can be produced from the recycled secondary cellulose fibers of waste paper, either alone or by mixing them with wood pulp in certain proportions. In general, recycled secondary cellulose fibers can be used extensively, mostly together with a high percentage of mechanical pulp, in the production of low or medium quality paper tissues and towels, newsprint, low quality cheap packaging papers and cardboard. The page structures of this type of paper are generally closely related to the origin of the fiber (short/long fiber, recycled fiber or mechanical/chemical fiber ratio), the substances added during paper manufacturing and the technology used (Şahin, 2014).

All recovered secondary fibers are shorter in length than wood pulp fibers and characteristically less swollen in water. In addition, the hydrogen bonding potential and fiber surface areas of these fibers decrease irreversibly (hornification phenomenon). Very small sized fines are one of the factors that have the greatest effect on the mechanical properties of paper. They are particularly effective in interfiber bonding. Figure 1 below shows the typical decrease in the tensile strength of papers as a function of the number of recycling cycles (Spangenberg, 1993).

Figure 1. Effect of recycling number on the breaking strength of papers



The strength properties of papers remanufactured from recycled chemical pulp fibers are significantly reduced but are often higher than those produced from mechanical wood pulp fibers (non-recycled). Even if very small amounts of ink are used in waste papers, the brightness values of papers re-produced from the recycling of inked papers are significantly reduced compared to those using traditional inks. For example, it has been reported that even when using a very small amount of mineral oil-based ink, such as 0.002% (by weight), in newsprint, the brightness value drops by nearly 20 units. Even less traditionally used water-based inks, for example on flexographically printed papers, have been reported to show a decrease in brightness value of over 30 units (Scott and Abbott, 1995; Şahin, 2014).

The resistance against absorption of liquids on the surface of newsprint produced from wood pulp fibers comes from natural hydrophobic substances. By removing this hydrophobic material during recycling (washing-ink removal), papers can absorb more liquids. Generally, paper producing facilities add alum (aluminum) to wood pulp fibers to regulate their water absorption properties (Şahin, 2014).

1.4. How can Paper Recycling be Increased?

The principles regarding the work of independent waste collectors should be established within the framework of a circular. Municipalities must decide on the working procedures and principles of waste collectors operating within the boundaries of their service areas by putting them on the agenda at the first municipal council meeting after the circular is published. Municipalities must ensure that waste collectors carry an Independent Zero Waste Collector Card, work with gloves, clothing and waste collection vehicles that meet the standards they specify, and work within the hours they specify and in a way that does not harm the existing zero waste system (URL 1).

Waste collectors must be required to deliver waste to municipal waste centers and recyclable waste transfer centers or to environmentally licensed waste processing facilities located within municipal boundaries. The waste should be weighed here and payment should be made taking into account market conditions. Data on collected waste must be regularly entered into the online systems of the ministry by municipalities or licensed businesses to which the collector delivers the waste (URL 1).

CONCLUSION AND RECOMMENDATIONS

There is a direct proportion between a person's behavior and knowledge, and a correct attitude cannot be displayed towards a subject about which there is no knowledge. Therefore, people's unawareness of the benefits of recycling for themselves and their environment may cause them to stay away from recycling behavior (Özbakır Umut et al., 2015). The most effective way to change people's thoughts, attitudes and behaviors towards environmental problems is to provide environmental education (Yiğit, 2022). Studies show that recycling education increases the recycling rate (Sidique et al., 2010; Şenel, 2023).

The fact that educational institutions are institutions that should guide the society and employ a large number of trained personnel shows that these institutions can lead other institutions (state and private enterprises) in zero waste management (Sağlam, 2023).

In 2021, the Paris Agreement for the protection of the environment and the fight against climate change entered into force in Turkey. In addition, the “zero waste” decision for Turkey’s sustainable development goals was adopted at the United Nations General Assembly in December 2022. It is clear that both the zero waste decision and the Paris Agreement will encourage new environmental projects for the return to the Circular Economy. The role of states in encouraging enterprises to implement sectoral or inter-sectoral ES practices through legal regulations and ensuring coordination between enterprises is obvious (Yeşilkaya et al., 2023).

As a result of the research, the following suggestions can be made: Before switching to zero waste practice, awareness training should be given to individuals in the institutions where the practice will be carried out. It is thought that preparing a documentary showing step by step all the stages from taking the product that the person throws in the recycling bin to completing the recycling process and showing the environmental, economic and social gains with both statistical statements and sample applications at the end of the documentary will make the training more effective. Knowing the contributions individuals will make with each waste they throw into the recycling bin and with their sensitivity towards green consumption will enable them to have a more positive view of recycling and green consumption (Şenel, 2023).

Purifying the cellulose fibers in paper and cardboard without destroying them too much will allow them to be used more, thus preventing the destruction of new trees. However, the amount of energy, water and chemicals used in recycling must be gradually reduced and an environmentally friendly technology must be developed.

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The Effects of Global Climate Change on Marine Creatures

Prof. Dr. Nurcan ÖZKAN[1]

[1] University of Trakya, Faculty of Education, Department of Mathematics and Science Education, nurcanozkan@hotmail.com, ORCID: 0000-0001-5045-6186

Abstract: In this study, the effects of climate change on marine organisms were examined. The development of technology and industry has caused changes in the gas density in the atmosphere and living conditions and has become a global problem. Rapid changes in global climate cause significant changes in living things. Oceans and seas, which make up a large part of our world and contain a rich biodiversity, are the aquatic ecosystems most affected by the changes caused by global warming. Especially seafood and fish, which provide high-quality protein, are very sensitive to changes in the aquatic environment and are thus greatly negatively affected by this situation. Krill numbers have declined by 80% in the last thirty years. Coral reef bleaching has increased significantly. New scientific research shows that there is a strong relationship between rising sea temperatures and fish migration. The new findings suggest that fish that normally thrive in tropical regions are migrating rapidly in an effort to explore cooler seas. The number of fish of Indian Ocean origin detected in Turkish seas has reached 30. Many marine mammals are in danger of extinction due to the decrease in sea ice. Coastal habitat has been destroyed and sea turtle breeding grounds have been limited due to sea level rise.

Key Words: Global Climate Change, Aquatic Ecosystem, Biodiversity

Küresel İklim Değişiminin Deniz Canlıları Üzerinde Oluşturduğu Etkiler

Özet: Bu çalışmada iklim değişikliğinin deniz canlıları üzerine etkileri incelenmiştir. Teknoloji ve sanayinin gelişmesi atmosferde gaz yoğunluğu ve yaşam koşulları üzerinde değişimlere sebep olmuş ve küresel çapta sorun haline dönüşmüştür. Küresel iklimdeki hızlı değişimler canlılar üzerinde önemli değişimlere sebep olmaktadır. Dünyamızın büyük bir kısmını oluşturan ve zengin bir biyoçeşitlilik içeren okyanuslar ve denizler küresel ısınmanın yarattığı değişimlerden en çok etkilenmiş olan sucul ekosistemlerdir. Özellikle kaliteli protein sağlayan su ürünleri ve balıklar sucul ortamdaki değişimlere karşı çok hassas oldukları için bu durumdan büyük ölçüde olumsuz şekilde etkilenmektedir. Krillerin sayıları son otuz yılda %80 oranında azalmıştır. Mercan resiflerinin beyazlaması önemli ölçüde artış göstermiştir. Yeni bilimsel araştırmalar, denizlerin yükselen sıcaklığı ile balık göçü üzerinde güçlü bir ilişki olduğunu göstermektedir. Yeni bulgular ışığında, normalde tropik bölgelerde gelişen balıkların daha serin denizleri keşfetme çabası içinde hızla göç ettikleri anlaşılmaktadır. Türkiye denizlerinde saptanan Hint Okyanusu kökenli balıkların sayıları 30'a ulaşmıştır. Çoğu deniz memelisi denizlerde buzulların azalmasına bağlı olarak yok olma tehlikesi ile karşı karşıya kalmıştır. Deniz seviyesindeki yükselme sebebiyle kıyı habitatı tahrip olmuş ve deniz kaplumbağalarının üreme alanları sınırlanmıştır.

Anahtar Kelimeler: Küresel İklim Değişikliği, Sucul Ekosistem, Biyoçeşitlilik

1. INTRODUCTION

It has been proven by scientific observations that global temperature increases have occurred in the 21st century, and it is accepted that this warming will lead to climate change in a short period of time, covering a few decades (Albek, 2007). The doubling of CO_2 in the atmosphere after the industrial revolution indicates possible climate changes by 2030. The first noticeable change will be the temperature increases (Aksay et al., 2005). In addition to the observed warming in the global climate, it is predicted that there will be an increase of 1.4-5.8^{o}C in global average surface temperatures between 1990 and 2100 (Karaman, and Gökalp, 2010; Öğüt, 2008).

1.1. Climate Change

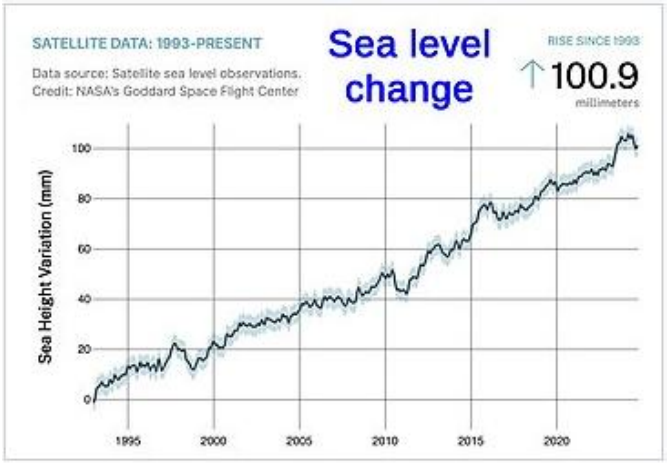
Natural factors have caused climate change in previous periods of Earth's history, but human activities are the primary cause of the changes currently observed (EPA, 2016). While climate is a natural phenomenon that affects humans, their living conditions and everything related to humans, the last 3 centuries have been a period when humans have also begun to affect the climate. Nature, which has the power to renew itself no matter what happens in the face of human activity, began to lose this power from the 18th century onwards. With the industrial revolution, changes in production methods, population growth, urbanization, deforestation and fossil fuels have fundamentally shaken the human-nature balance. For these reasons, carbon dioxide, methane, nitrogen and other gases, which are the main greenhouse gases released into the atmosphere by humans, continue to have an effect for many years, thus causing the world temperature to increase (EPA, 2016). Of course, the marine ecosystem has been the one that has received the greatest share of this change. Global warming is a

term that describes just one of the potential effects of increasing greenhouse gases in the atmosphere. In other words, one of the most obvious symptoms of artificial climate change in the current global warming is warming (URL1). According to the IPCC 1.5°C report, humans have caused the world to warm by approximately 1.0°C compared to the pre-industrial era. If greenhouse gas emissions continue at their current rate, global warming is projected to exceed 1.5°C between 2030 and 2052 (URL2).

Since sea level is the surface of the water mass that fills the seas, changes in the level of the surface are primarily related to the volume of the water mass. As the water volume increases, the sea level rises and as it decreases, it falls. The most important factor causing this is climate change. When the climate cools, the sea level drops, while in warm periods, the sea level rises as the glaciers melt. Sea level changes are related to changes in the volume of sea and ocean basins, sea water temperature, and salinity, as well as climate changes (Rovere et al., 2016).

Sea level rise is the change in sea level caused by the recent and projected increase in the world's average sea level associated with global warming. Since at least the beginning of the 20th century, average global sea level has been rising. Between 1900 and 2016, sea levels rose by 16–21 cm (URL3). More precise data from satellite radar measurements reveal an accelerating increase of 7.5 cm from 1993 to 2017 (URL4; 5). There has been a trend of approximately 30 cm in the 20th century. This acceleration is mostly due to anthropogenic global warming, which has driven thermal expansion of seawater and melting of land ice sheets and glaciers. Thermal expansion of the oceans contributed 42% to sea level rise between 1993 and 2018; Between 1993 and November 2018, sea level observations showed that melting of temperate glaciers contributed 21% to the rise of sea level and that of Greenland contributed 15%. Climate scientists expect this rate to accelerate further in the 21st century. Projecting future sea level is difficult because of the complexity of many aspects of the climate system. Projections have steadily increased as climate research into past and present sea levels has led to the development of computer models. For example, in 2007 the Intergovernmental Panel on Climate Change predicted a high of up to 60 cm in 2099 (Mengel et al., 2016). However, 2014 reports increased the upper-level estimate to 90 cm (Sweet et al., 2017; URL5). Some later studies have concluded that a global sea level rise of 200 to 270 cm this century is "physically plausible" (URL 6). A conservative estimate of long-term projections expects each degree Celsius temperature increase to trigger approximately 2.3 metres of sea level rise over two millennia (Chart 1; 2) (Bamber et al., 2019; URL5). Sea levels will not rise equally across the world and will fall slightly in some places, such as the Arctic (URL7). It is emphasized that sea level rise could significantly affect the population in coastal and island regions (Bindoff, and Willebrand, 2007).

Chart 1: Sea level observations between 1993 and November 2018 (URL 5).



1.2. Warming of the Oceans

Most of the additional heat trapped in Earth's climate system by global warming is stored in the oceans. They store more than 90% of the extra heat and act as a buffer against the effects of global warming. The heat required to increase the average temperature of the entire world ocean by 0.01°C would increase the temperature of the atmosphere by about 10°C. Therefore, a small change in the average temperature of the ocean can change the total heat content of the climate system. When the ocean gains heat, the water expands and sea level rises. This means that the amount of cold expansion will vary depending on both water temperature and pressure, meaning that Arctic Ocean water will expand less than warm tropical water. Scientists do not fully agree on the

contribution of ocean heating to sea level rise because different climate models have slightly different patterns of ocean heating (Kuhlbrodt, and Gregory, 2012). Heat is transported by winds and currents to deeper parts of the ocean, some reaching depths of more than 2,000 m (URL8).

As water temperatures increase and polar ice caps melt, water levels rise. While water levels rose by 10-20 cm in the last century, it is expected to rise by 50-60 cm this century. This situation will negatively affect coastal countries and island countries. The most productive coastal areas of the seas will be lost, and biodiversity and biodiversity will be negatively affected. Global warming will not only directly affect marine life, it will also lead to habitat loss. Increasing water temperature also negatively affects coral and sea meadows. Mass coral die-offs have been seen in the Pacific and Indian Oceans. The death of corals will not only lead to a decrease in biodiversity but will also reduce the absorption of carbon dioxide by the seas (URL9).

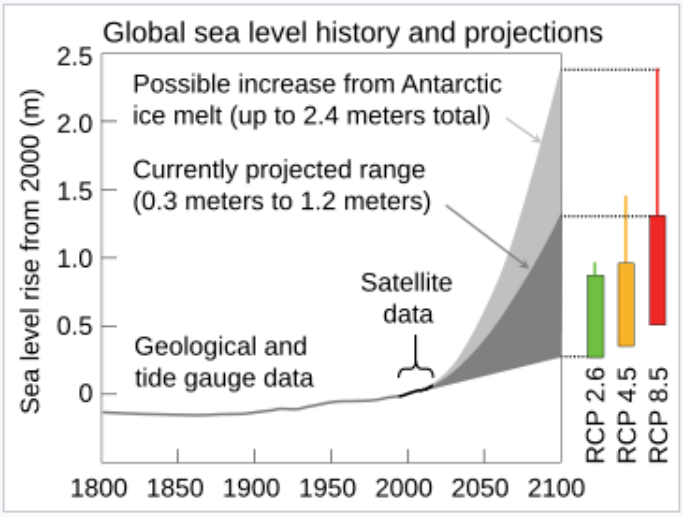


Chart 2: Historical sea level reconstruction and projections to 2100, published in January 2017 by the Global Change Research Program for the Fourth National Climate Assessment of the United States. RCP 2.6 is the scenario in which emissions peak before 2020, RCP 4.5 is the scenario in which emissions peak around 2040, and RCP 8.5 is the scenario in which emissions continue to increase as usual (URL5).

1.3. Changes in the Food Chain Due to Global Warming

The warming of waters due to global warming will force many aquatic creatures to change their habitat. This will cause significant changes and losses in the food chain. A food chain is a series of rings formed as a result of individuals of species in ecosystems feeding on individuals of other species or species. The food chain in the aquatic environment can sometimes be very long and is easily affected by many factors such as water temperature and current systems. The most easily measurable effect of global warming appears to be the increase in sea water temperatures (Soydemir Çiftçi, 2011).

In nature, the organic matter produced as a result of photosynthetic activities of autotrophic species containing chlorophyll is called primary production. The food chain in the sea begins with microscopic algae. Phytoplankton constitute the first step of the food chain in aquatic ecosystems and are responsible for approximately half of the primary photosynthetic production in the biosphere. As sea water warms due to global warming, algal blooms also increase. The greenhouse effect caused by global warming is observed with some different changes in different seas of the world. Phytoplankton are organisms that live in the light-exposed surface waters of ocean waters. These organisms serve as food for many aquatic species such as zooplankton, fish, shrimp and mussels. Their most important benefit is that they produce 70% of the oxygen on the planet. They play a very important role in the carbon cycle (Weeks et al., 1993; Öztürk, and Çetin, 2005). The organic matter yield created by herbivorous forms that obtain the energy necessary for their life from primary production, in other words, those that feed on benthic or phytoplanktonic algae, is called secondary production. As sea and ocean waters warm, these plankton species migrate to newly warmed areas. This situation causes significant changes in the nutrient cycle. There is no primary production possibility other than chemosynthetic production in the deep sea bottom. Therefore, the food chain in deep sea regions depends on surface production. Convection towards the bottom decreases as you get closer to the bottom. The diversity of food sources in deep sea areas decreases as one descends from the productive epipelagic zone. Deteriorating ecological conditions as a result of global warming

force fish species living in the southern hemisphere to migrate to the northern hemisphere (Geldiay, and Kocataş, 2002; Kayhan et al., 2015).

Climate change, associated with changes in the carbon cycle, and long-term changes in most regions also affect the abundance, community structure and distribution of zooplankton in the epipelagic. Increasing ocean temperatures, oxygen depletion, ocean acidification, eutrophication, and overfishing are altering plankton communities, and the synergistic effects of these factors are predicted to cause widespread changes in the carbon cycle of zooplankton in the coming decades. Temperature is known to affect all aspects of carbon flux through zooplankton, both directly (nutrient metabolism, growth and reproduction rates) and indirectly (surface water layer and vertical mixing). According to measurements, warming of the oceans has affected areas below the ocean surface in recent decades. Warming oceans have a strong impact on marine life, and biodiversity is at greater risk. This is best illustrated by looking at the status of warm-water plankton in the Northeast Atlantic. Some copepods move northwards, covering distances of 200-250 km every decade. These small copepods are food for other animals. Their distribution patterns in the oceans may change as copepods migrate north. They play an important role in the elemental cycle and vertical currents from protozooplankton to metazooplankton (Bulut, 2020; Monteiro et al., 2016).

An increase in phytoplankton biomass and an extension of seasonal growth period have been observed in the North Sea and North Atlantic as a result of surface water warming. During the 1990s, seasonal development of zooplankton occurred approximately 4–5 weeks earlier compared with long-term averages. It has also been determined that in the last 30 years, zooplankton species have shifted approximately 1000 km northwards and plankton ecosystems have reorganised. Seasonally, the early start of plankton production mainly affects plankton development and biomass production. Plankton drifting with currents form the basis of the food web of all marine life. Increases in plankton biomass and variations in seasonal growth time can cause changes in fish populations (Rothrock et al., 1999).

The main impact of global warming and climate change will be seen on the coasts, which are the most productive areas of the seas. Because the transfer of nutrients to the marine environment will change as a result of irregular wind and rainfall, and considering the changing current regime, today's living productivity and migration dynamics will partially or completely change. Rising seawater temperatures have caused yellowing and mass death of corals in the Pacific and Indian Oceans. For example, in the Caribbean, a 2-degree increase in sea water temperature between 1989 and 1990, that is, a rise in water temperature from 28-29°C to 30-31^{o}C, caused mass death of corals. However, the disappearance of corals not only leads to the destruction of marine biodiversity, but also decreases the absorption of carbon dioxide by the seas, which is primarily responsible for global warming. Such processes are interpreted by experts as a sign of the global collapse of the system. Similar incidents have also been seen in parts of Malaysia, Indonesia and Thailand (URL10).

Ocean warming is occurring primarily in shallow areas, such as the surface and near-shore coral reefs. The survival of living things in these regions depends on the temperature not changing too much. Even if the temperature increases by a few degrees in short periods of time, the lives of these creatures are in danger. Therefore, it is extremely important for the survival of these creatures that the temperature of the seas does not increase. Oceans have the ability to absorb carbon dioxide. However, the ability of the seas to absorb carbon dioxide depends on temperature. In other words, the higher the temperature of the atmosphere or sea water, the lower the sea's ability to absorb carbon dioxide. The seas, which are currently useful in stopping climate change, may cause further global warming by releasing the carbon dioxide they hold back into the atmosphere as the water temperature increases (URL2).

1.4. Global Climate Change Effects on Some Oceans and Seas in the World

One of the most fundamental components of marine life in the North Atlantic Region is sea ice and its thickness. Channels formed within the ice contain many vital organisms such as diatoms, zooplankton and crustacean species (Richardson, and Schoeman, 2004). In fact, the effects of global warming are most visible in the polar regions. It is estimated that glacier areas, especially in this region, will decrease by 40% by 2050 (Beare et al., 2002). Seaweed and algae, which increase in number during the spring months, sink to the bottom when they die and contribute to the food web that includes many aquatic organisms, from invertebrates to large vertebrate species (Brander, 2007). An increase in the number and blooms of toxic algae has been observed in the North Atlantic and the Arctic Ocean since the 1990s, resulting in the death of organisms in benthic regions. That is, regions where temperatures increase rapidly are more susceptible to algal blooms (Edwards et al., 2006; Weeks et al., 1993). Ice areas in the Arctic region are decreasing at a rate of 3% every 10 years. Considering the importance of the Arctic region in the global climate and marine ecosystem, this rate is not insignificant. As a

result of melting, the water properties of cold seas will change and the living conditions of species living in cold waters will be affected.

Food production may decrease in increasingly warming temperate regions. The effects of these changes spread from phytoplankton to herbivores and carnivores due to tight trophic linkages in the food chain (Brander, 2010). Increasing ocean temperature can cause significant physiological changes in some species. For example, Sea Bream (*Sparus aurata*) is a fish species that can spawn between 14-16^{o}C. As a result of the continuous increase in sea temperature, their physiology is negatively affected and natural and farmed fish can no longer reproduce as much as before. In addition, increasing temperatures in the North Atlantic Region caused dinoflagellates to reproduce early, causing fish in the region to become deprived of oxygen and move away from the environment (Weeks et al., 1993).

In the Tropical Pacific Region, similar effects may be seen in mid-latitude pelagic ecosystems affected by warming. Another important consequence of the warming of the oceans is the increase in the acidity of the waters. As ocean currents absorb carbon dioxide from the atmosphere, the pH in seawater decreases and acidity increases. Aquatic species are more sensitive to effects such as warming and acidification, especially in the embryonic and larval stages. High acidity is an undesirable situation for shellfish living in the sea. Species with aragonite shells in particular are more easily dissolved than species with calcite shells, and their shells become thinner rapidly. This is very important as it prevents the reproduction of the species (Aksay et al., 2005). Likewise, corals are among the species most affected by acidification and warming in waters. Calcium destruction of up to 60% has been observed in many coral species (Jeffree, 2009).

The Antarctic region will be similarly affected by global warming. Because it is far from terrestrial systems, its effects on continental climates will not be too devastating. In addition, although the Antarctic Region may seem distant from the world's other systems, there are some reports of how even a slight increase in the region's temperature could profoundly affect ecosystems around the world. For example; Antarctic Krill (*Euphausia superba*) is a very abundant shrimp species that lives in the Southern Ocean. They are used as food by fish, birds and whales. It is known that they produce an average of 100,000 tons per year. The existence of krill is mainly based on the presence of phytoplankton living on the surface of the water and at depths where sunlight can penetrate the water sufficiently. The number of krill has decreased by 80% in the last 30 years (Kayhan et al., 2015; Özalp, 2012). In other words, the reproduction and abundance of krill depend on phytoplankton blooms in the summer months.

These changes are having profound impacts on the Southern Ocean food chain. Penguins, albatrosses and seals also turn to krill when food is scarce. Therefore, krill density in narrow areas is actually very important (Kayhan et al., 2015; Wernberg et al., 2011). However, it is thought that all climate changes observed and measured will have less impact on the deep oceans than on others.

The real impact of global warming and climate change will be seen on the coasts, which are the most productive areas of the seas (Anonymous, 2007). Experts conducting studies on the coasts have calculated that each centimeter of sea level rise can cause a horizontal regression of 1 meter in width on sandy coastlines due to erosion (Anonymous, 2007a). Changes in sea level will endanger coastal habitats and species such as sea turtles that use beaches as breeding grounds and lay their eggs will be negatively affected as breeding areas will shrink (Anonymous, 2007).

There are large currents active in the oceans. These currents have significant effects on the water cycle and weather conditions. Differences in sea water density, depending on the salinity and temperature of the water, winds and storms cause currents. As a result, cold water currents such as the Humboldt and warm water currents such as the Gulf Stream are formed and these affect the surrounding climatic conditions (Anonymous, 2008).

Studies have shown that the glaciers in the Arctic will melt due to global warming and that the melting glaciers could completely stop the Gulf Stream warm water current within 10 years. A complete halt in the flow of the Gulf Stream could push the world to the point of no return. The Gulf Stream may cause the northern hemisphere of the world to begin a new ice age as it reaches northern Europe from the Gulf of Mexico through the Atlantic Ocean and moderates the climates of England, Ireland, northern France, Belgium, the Netherlands and Germany. In addition, the plankton carried to the ocean by the Gulf Stream, that is, the first links of the food chain, will disappear and all food chains, especially the fish that feed on these planktons, will be damaged. The extinction of these creatures will cause the creatures that feed on them to starve, and this will affect humans, who are an important link in the food chain (Anonymous, 2005).

As sea water warms, the number of bacteria living at high temperatures and their disease-causing capacity will increase further. For this reason, global warming poses a danger to marine fish farming (Anonymous, 2007b). What is known is that most coral diseases occur at higher-than-normal seawater temperatures. As temperatures are expected to increase significantly over the next few decades, coral diseases are also likely to become more common (Rosenber, and Ben-Haim, 2002).

Fish don't just migrate, they migrate to more preferred conditions. At the same time, other marine life also makes mass migration a part of their lives. For example, a small fishing village in Virginia was world famous for its sole. In recent years, due to rising water temperatures, the sole has migrated to cooler waters near New York and New Jersey. As blue mussels struggle with summer temperatures, blue crabs, previously absent from parts of North America, have been migrating north in recent years. However, the lives of marine creatures such as starfish and sea urchins, which have weak migration abilities, are under threat (URL9).

1.5. Effects of Global Climate Change on Fish Development

The high temperature in the atmosphere, which causes the temperature in oceans and seas to increase, significantly affects the chemical, physical and biological properties of water. This chain of changes causes some sometimes irreversible damage to the lives of all aquatic species, especially fish. Because water temperature is one of the most important parameters in the lives of aquatic species. All physiological activities of fish such as migration, spawning and feeding are adjusted according to water temperature. The survival of the species is closely dependent on these physical conditions. For example, the Atlantic Salmon (*Salmo salar*), an anadromous fish species, is one of the most important species affected by global warming. These effects can be listed as follows: Melting of glaciers affects summer and autumn currents, causing adult and juvenile salmon to lose their way during migration. If the water temperature exceeds the optimum temperature of 12.8-17.8 ^{o}C for salmon, it becomes more susceptible to parasites and diseases. As a result of ocean acidification, mussel shells become thinner, leaving salmon that feed on them with a food shortage (Kayhan et al., 2015; Kleypas et al., 2006).

It is even more difficult to predict the impact of the destruction that global warming will cause on the fishing industry. The first effect of global warming is the warming of surface waters. This is because more of the sun's rays are absorbed by the sea due to melting glaciers. It is expected that fish species living in the southern hemisphere will migrate to the colder northern hemisphere waters due to warming waters. Since oxygen is less soluble in warm waters, physiological stress will occur in fish. Species that cannot tolerate high temperatures will either become extinct or migrate to cooler waters. This situation will cause competition for food and habitat between them and the native species living in the environments they will go to (Kayhan et al., 2015; Lespinas et al., 2014).

Although there are no long-term studies in Turkey, it is seen that there have been some changes in fishing activities. The fishing season opened on September 1, but there was no hunting activity for approximately two weeks. This is because the water temperature is high and the fish school is scattered. However, fishing activities begin when the water temperature drops and schools of fish gather. There are also changes in bonito migrations. Previously, bonito fishing was more intense in the Black Sea and the Sea of Marmara in September and October, while in recent years, hunting has also been intense in the Dardanelles during the same period. These data show that bonito fish do not stay in the Marmara Sea and migrate in a very short time. It is also known that with the warming of the Eastern Mediterranean waters, many species have migrated to the Black Sea and that there are new species records in the Black Sea. Blue crab, sardine, kupes fish are some of them. Many scientific articles mention that the Black Sea is becoming Mediterranean (Salihoğlu, and Öztürk, 2021; URL9; Zengin, 2019).

After the opening of the Suez Canal in 1869, many marine creatures from the Red Sea began to enter the Mediterranean. These species are called lessepsian species. Increasing water temperatures as a result of climate change in the world have led to more lessepsian species moving into the Mediterranean and expanding their distribution areas. 775 species have been recorded in the Eastern Mediterranean. These new species entering the country's waters compete with local species, which leads to a decrease in fish stocks (URL9).

1.6. Effects of Climate Change on Marine Creatures

As water temperatures increase, changes in sea levels, current systems, salinity and pH levels are expected. acidity of the oceans is increasing, causing a decrease in minerals such as calcium, which is necessary for the survival of all marine life, and this poses a threat to all marine life. Species such as shrimp, lobster and crab grow

by shedding their shells. Calcium is needed for new shell formation. Calcium is a very important mineral for marine life (URL9).

There is a lull in the reproductive periods of corals during the summer months. The animal, which has completed its reproduction around June, enters a dormant period. This situation continues as long as the temperatures remain warm. Then, with the arrival of autumn, egg development begins again. It feeds throughout the winter months, those eggs grow, and in the spring, it accelerates, especially with the growth of picaplankton. It enters the full maturation period, the eggs mature completely and in the summer it throws those eggs again and enters the resting phase. In this way, a life cycle continues. Nowadays, summer lasts for a long time and then suddenly winter comes. This is also confusing for marine life, which can be confused about when to emerge from summer dormancy. Some species may not be able to enter the breeding process at all. Migratory fish may have their migration patterns seriously affected (URL9).

On the other hand, as a result of the warming of the oceans, global coral reefs are bleaching and turning into global coral reefs, their symbiosis with colorful seaweeds is also ending. In reality, colored algae survive within a very limited temperature range. As a result of seaweeds being deprived of photosynthesis, coral reefs are also losing their energy sources. Global coral reef bleaching and die-off has occurred three times since 1998. In particular, El Niño atmospheric events that warm the tropical Pacific Ocean region play an active role in the global coral reef feature destruction context. The longest and most ongoing series of events that have destroyed global coral reef structures the most began in 2014, and 70% of the world's coral reefs have been damaged to date (Taner, 2011).

Not all marine life moves to find new habitats. For example, global coral reefs remain stuck in place. In fact, although global coral reefs cover one thousandth of the world's seabed, they support the survival of one quarter of the total marine species. In addition, millions of people whose livelihoods depend on income from the fishing and tourism sectors continue their natural lives on the world's coral reefs and rocks (Taner, 2011).

Fishing activities are also changing along with the migration routes of fish. For example; Black Sea anchovy migrates to Turkish waters with the decrease in water temperature in the autumn months and while the most productive fishing is done in Turkish waters, in recent years the anchovy migration has shifted towards Georgia. For this reason, Turkish purse seine fishermen carry out their fishing activities in Georgian waters with special permits (URL9).

The aquaculture sector will also be negatively affected by climate change. As water temperatures increase, bacteria that live at high temperatures will multiply and their disease-causing capacity will increase. Mass deaths may occur in fish in cages (URL9).

Temperature is a very important parameter, especially in the life cycle of marine organisms. This is actually a signal. Temperature decides when they will reproduce or migrate. The first parameter is the changes in temperature. Marine creatures perceive temperature changes and accordingly make changes and transitions in their lives. Therefore, these changes in temperature significantly affect the changes related to reproduction. The spawning period in fish mostly occurs in spring. It is the starting signal of reproduction, egg passage is ensured. The early arrival of spring will change the timing of this. While spring was expected to last 3 months, this period has shortened considerably. Therefore, it may cause an earlier breeding period. This will shorten the breeding intervals. As a result, the populations of these fish will be affected (URL9).

Animal species tend to be well-evolved for their particular environment. When that environment changes – even subtly – they often cannot adapt quickly enough. This is what's happening underwater as temperatures change. To put it simply, as water temperatures increase, the amount of oxygen it can contain decreases. Ultimately, this means that less oxygen is available for fish. Because of their reduced aerobic capacity in these conditions, some fish species have been known to relocate to waters with cooler temperatures, leaving their 'home turfs'. If the prey of these species don't also move, or if these species become an invasive disturbance in their new location, there could be serious consequences down the road. those serious consequences could ultimately include the extinction of certain species and, in turn, the loss of carbon-capturing plant-life (URL11).
It's also important to note that hotter oceans contain more carbon dioxide — increasing levels of which lead to something called 'ocean acidification'. This acidification threatens corals, snails, clams, mussels, and other marine life (typically, by dissolving their shells) (Taner, 2011; URL11).

2. CONCLUSIONS AND RECOMMENDATIONS

There are articles written in the 1920s and 1930s about the carbon emission process that began when humans entered the industrial age. It was also assessed at that time that carbon dioxide emissions could have serious

consequences. Also, in the 70s it was proven that humans were changing the climate, but no one wanted to take it seriously and take action. In the 2020s, although we feel the impact of this situation quite severely in our daily lives, we still do not take the necessary precautions. This situation has become an established system and cannot be eliminated all at once, but it is necessary to start somewhere. The advice of scientists should be taken into consideration. If necessary, public pressure should be created on decision makers (URL9).

In order to protect corals, the seas must first be kept clean. Fishing must be limited. Controlled fishing should be done and fishing should not be done in coral beds. These areas need to be protected. Corals provide shelter for many fish. When these habitats are gone, fish populations will be affected (URL9).

Global warming will not only directly affect living things, but will also lead to habitat destruction. Thus, global warming will also bring ecosystem changes. Global warming will also lead to changes in the physiological balance of species. A change in the reproductive periods and the age at which they reach sexual maturity may also bring about changes in the condition and size of living things. It is necessary to create a data bank on the numbers and other characteristics of species entering the Mediterranean and Black Seas due to the effects of global warming and tropicalization. Thus, it will be possible to make more accurate predictions about ecological developments in the coming period (URL10).

When sea temperatures rise, the water will expand and sea levels will probably rise by 1-2m. Melting glacier masses will additionally increase the water level by 1-2m. Some of the excess carbon dioxide (CO_2) will dissolve in the seas and form carbonic acid, bicarbonate and carbonate, causing the acidity of the seas to increase. It is predicted that increasing acidity of the seas will result in negative effects on marine life, such as calcification in coral reefs and inhibition of the sense of smell in some fish (Canadell, 2007; Anthony et al., 2008). Even now, the water level, temperature and acidity in the seas have increased and terrestrial water resources such as mountain glaciers and snow cover have decreased (Munday et al., 2009). If temperatures continue to rise, the consequences of these effects will intensify. The change in plankton will change the food chain from fish that feed on them to fish-eating polar bears, and some species will become extinct. The increasing acidification of the oceans will first affect the "indispensable" plankton for marine life and then the food chain, all the way to the animals that eat these creatures. Human life will continue to be negatively affected globally as a result of droughts, floods and sea level rise caused by carbon dioxide (CO_2) and greenhouse gases.

The effects of temperature increase and climate change have begun to put intense pressure on all living spaces and species found there, starting from the poles, and the intensity of this pressure will increase further in the future. It is stated that even under current conditions, polar bears, seals and walruses are experiencing food shortages, polar bears have lost 10% of their body weight, and there is a shrinkage in the natural habitats of these creatures due to the shrinkage and thinning of glacier areas (Bulut, 2020; Morlot, and Agrawala, 2004; Edwards et al., 2001).

On the other hand, it is also a fact that the production approach that only aims for profit leads the world and humanity into chaos. With the current production relationship, the future of all living things on our planet is at risk. Since global climate change is a result of the nearly 200-year-old industrial revolution and the capitalist production processes that followed, these processes need to be re-evaluated and designed according to the happiness and well-being of all life. Otherwise, it will not be the oceans, seas or the world whose waters are warming that will be destroyed, but us humans and other living beings that are not guilty of causing this (URL10).

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Labour, Migration, and Free Markets: Insights from Austrian Economics

Oana-Maria Cozma[1]

[1] Doctoral School of Economics and Business Administration, 'Alexandru Ioan Cuza' University of Iasi, Romania, cozma.oanamaria@gmail.com, ORCID: https://orcid.org/0009-0008-0787-7004

Abstract: The present paper explores the Austrian School of Economics' perspective on labour and migration, with a particular focus on Ludwig von Mises's contributions to the topic. Rooted in the principles of free markets and individual choice, Austrian economists argue that labour mobility is a fundamental driver of economic efficiency and prosperity. This article examines key Austrian insights on wage determination, labour market flexibility, and the effects of state intervention, such as minimum wage laws, labour unions, and migration restrictions. A special emphasis is placed on how government policies often distort natural market mechanisms, leading to inefficiencies and unintended consequences. In the contemporary economic and political discourse, interventionist approaches to labour and migration have gained widespread acceptance, with governments increasingly imposing regulations aimed at "protecting" workers and managing migration flows. However, these measures frequently result in unintended negative effects, such as rising unemployment, reduced economic productivity, and labour market rigidities. The methodology used in this research is qualitative, utilizing a literature review of primary and secondary sources from the Austrian tradition, including works by Mises, Hayek, Rothbard, and contemporary scholars. By revisiting these ideas, this article seeks to challenge the prevailing interventionist approach by highlighting how free market principles offer a better alternative for enhancing labour mobility, reducing economic distortions, and fostering long-term growth. In doing so, it presents the disadvantages of state-imposed labour restrictions and migration controls, advocating instead for policies that respect voluntary exchange, entrepreneurial dynamism, and market-driven labour allocation.

Keywords: Austrian Economics, Labour Mobility, Migration Policy, Market Regulation, Free Market Principles.

1. INTRODUCTION

The question of how much governments should intervene in market affairs has been a subject of intense debate since the time of Adam Smith and remains highly relevant today. On one hand, some economic schools of thought advocate for active government oversight, arguing that markets cannot function efficiently on their own. For instance, this perspective is found in Keynesian economics, which suggests that government intervention is necessary to correct market failures and maintain economic stability, particularly during periods of recession or economic downturn (Keynes, 1936). John Maynard Keynes, in *The General Theory of Employment, Interest, and Money*, argued that laissez-faire economics often leads to prolonged unemployment and underutilization of resources, necessitating fiscal and monetary policies to stimulate demand. Additionally, Joseph Stiglitz (2001) highlights that asymmetric information can lead to market inefficiencies, justifying regulatory policies to ensure fair competition and consumer protection. Government interventions such as minimum wages, price floors, and price ceilings are commonly justified by these arguments, as seen in the work of Paul Samuelson and William Nordhaus (2010), who emphasize their role in addressing income inequality and market distortions. On the other hand, classical and neoclassical economic theories maintain that government interference disrupts the natural mechanisms of the market. Adam Smith (1776) introduced the concept of the "invisible hand" in *The Wealth of Nations*, arguing that individuals pursuing their own self-interest inadvertently contribute to overall economic well-being. This idea was further developed by neoclassical economists such as Alfred Marshall (1890), who emphasized supply and demand as the key forces driving market equilibrium in *Principles of Economics*. More recently, Robert Lucas (1976) criticized government intervention through his rational expectations theory, arguing that policy-driven attempts to manipulate the economy are often ineffective because individuals and businesses adjust their expectations accordingly. Through this decentralized decision-making process, resources are allocated efficiently, and most individuals are able to satisfy their wants and needs without state intervention. A particularly strong proponent of minimal government involvement is the Austrian School of Economics. Thinkers such as Ludwig von Mises, Friedrich Hayek, and Murray Rothbard emphasize the importance of preserving a democratic system in which private property rights and individual freedoms are safeguarded (Mises, 1949; Rothbard, 1973). However, they believe that the role of the state should be strictly limited to these fundamental protections. According to Austrian economic thought, government interference in market operations often leads to unintended consequences, including reduced economic productivity, rising unemployment, and even social issues such as religious or racial discrimination (Hayek, 1944). Hayek (1960) further argued that excessive government control creates regulatory rigidities that obstruct the natural dynamism of the market, ultimately stifling innovation and long-term economic growth. Rothbard (1981) also

criticized interventionist policies, contending that they distort price signals and misallocate resources, leading to inefficiencies and economic stagnation.

The relationship between labour, migration, and free markets has long been a subject of economic debate. As globalization accelerates and labour becomes increasingly mobile, questions arise about the role of government in regulating migration and its impact on economic prosperity. Historically, economists have debated whether labour markets function optimally on their own or require state intervention to prevent negative externalities (Borjas, 2014). While Keynesian and neoclassical economists often advocate for government policies to manage labour flows and protect domestic wages (Krugman, 2008; Stiglitz, 2010), the Austrian School of Economics offers a radically different perspective; one that emphasizes market spontaneity, individual decision-making, and the perils of state interference (Mises, 1949; Hayek, 1960). Austrian economists argue that free labour markets, unburdened by government restrictions, lead to the most efficient allocation of human capital (Mises, 1949; Rothbard, 1973). They view migration not as a problem to be regulated but as an entrepreneurial response to market signals, wherein individuals move to where their labour is most valued (Hayek, 1973). From this perspective, government-imposed barriers, such as work permits, employment regulations, and minimum wages, create inefficiencies, distort price signals, and ultimately harm both migrants and native workers by restricting economic dynamism (Rothbard, 1981).

This paper uses a qualitative research methodology, relying on a comprehensive literature review of primary and secondary sources within the Austrian School of Economics. The analysis draws upon foundational works by Ludwig von Mises, Friedrich Hayek, and Murray Rothbard, as well as contributions from contemporary Austrian scholars. The selection of sources is guided by their relevance to labour economics, migration theory, and market dynamics, with a focus on key theoretical frameworks such as methodological individualism, spontaneous order, and the subjectivist approach to value and human action. The present paper critically examines Austrian perspectives on labour migration, contrasting them with mainstream economic approaches, including Keynesian, neoclassical, and new institutional perspectives. By synthesizing insights from historical and modern Austrian literature, the research aims to highlight how free labour markets function under minimal state intervention and what implications this has for migration policies and labour mobility. This qualitative approach allows for a deep theoretical exploration rather than an empirical analysis, making it well-suited for examining the ideological and philosophical underpinnings of labour migration policies from an Austrian perspective. Additionally, the study incorporates secondary analyses from economic historians and policy scholars who have evaluated Austrian economic principles in real-world contexts. The remainder of this paper is organized as follows: Section 2 outlines the Austrian Economics perspective on labour markets and migration. Section 3 contrasts Austrian views with mainstream economic approaches. Section 4 discusses policy implications and directions for future research. Finally, the paper concludes with some final remarks.

2. AUSTRIAN ECONOMICS ON LABOUR MARKET AND MIGRATION

2.1. Theoretical Foundations of Austrian Economics on Labour and Migration

The Austrian School of Economics provides a distinct framework for understanding labour and migration, emphasizing individual decision-making, market self-regulation, and the unintended consequences of government intervention. By focusing on the principles of methodological individualism, spontaneous order, and entrepreneurial discovery, this approach tries to highlight how free labour markets ensure efficiency and economic growth. Austrian economists argue that all economic phenomena arise from individual actions. Ludwig von Mises ([1949] 1998) emphasizes that migration is a rational, purposeful choice driven by individuals seeking better economic opportunities. Compared to macroeconomic models that treat labour migration as a statistical flow, the Austrian approach focuses on the subjective values and opportunity costs perceived by each worker. In this view, migration decisions reflect voluntary exchanges where individuals weigh expected income gains, personal preferences, and institutional constraints (Mises, [1949] 1998). Furthermore, Friedrich Hayek ([1945] 1980) argues that free markets function efficiently without central planning because prices and wages emerge from dispersed knowledge. In the labour market, wages act as signals that naturally balance supply and demand, guiding workers to areas where their labour is most valued. When governments impose minimum wages, migration quotas, or labour protectionist policies, they disrupt this spontaneous coordination, leading to inefficiencies such as labour shortages or surpluses (Hayek, 1945). The Austrian perspective holds that an unrestricted labour market fosters more effective resource allocation and economic stability.

The concept of entrepreneurial discovery, introduced by Israel Kirzner ([1973] 1997), emphasises that individuals identify and exploit profit opportunities. Migrants, in this context, act as entrepreneurs by recognizing

differences in wages, employment prospects, and economic conditions across borders. If migration were fully liberalized, workers would move efficiently to regions where they are most productive, increasing overall economic welfare. However, regulatory barriers such as work permits, licensing requirements, and bureaucratic restrictions suppress entrepreneurial alertness and slow economic adjustments (Kirzner, 1973). Austrian economists draw attention to the fact that state interventions in labour markets create misallocations of labour, mirroring Mises's ([1929] 1981) critique of capital misallocation under government-driven planning. Welfare benefits, subsidies, and protectionist policies artificially alter incentives, often trapping workers in less productive sectors. Hayek (1960) similarly critiques welfare states for reducing labour mobility and discouraging self-reliance, leading to long-term inefficiencies. Austrian scholars argue that a less regulated labour market would allow a more organic and productive distribution of workers across industries and regions (Mises, [1929] 1981; Hayek, 1960).

2.2. Migration as a Market-Driven Process

Migration is fundamentally an economic phenomenon driven by market signals, where individuals respond to wage differentials, productivity variations, and employment opportunities. From an Austrian Economics perspective, migration is a self-regulating process that emerges in response to market forces, enabling labour to move to where it is most valued. Unlike state-managed migration policies, this framework views migration as a decentralized, entrepreneurial activity that increases economic efficiency. The Austrian School of Economics emphasizes that prices and wages act as signals guiding the allocation of labour. When wage disparities exist between regions or countries, migration naturally arises as workers seek higher wages and better employment conditions. Friedrich Hayek (1945) highlights the role of dispersed knowledge, saying that individuals act on localized information about wage structures and job opportunities. Ludwig von Mises ([1949] 1998) reinforces this idea, arguing that migration decisions are examples of purposeful human action responding to economic conditions. As wages adjust to shifts in supply and demand, migration serves as a self-correcting mechanism that balances labour markets (Hayek, 1945; Mises, [1949] 1998). Israel Kirzner (1973) also introduces the concept of entrepreneurial discovery, explaining that entrepreneurship involves identifying and seizing opportunities for profit. Migration exemplifies this process, as workers actively assess differences in economic conditions and relocate to areas where they can maximize their earnings. This contrasts with traditional labour economics, which often treats migration as a macroeconomic adjustment rather than an individual-driven decision. Austrian economists argue that restrictions on migration, such as visa requirements, work permits, and welfare policies, obstruct the entrepreneurial discovery process and reduce overall market efficiency (Kirzner, 1973). Furthermore, wage differentials across countries or regions provide a strong incentive for labour migration. The Austrian School of Economics claims that in an unrestricted labour market, workers will move toward areas where their marginal productivity is highest, leading to optimal labour allocation. Mises ([1929] 1981) critiques interventionist policies that distort these natural adjustments by imposing artificial barriers to migration. Additionally, productivity differences between countries shape migration flows, as workers seek to move to high-productivity economies where they can earn higher wages. Hayek (1960) discusses how state interventions, particularly welfare programs, often distort migration incentives by creating disincentives for labour mobility, ultimately leading to inefficiencies (Mises, [1929] 1981; Hayek, 1960).

2.3. Government Interventions and Their Effects on Labour Markets

Government interventions in labour markets, such as minimum wage laws, employment protections, immigration restrictions, and welfare policies, often distort natural market mechanisms. From an Austrian Economics point of view, these policies interfere with spontaneous order, leading to inefficiencies and unintended consequences that weaken labour market flexibility and economic growth. Austrian economists argue that minimum wage laws function as price floors, preventing the labour market from reaching equilibrium and causing unemployment among low-skilled workers (Mises, [1949] 1998). Employment protections, such as restrictions on layoffs and mandatory benefits, discourage hiring by increasing the cost of labour, leading to reduced labour mobility. Furthermore, unions, while benefiting their members, often create labour market rigidities that disadvantage non-unionized workers and reduce overall employment opportunities (Rothbard, 2004). Empirical studies, such as those by Neumark and Wascher (2008), suggest that artificially raising wages through legislation leads to job losses and reduced hiring. From an Austrian perspective, labour should move freely to where it is most productive. Immigration restrictions, such as work permits and visa quotas, create artificial barriers that distort labour supply and demand (Mises, [1929] 1981). These restrictions often result in labour shortages in key industries while simultaneously inflating wages in protected sectors, leading to inefficiencies. Hayek (1960) argues that limiting migration restricts the natural adjustment of labour markets and

hinders economic growth. Historical examples, such as the U.S. Bracero program (1942–1964), demonstrates that more open migration policies can improve labour market efficiency and economic output.

Welfare policies, while intended to provide social security, often create disincentives for work and labour mobility. Generous unemployment benefits, housing subsidies, and other welfare programs discourage job-seeking and reduce workforce participation (Hayek, 1960). Austrian economists argue that such policies generate moral hazard, wherein individuals become dependent on state support rather than engaging in productive employment (Mises, [1949] 1998). The U.S. welfare-to-work reforms of the 1990s provide empirical evidence of how reducing welfare benefits led to increased labour market participation and economic self-sufficiency. Historical examples illustrate how labour markets function more efficiently with fewer restrictions. In the late 19th century, the United States experienced significant economic expansion and labour market dynamism due to largely unrestricted migration policies. Similarly, Hong Kong's free-market approach following World War II allowed for rapid economic development, driven by a flexible labour market. Germany's guest worker program (1950s–1970s) provided another example of how relatively open migration policies helped address labour shortages and enhance productivity. These cases support the Austrian argument that labour market freedom leads to greater economic efficiency (Borjas, 2014; Easterly, 2001).

3. CONTRASTING AUSTRIAN VIEWS WITH MAINSTREAM ECONOMIC APPROACHES

3.1. The Keynesian and Neoclassical Perspectives on labour and Migration

Economic thought on labour and migration has evolved under various schools, with Keynesian and Neoclassical perspectives offering contrasting views to the Austrian School of Economics. While Keynesianism advocates for active government intervention to stabilize employment, Neoclassical economics supports market-based labour allocation with some role for state intervention. Both stand in contrast to the Austrian belief in minimal government interference and self-regulating markets.

On one hand, Keynesian economists argue that labour markets do not always self-correct efficiently due to rigidities such as wage stickiness and demand-driven unemployment (Keynes, 1936). Government intervention is seen as essential to mitigate economic downturns and stabilize employment levels. Through fiscal and monetary policies, Keynesians propose state-driven measures, including public employment schemes and social safety nets, to prevent large-scale job losses and maintain aggregate demand (Krugman, 1994). From a migration perspective, Keynesians advocate for regulated immigration policies to prevent downward pressure on wages and safeguard domestic employment levels, particularly during economic downturns. They argue that an unregulated influx of migrants can exacerbate unemployment and wage suppression in low-skill sectors. However, Austrian economists criticize this approach, contending that such interventions distort labour markets and result in long-term inefficiencies (Mises, [1949] 1998). On the other hand, Neoclassical economics supports the idea that labour markets tend toward equilibrium, with wages adjusting based on supply and demand conditions (Samuelson & Nordhaus, 2009). Unlike Keynesians, Neoclassical theorists believe that markets efficiently allocate labour resources, though they acknowledge the role of government in addressing market failures such as externalities, information asymmetries, and monopsony power (Stiglitz, 1989). In migration theory, Neoclassical models suggest that labour mobility is an investment in human capital, where workers relocate to maximize their earnings potential (Borjas, 2014). The theory of compensating wage differentials explains how wage disparities adjust across regions and occupations, facilitating efficient labour allocation. However, state-imposed migration restrictions, such as quotas and work permits, are seen as distortions that limit the full realization of market efficiency.

While Keynesian and Neoclassical approaches incorporate varying degrees of government intervention, Austrian Economics maintains that labour and migration decisions should be left to spontaneous market processes. Keynesian policies aim to stabilize employment through fiscal measures, whereas Neoclassical models recognize market forces but accept some state involvement in correcting market imperfections. Austrian scholars argue that both perspectives fail to acknowledge the distortions created by government interference, advocating instead for free-market labour allocation where individuals and businesses operate without state-imposed constraints. Austrian economists argue that even these measured interventions affect the entrepreneurial discovery process, limiting individual decision-making and reducing market adaptability (Kirzner, 1973). From this perspective, even well-intended policies, such as minimum wages or state-controlled immigration, result in inefficiencies that slow labour market adjustments and economic growth.

3.2. Justifications for Government Intervention

The justification for government intervention in labour markets and migration arise from concerns about market failures, economic inequality, and the institutional role of the state in ensuring fair and efficient labour conditions. Some economists argue that unregulated markets can lead to undesirable outcomes that require corrective state actions. One primary explanation for state intervention is the presence of market failures, particularly externalities and information asymmetry. Externalities occur when private market transactions impose costs or benefits on third parties that are not reflected in prices. For example, unregulated labour markets might lead to negative externalities, such as increased unemployment due to mass layoffs or downward pressure on wages affecting overall economic stability (Stiglitz, 2001). Similarly, asymmetric information, where one party in a labour contract possesses more knowledge than the other, can lead to labour exploitation or underemployment, needing regulatory control.

Another explanation for government intervention is the potential for rising inequality and wage suppression in the absence of regulation. When migration is entirely market-driven, businesses may hire low-wage workers from abroad to reduce labour costs, potentially driving down wages for domestic workers. This concern is often brought up in discussions on minimum wage laws and labour protections (Borjas, 2014). Additionally, unrestricted migration may disproportionately impact low-skilled workers, exacerbating income disparities and leading to social unrest. Interventionist policies, such as minimum wage laws and labour standards, are seen as necessary to prevent exploitation and ensure economic equity.

Governments also play a crucial role in shaping institutional frameworks that promote fair and efficient labour markets. Institutions help enforce labour laws, protect workers' rights, and maintain contractual integrity, reducing transaction costs and ensuring market stability (Acemoglu & Robinson, 2012). State-imposed labour regulations, such as workplace safety laws and anti-discrimination policies, contribute to long-term economic efficiency by fostering stable and productive work environments. Without institutional safeguards, labour markets may be prone to inefficiencies, including exploitative working conditions and increased labour disputes. While Austrian Economics advocates for minimal state intervention, mainstream economic theories justify government action based on market failures, economic inequality, and institutional frameworks. Addressing externalities, preventing wage suppression, and maintaining efficient labour market institutions are key arguments in favor of state intervention. From this perspective, regulation is necessary to correct market imperfections and ensure both economic stability and fairness.

3.3. Critiques of the Austrian School of Economics Perspective on Labour and Migration

While Austrian Economics argues for minimal state intervention in labour and migration policies, critics highlight several issues that challenge the assumption that markets always adjust smoothly and efficiently. One major critique focuses on labour market frictions and imperfections, which can prevent immediate or optimal adjustments. Even in highly developed economies, mismatches in skills, geographical mobility constraints, and institutional barriers can lead to persistent unemployment and wage rigidity (Stiglitz, 2010). The Austrian assumption of self-correcting labour markets often downplays these frictions, which require time and transitional policies to resolve (Card & Peri, 2016). Another key critique concerns the potential consequences of completely deregulated migration. While Austrian scholars argue that free labour mobility enhances economic efficiency, critics point out that abrupt and large-scale migration flows can strain public services, depress wages in certain sectors, and create social tensions. Empirical studies show that when migration is unregulated, labour supply shocks can disproportionately affect low-skilled native workers, leading to temporary job displacement and lower earnings (Borjas, 2014). Additionally, deregulation can exacerbate informality in labour markets, weakening worker protections and enabling exploitative employment practices (Dustmann et. al., 2016).

Empirical evidence also challenges the Austrian claim that migration has universally positive effects on native wages and employment. While some studies indicate that skilled migration can boost innovation and productivity, others find that low-skilled immigration can have mixed impacts, particularly in sectors with high labour supply elasticity (Peri & Yasenov, 2019). The extent of migration's economic impact depends on institutional factors, labour demand conditions, and skill complementarities between native and migrant workers. Without regulatory oversight, negative externalities such as wage suppression and labour market segmentation can persist (Ottaviano & Peri, 2012). Overall, critiques of Austrian perspectives emphasize that while free markets can allocate labour efficiently in theory, real-world labour markets exhibit rigidities that may

necessitate policy interventions. The assumption that migration will always lead to optimal labour allocation overlooks transitional costs and the complexity of labour market dynamics. These critics suggest that moderate regulatory frameworks can help balance economic efficiency with social and economic stability.

4. IMPLICATIONS FOR FUTURE RESEARCH

4.1. Policy Implications of Austrian Ideas on Labour Migration

A labour market based on Austrian Economics principles would eliminate state-imposed barriers, allowing migration to be driven purely by supply and demand. In practice, this would mean removing visa quotas, work permit requirements, and other bureaucratic restrictions that limit the free movement of workers (Mises, [1949] 1998). Wages and employment conditions would be determined solely by market forces, without minimum wage laws, collective bargaining mandates, or worker protection regulations that distort natural labour allocation (Rothbard, 2004). In such a system, businesses would have full autonomy in hiring decisions, and workers would be free to relocate based on economic incentives. Instead of government control, private institutions such as reputation systems and voluntary labour agreements would regulate employment relationships, ensuring fair treatment through market mechanisms (Hayek, 1960). Reducing migration restrictions, however, presents several challenges.

One major concern is the potential for short-term labour market disruptions. A sudden increase in labour supply, particularly in low-skilled sectors, could suppress wages and displace domestic workers, creating transitional economic shocks (Borjas, 2014). Social and political resistance to unrestricted migration is another obstacle, as public sentiment often opposes open borders due to fears of wage competition, cultural integration issues, and increased pressure on public services (Peri & Yasenov, 2019). Security concerns and legal considerations further complicate the feasibility of a fully deregulated labour market, as migration policies also serve functions beyond economic efficiency, such as maintaining border security and addressing illegal activities (Hoppe, 2018). Additionally, in modern welfare states, there is a risk of "welfare migration," where individuals move primarily to access public benefits rather than contribute productively to the economy. Austrian scholars argue that welfare programs should be minimized or eliminated alongside migration restrictions to prevent such distortions (Mises, [1929] 1981). Despite these challenges, reducing migration restrictions offers significant economic benefits. Free labour mobility would allow human capital to be allocated where it is most needed, increasing productivity and economic efficiency (Ottaviano & Peri, 2012). Migrants often bring diverse skills and entrepreneurial drive, fostering innovation and market dynamism (Kirzner, 1973). Businesses would benefit from access to a larger labour pool, reducing costs and enhancing output, particularly in industries reliant on flexible workforce availability (Card & Peri, 2016). Finally, from an Austrian perspective, a truly free labour market aligns with individual liberty and voluntary exchange, enabling workers to seek the best opportunities without government interference (Hayek, 1960). While practical constraints exist, proponents argue that gradual policy shifts toward freer labour mobility could yield long-term gains in efficiency, economic growth, and personal freedom.

4.2. Potential Limitations

While the Austrian approach to migration emphasizes free markets and minimal government intervention, several risks and limitations must be considered. One major concern is that completely unregulated migration could lead to labour market instability. Without immigration controls, sudden surges in labour supply may depress wages in certain sectors, particularly for low-skilled workers, increasing competition and potentially leading to short-term unemployment (Borjas, 2014). This could exacerbate income inequality and social tensions, as displaced domestic workers may struggle to adapt to changing economic conditions (Peri & Yasenov, 2019). Another risk involves the potential exploitation of migrant labour. In a system with no regulatory oversight, businesses may engage in exploitative practices such as offering substandard wages or poor working conditions, particularly in industries with high labour demand (Dustmann et. al., 2016). The lack of legal protections for workers could increase vulnerabilities, leading to greater economic insecurity among migrants and, in some cases, labour market segmentation, where migrants are confined to low-wage, precarious employment with limited mobility. Excessive deregulation may also create broader economic risks, particularly in terms of economic stability and security. While Austrian economists argue that markets will self-correct, history suggests that abrupt and unregulated economic shifts can lead to financial crises and instability. For instance, unregulated capital flows have contributed to economic volatility in developing countries, raising concerns that similar

deregulated labour movements might trigger localized market shocks (Stiglitz, 2010). Additionally, deregulation may incentivize businesses to prioritize cost-cutting over long-term economic growth, leading to productivity stagnation and a potential decline in job quality (Rodrik, 2011).

Another challenge relates to the potential strain on public resources. While Austrian economists advocate for reduced welfare provisions alongside labour market deregulation, in practice, many economies operate with extensive public service commitments. If large-scale migration occurs in a deregulated environment, increased demand for healthcare, housing, and education may create fiscal pressures that policymakers struggle to address (Collier, 2013). This can lead to political backlash and increased calls for restrictive migration policies, undermining the feasibility of a purely Austrian approach. Finally, while the Austrian approach offers theoretical advantages in terms of efficiency and individual liberty, its practical application may pose significant challenges. Policymakers must consider the balance between labour market flexibility and stability, ensuring that economic dynamism does not come at the cost of widespread social and economic disruptions. While reducing barriers to migration can drive growth and innovation, an entirely unregulated approach carries risks that warrant careful consideration and, potentially, moderate regulatory safeguards.

4.3. Future Research Directions

The Austrian School of Economics offers a unique perspective on labour migration, but there remain areas where further research could enhance its contributions to contemporary policy debates. One promising direction is the exploration of how Austrian principles of spontaneous order and entrepreneurial discovery can be integrated into migration studies. While Austrian economists emphasize the role of individuals in making rational migration decisions, future research could further investigate the long-term economic impact of voluntary migration flows, particularly in cases where labour markets are minimally regulated (Kirzner, 1973). Understanding how entrepreneurial migrants contribute to economic dynamism and market efficiency remains an area ripe for empirical analysis (Hayek, 1960). Another important line for research is how Austrian economics can address real-world challenges related to migration policy. While Austrian scholars advocate for deregulation, there is limited research on how societies can transition from heavily regulated migration systems to freer labour markets without causing economic disruptions (Mises, [1949] 1998). Future studies could explore phased deregulation strategies, ensuring labour mobility remains efficient while mitigating transitional costs such as wage suppression or labour displacement (Borjas, 2014). Additionally, Austrian insights on institutional competition could inform research on how different countries' migration policies impact global labour allocation and economic productivity (Boettke, 2002). A further area of research is the application of Austrian principles to digital labour markets and remote work. With technological advancements enabling cross-border employment, future studies could assess how digital labour mobility aligns with Austrian ideas of voluntary exchange and decentralized decision-making. Research could also examine whether technological innovations reduce the necessity of traditional migration by allowing workers to integrate into foreign labour markets without physically relocating (Cowen, 2013). Finally, applying Austrian economic theory to historical and contemporary migration case studies could provide valuable insights. Empirical studies analyzing the economic performance of migrants in market-driven versus regulated labour environments would help refine theoretical predictions. Future research could also investigate whether historical periods of relatively unrestricted migration could provide useful lessons for modern policy discussions (Easterly, 2001). The interplay between migration, entrepreneurship, and economic growth remains an essential research question that Austrian economists are well-positioned to explore.

5. CONCLUSION

The present has explored the Austrian perspective on labour migration, emphasizing the benefits of free markets and minimal government intervention. Austrian economists argue that migration should be guided by voluntary exchange and entrepreneurial discovery rather than state-imposed restrictions. By allowing labour markets to function without regulatory barriers, workers can move to where their skills are most valued, enhancing economic efficiency and overall productivity (Mises, [1949] 1998). The Austrian framework suggests that spontaneous order, rather than central planning, leads to more optimal labour allocation and economic growth (Hayek, 1960). Key findings of this discussion highlight that government interventions such as minimum wage laws, immigration quotas, and welfare programs often distort labour markets, leading to inefficiencies and unintended consequences. Empirical evidence suggests that migration restrictions can suppress wages, limit employment opportunities, and slow economic dynamism (Borjas, 2014). Additionally, Austrian scholars contend that deregulating labour markets can lead to greater innovation and entrepreneurship, as individuals are free to

seek opportunities without bureaucratic constraints (Kirzner, 1973). However, critics have pointed to potential risks such as labour market frictions, transitional economic shocks, and concerns about wage suppression, underscoring the need for further research into how an Austrian approach could be practically implemented (Stiglitz, 2010).

Despite these challenges, Austrian economists maintain that the long-term benefits of free labour markets outweigh the short-term disruptions. A fully liberalized labour market fosters economic resilience, as workers and businesses can swiftly adapt to changing conditions. While concerns about migration-induced economic instability exist, historical cases demonstrate that freer migration policies have often led to economic expansion and higher living standards (Easterly, 2001). Moreover, Austrian insights into institutional competition and decentralized decision-making provide valuable guidance on how labour migration policies can be restructured to maximize economic freedom while addressing concerns about market stability (Boettke, 2002). While this paper has reinforced the Austrian argument for free labour markets, it also acknowledges that additional research is needed to address implementation challenges. Future studies could further examine transitional policies, phased deregulation approaches, and the integration of Austrian principles into modern labour governance structures. As migration debates continue to evolve, the Austrian school offers a compelling alternative to state-managed labour policies, advocating for an approach rooted in individual freedom, voluntary exchange, and market-driven solutions.

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Analysing the Impact of LNG Fuelled Ships on Maritime Transport by Fuzzy Delphi Method

M.Sc.Orçun TOPRAKÇI[1] **PhD.Ozan Hikmet ARICAN**[2]

[1] Kocaeli University, Maritime Business and Management, Kocaeli, Turkiye, orcun402386@gmail.com, https://orcid.org/0009-0004-0491-5133

[2] Kocaeli University, Maritime Business and Management, Kocaeli, Turkiye, ozanhikmet.arican@kocaeli.edu.tr, https://orcid.org/0000-0003-2061-6112

Abstract: In light of the stringent measures imposed by the International Maritime Organization (IMO) and the European Union (EU) with the objective of curbing exhaust emissions in accordance with zero emission targets, liquefied natural gas (LNG)-fuelled vessels are regarded as the optimal solution for the medium term by ship owners and maritime enterprises. The proliferation of these vessels is rapidly escalating. The present study aims to analyse the effects of LNG-fuelled ships on maritime transport in terms of environmental, technological, economic, commercial, legal and social factors determined by the literature research using the Fuzzy Delphi Method. The findings of this study demonstrate that the most significant factors influencing the adoption and development of LNG-fuelled ships in maritime transport are as follows: *bunkering network, machinery type, unburned methane emission, exhaust emission (NOx, SOx, PM, CO_2), safety, operation cost* and *sailing pattern*. The study will evaluate the impact of IMO regulations on the adoption of LNG-fuelled ships by maritime enterprises and the development of LNG-fuelled ship fleets on maritime transport. The findings will serve as a valuable reference point for LNG ship investors.

Key Words: Exhaust Emission, Exhaust Emission Regulation, LNG Fuelled Ships, Maritime Transport, Fuzzy Delphi

1. INTRODUCTION

Despite the environmental benefits of maritime transport, the increase in ship traffic has resulted in a rise in environmental concerns due to emissions (Pekşen and Alkan, 2015).In accordance with MARPOL 73/78 Annex VI, the International Maritime Organization (IMO) has set targets to limit global SO_x emissions to 0.5% m/m by 2020 and 0.1% m/m in ECA regions from 2015 (Vuskovic et al., 2023). The implementation of the Tier III standard in 2016 has resulted in a 80% reduction in NO_x emissions in ECA regions (Lee et al., 2020). The release of greenhouse gases and air pollutants into the atmosphere from exhaust gases has been identified as a contributing factor to global warming, acid rain, and the degradation of air quality (Celikaslan and Kılıc, 2023).

In 2023, the total greenhouse gas emissions from ships amounted to 36.8 billion tonnes of CO_2, representing an increase of 1.1% compared to the previous year (Nubli and John, 2022). In the same year, the maritime sector accounted for 3% of the global CO_2 emissions (Oh et al., 2024).

In accordance with the most recent research, the International Maritime Organization (IMO) has set itself the objective of reducing greenhouse gas (GHG) emissions from ships by 40 per cent by 2030 compared to 2008, with a further target of reaching net zero by 2050 (Li and Yang, 2024), (Balcombe et al., 2021). The European Union (EU) has set itself a similarly ambitious target, aiming to reduce the GHG intensity of marine fuels by 80 per cent by 2050 (Ramsay et al., 2023).

The implementation of emission restriction measures by the International Maritime Organization (IMO) and the European Union (EU) has prompted the maritime industry to explore the use of alternative fuels that are compatible with these restrictions. The adoption of Marine Gas Oil (MGO), Marine Diesel Oil (MDO), Low Sulphur Diesel (LSD), Ultra Low Sulphur Diesel (ULSD), or scrubber systems in lieu of Heavy Fuel Oil (HFO) has been identified as a potential means of achieving emission reduction. Alternatively, LNG fuelled engines are preferred to comply with IMO standards (Wang and Notteboom, 2014), (Sohn and Jung, 2022).

Despite the fact that LSD, ULSD and distillate fuels meet sulphur requirements, concerns regarding high cost and availability create uncertainties (Kuang et al., 2023). This has prompted the search for alternative fuels and increased the need for additional technologies for CO2 and NOx reduction (Salarkia and Golabi, 2023). Additionally, the low lubricity of LSD and ULSD has the potential to result in equipment failure in HFO-compatible machinery (Sharafian et al., 2019).

Exhaust gas cleaning systems have been shown to be effective in SO_x reduction and can be used in conjunction with HFO. Although the low cost of HFO is advantageous, the high installation and maintenance costs and the

failure to fully meet NO_x and CO_2 emissions are disadvantages (Dereli, 2018). LNG is regarded as the most significant alternative fuel due to its reduced cost and the capability to decrease SO_x, NO_x, PM, and CO_2 emissions (Tuswan et al., 2023), (Stewart and Wolosz, 2015).

LNG-powered ships have been shown to reduce SO_x emissions by 90-95%, PM emissions by almost 100%, NO_x emissions by 85-90%, and CO_2 emissions by 15-20% (Abdelmalek and Guedes Soares, 2023), (Herdzik, 2013). Moreover, the utilisation of LNG has been demonstrated to reduce CO2 emissions and offer financial benefits under the EU Emissions Trading Scheme (EU ETS), which came into effect in 2024, and the impending FuelEU Maritime Regulation, scheduled for implementation in 2025 (Karatuğ et al., 2023).

LNG has been identified as playing a pivotal role in enabling the maritime sector to achieve its 2050 net zero target (Tuswan et al., 2023). However, it is important to note that LNG does not offer a complete solution for greenhouse gas (GHG) mitigation, primarily due to the emission of unburned methane (Balcombe et al., 2021). Nevertheless, LNG does provide immediate environmental benefits and serves as a transitional fuel for the transition to renewable marine fuels (Baresic and Rehmatulla, 2024).

LNG-fuelled ships, which commenced operations with a modest number of vessels in the early 2010s and have undergone substantial expansion in recent years, persist in their role within the maritime transport sector despite the continuous updates, tightening and expansion of exhaust emission gas restrictions promulgated by the International Maritime Organization (IMO) and the European Union (EU). In this context, it is imperative to analyse the impact of LNG-fuelled ship fleets on maritime transport in light of the latest updated emission rules, informed by expert opinions, in order to address the existing lacuna in the extant literature.

The objective of this study is to analyse the effects of LNG-fuelled ships on maritime transport using the Fuzzy Delphi Method. This analysis will consider environmental, technological, economic, commercial, legal and social factors determined by a thorough literature review.

2. BACKGROUND

A substantial corpus of research has been dedicated to the analysis of LNG-fuelled ships. This research has encompassed the calculation of exhaust emission changes, stratified by ship type, and cost analyses. The merits and drawbacks of LNG-fuelled ships have been thoroughly debated within the academic literature.

In order to promote LNG as a marine fuel, Schinas and Butler (2016) analysed policy initiatives supporting the use of alternative technologies and developed a methodology to estimate the market impacts of these initiatives. In their study, regulatory frameworks, commercial characteristics and barriers favouring the use of LNG are addressed. Jasper Faber (2017) qualitatively analysed the drivers and barriers affecting LNG adoption and examined the development of the LNG market in the EU. According to Faber, environmental regulations and price differentials have the potential to increase demand for LNG, while issues such as port availability, technical standards and second-hand prices act as barriers to adoption.The economic and environmental superiority of LNG was determined by parameters such as price differentials, operation rate, new ship value and procurement costs (Chen et al., 2018). The possibility of investing in LNG-powered ships was tested with new chemical ship investment.

Bayraktar (2016) conducted an analysis of the economic benefits of converting the diesel engine system of a cruise ship into a dual fuel system, concluding that the investment can be recouped within a decade. The study also emphasised the system's compliance with the latest emission restrictions. In a similar vein, Moreira (2016) calculated the emissions of HFO, MGO and LNG fuelled ship models equipped with SCR, determining that LNG is the most economical and clean fuel.

Dereli (2018) conducted a comprehensive examination of the detrimental impacts of exhaust emissions on the environment and human health. The study also involved a detailed discussion of the methodologies developed to mitigate these effects and the emission limits that have been established. Additionally, the study provides a comprehensive overview of the technical intricacies involved in the conversion of single-fuel machines into dual-fuel machines. Lindstad et al. (2020) investigated the conditions under which LNG can be used as a transition fuel to reduce carbon emissions in maritime transport and ways to ensure the lowest global warming impact, and stated that LNG can only be effective with dual-fuel diesel engines.

Balcombe et al. (2021) conducted a comprehensive environmental life cycle and cost comparison of LNG with HFO, MDO, methanol and renewable fuels, concluding that LNG enhances air quality and reduces costs, though methane emissions are high in certain engines. In a separate study, Salarkia and Golabi (2023) examined the

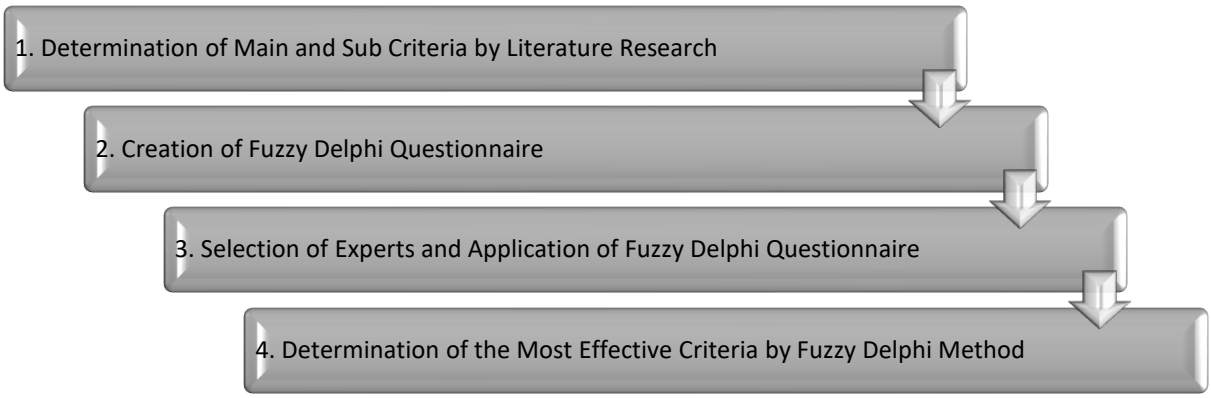
environmental and economic advantages of LNG, emphasising that LNG offers environmental benefits with low emissions compared to MGO, MDO and HFO/Scrubber fuels and is the most suitable fuel for IMO 2020 requirements.

In this context, the present study will address the existing lacuna in the extant literature by evaluating the advantages and disadvantages of LNG-fuelled ships and their impact on maritime transport in both the present and future contexts. This evaluation will be informed by the latest IMO and EU rules, as well as the opinions of experts who play an active role in maritime transport activities.

3. METHODOLOGY

In the context of the IMO's increasingly stringent regulations, the utilisation of LNG-fuelled ships as an alternative maritime transport solution has given rise to a range of observations regarding their environmental, economic, technological, commercial, legal and social impacts. A comprehensive review of the extant literature has facilitated the identification of both the advantages and disadvantages of LNG as a bunker fuel across these diverse domains. To ascertain the most significant and effective criteria identified from this body of literature, the Fuzzy Delphi method was employed in the study. Research Methodology is presented in Figure 1.

Figure 1: Research Methodology



Source: Author

The traditional Delphi method is a consultative approach that aims to achieve consensus on complex issues by collecting expert opinions. This method is applied through successive survey rounds (Hsu and Sandford, 2007).However, consecutive surveys to ensure the consistency of expert opinions and pressures to change opinions may create negativity (Ma et al., 2011). Fuzzy Set Theory, developed by Zadeh in 1955, offers the possibility to reflect uncertainty and convert expert language into quantitative values (Bouzon et al., 2016), (Alqahtani et al., 2023). This theory has been integrated into the Delphi method, reducing the number of interviews and research time and enabling more comprehensive communication of expert judgements (Bui et al., 2020).

4. RESULTS

4.1. Determination of Main and Sub Factors

A comprehensive review of the literature was conducted in order to ascertain the factors affecting the maritime trade of LNG-fuelled ships. These factors were then classified into six groups: environmental, technological, economic, commercial, legal and social. The findings obtained from this review are presented in Table 1, which details 35 sub-factors.

Table 1: Main and Sub Factors Determined According to Literature Research.

MAIN FACTORS	CODE	FACTORS	REFERANCES
Environmental	C1	Exhaust Emission (NOx, SOx, PM, CO2)	Livaniou et al., 2022; Abdelmalek and Guedes Soares, 2023 Burel et al., 2013

	C2	Air Pollution	Sohn and Jung, 2022; Pekşen and Alkan, 2015
	C3	Global Warming	Xu and Yang, 2020; Çelikaslan and Kılıç, 2023
	C4	Environmental Pollution Caused by LNG Accidents	Nubli and John., 2022
Technological	C5	Ship Design and Location of Fuel Tank	Stewart and Wolosz, 2015; Parfomak et al., 2019
	C6	Type Of Engine	Balcombe et al., 2021; Karatuğ et al., 2023; Sharafian et al., 2019
	C7	Unburned Methane	Tuswan et al., 2023; Comer et al., 2024; Balcombe et al., 2021
	C8	Capacity Loss Ratio	Tuswan et al., 2023; Salarkia and Golabi, 2023
	C9	Safety Issues Such as Flammability	Peng et al., 2021; Molitor et al., 2012
	C10	Security Issues	Bruzzone and Sciomachen, 2023; Wang and Notteboom, 2014
	C11	Fuel and Lubricating Oil Consumption	Merien-Paul et al, 2019
	C12	Retrofitting Tendecy	Baresic and Rehmatulla, 2024; Parfomak et al., 2019
	C13	Needless of Abatement Systems such as Scrubber	Dereli, 2018
Economical	C14	LNG Fuel System Capital Cost	Wang et al., 2021; Bayraktar, 2016
	C15	LNG Fuel Delivery Cost	He et al., 2024; Wang et al., 2021; Dereli, 2018; Bayraktar, 2016
	C16	Operation Cost	Faber, 2017; Chen et al., 2018
	C17	Possible Environmetal Cost	Çelikaslan and Kılıç, 2023; Xu and Yang, 2020
	C18	Cost Savings	Karatuğ et al.,2023; Moreira, 2016
	C19	Infrastructure	Parfomak et al., 2019; Yao et al., 2024
	C20	Maintenance Cost	Faber, 2017; Merien-Paul et al., 2019
Commercial	C21	Sailing Pattern	He et al., 2024; Faber, 2017
	C22	Bunkering Network	Yao et al., 2024; Peng et al., 2021
	C23	LNG Distribution Network	Schinas and Butler, 2016
	C24	LNG Source	Bruzzone and Sciomachen, 2023
	C25	Availibity to Ship Types	Oh et al., 2024; Kuang et al., 2023
	C26	Cargo Space Loss	Salarkia and Golabi, 2023
	C27	Operation Standarts	Stewart and Wolosz, 2015
	C28	Competitivness	Wang and Notteboom, 2014; Yao et al., 2024
Legal	C29	Emission Reg. MARPOL Annex VI	Oh et al., 2024; Vuskovic et al., 2023
	C30	LNG Bunkering Regulation	Peng et al., 2021; Bruzzone and Sciomachen, 2023
	C31	Regulations on Gas Fueled Ships_ IGF Code	Ha et al., 2022
	C32	Regulatory Gap	Ha et al., 2022
Social	C33	Social Public Awareness	Lee et al. 2020; Wang and Notteboom, 2014
	C34	Public Perception	Lee et al. 2020; Wang and Notteboom, 2014
	C35	Contribution of Government	Li and Yang, 2024; Wang and Notteboom, 2014

4.2. Creation of Fuzzy Delphi Questionnaire

The fuzzy method employs a variety of fuzzy numbers to transform expert opinions from linguistic factors into fuzzy numbers, with Trigonometric Fuzzy Numbers (TFN) being the preferred option in this study. TFN is expressed as a function of three real numbers: the minimum possible value (a), the maximum possible value (b),

and the minimum possible value (c) (Alqahtani et al., 2023). The degree of influence of the criteria obtained as a result of the literature research is determined by a questionnaire created with the linguistic variables in Table 2.

Table 2: List of Linguistic Terms And Meanings

Symbols	Linguistic Variables	TFNs (a, b, c)
VL	Very Low Efficiency	(0,0,0.25)
L	Low Efficiency	(0, 0.25, 0.5)
M	Medium Efficiency	(0.25, 0.5, 0.75)
H	High Efficiency	(0.5, 0.75, 1)
VH	Very High Efficiency	(0.75, 1, 1)

Source: Mohammadfam et al. (2022)

4.3. Selection of Experts and Application of Fuzzy Delphi Questionnaire

The present study's sample consists of maritime enterprises engaged in maritime transport with LNG-fuelled ships. In selecting the sample, the guided sampling method was favoured, as it is considered the most effective approach in reflecting the research problem and observing the solution in its most typical manifestation. Given that completing the questionnaire requires expertise and experience, the sample was composed of individuals with a proven track record in the field of LNG-fuelled ships. The participants in the study were selected based on their extensive professional experience, ranging from 10 years in the field of LNG and LNG-fuelled vessels, to positions such as operations manager, fleet manager, technical manager, captain, and chief engineer. The distribution of the questionnaire to the experts was conducted electronically via email.

4.4. Determination of the Most Effective Criteria by Fuzzy Delphi Method

In the Fuzzy Delphi Method, the linguistic values obtained from the questionnaire were first converted into Trigonometric Fuzzy Numbers (TFN). Then, the average fuzzy evaluation score of the group decision for each factor was calculated, and the average fuzzy evaluation scores were converted into definite values by using the simple centre of gravity method. These values were then used to determine the order of importance of the factors. Factors with a score of 0.7 and above were deemed effective, while those with scores below this threshold were excluded from further consideration.

In order to ascertain the expert consensus, the distance between the fuzzy prediction values of the experts on each factor and the average fuzzy value of that factor for all experts was calculated as a percentage. For each factor, a limit of 75% was assessed based on expert agreement. Factors with less than 75% expert agreement were then ignored.

The Fuzzy Delphi Method was utilised to ascertain the most significant criteria, with the degree of importance and the intersection set on the consensus boundary determined as the primary factors. The most important criteria identified by the Fuzzy Delphi Method are presented in Table 3.

Table 3: The Most Important Factors Affecting Maritime Transport.

CODE	CRITERIA NAME
F1	Exhaust Emission (NOx, SOx, PM, CO2)
F2	Air Pollution
F3	Machine Type
F4	Unburned Methane Gas
F5	Safety Issues
F6	Security Issues
F7	Fuel and Lubricating Oil Consumption
F8	Exhaust Cleaning System Requirement
F9	LNG Fuel Capital Cost
F10	LNG Fuel Sales Price

F11	Operation Cost
F12	Cost Savings
F13	Maintenance Cost
F14	Sailing Pattern
F15	Refuelling Network
F16	Operation Standards
F17	Competition
F18	LNG Fuel Transfer Regulation

5. DISCUSSION AND CONCLUSION

This study analyses the impact of LNG fleets on maritime transport in the face of continuously updated and tightening exhaust emission restrictions since 2016, when the use of LNG fleets commenced with a small number of ships, based on expert opinions, and presents findings especially in environmental, economic and commercial terms.

The fact that LNG-fuelled ships emit different NO_x and unburned methane emissions (F4) depending on the engine type (F3) represents a challenge for the greenhouse gas emission rules issued and planned by the IMO and EU in line with zero emission targets in recent years. Of particular concern is the unburned methane emission in LNG engines, which, as highlighted by Comer et al. (2024), exhibits an unacceptably high power greenhouse gas effect. This poses a significant challenge to the environmental benefits of LNG-fuelled ships, unless measures are implemented to reduce these emissions through technological advancements in engine design. The introduction of the FuelEU Maritime rules by the EU, effective from 1 January 2025, aimed at curbing methane emissions, and the EU ETS payments, scheduled to be implemented by 2026, are poised to neutralise the environmental and environmental costs of LNG-fuelled ships associated with NOx, SOx, PM, and CO2, as outlined in the studies conducted by Karatuğ et al. (2023).

As stated in the studies conducted by Herdzik (2013) and Wang and Notteboom (2014), there is a significant reduction in NOx, SOx, PM, and CO2 emissions (F1) when compared to other conventional fuels. The findings of Herdzik (2013) and Wang and Notteboom (2014) demonstrate that LNG fuel, when utilised by compatible vessels, offers a substantial advantage to ships operating within Emission Control Areas (F18) as delineated by the International Maritime Organization (IMO).The distance traversed in ECAs is also a pivotal factor in determining the operational costs of a vessel.

The enhanced efficiency of LNG-powered engines, reduced fuel consumption and diminished lubricating oil consumption (F7) (Merien-Paul et al., 2019), as deduced by the calculations of Moreira (2016), result in diminished costs. Moreover, LNG engines exhibit reduced maintenance costs (F13) in comparison to other heavy fuel diesel engines, attributable to the more efficient and unsoiled system and the longevity of the machine.

In this context, it is evident that these factors have a substantial impact on the freight prices (F11), contingent on the geographical regions, operation and maintenance costs of LNG-fuelled ships, and the maritime enterprises that possess these ships.

In addition, the competition factor (F17) has gained importance within the scope of tightening IMO and EU emission rules and technological advances. With the 2020 IMO sulphur standards coming into force, it is evident that LNG has increased its price competitiveness against low sulphur fuels, and as Wang et al. (2021) state, the selling price of LNG fuel (F10) varies according to geographical regions. Furthermore, ongoing research endeavours are focused on enhancing the engine types utilised in LNG-fuelled ships, where unburned methane emissions are particularly high. This has given rise to a state of technological competition among major marine engine manufacturers, who are striving to address the identified deficiencies. The tightening measures of IMO and EU have resulted in a rapid increase in the number of LNG-fuelled ships around the world in recent years, as well as an increase in competition in the shipbuilding sector and maritime businesses, especially ports, as stated by Yao et al. (2024).

Concurrent with the surge in the number of LNG-fuelled ships, the adequacy of LNG bunkering points has emerged as a pivotal factor in propelling the sector's advancement (Peng et al., 2021). The preeminence of the Bunkering Network (F15) as a crucial element in this context is consistent with this observation. As He et al.

(2024) have asserted, LNG-fuelled ship owners and operators must consider available suitable LNG bunkering points when determining routes (F14) and ports of call for their ships. These ships follow routes that provide easy access to LNG bunkering facilities and where the selling price of LNG fuel is favourable.

As Bruzzone and Sciomachen (2023) have observed, the ongoing Russia-Ukraine conflict has resulted in significant imbalances in gas supply (F9) and prices (F10), particularly for Europe. These imbalances are among the most salient factors identified in the study, and support the hypothesis that the conflict has had a substantial impact on the energy market.

Finally, Safety Issues (F5) and Security Issues (F6), which are among the most significant factors, are an issue that should be supported as standards, rules, training and materials in maritime transport due to the chemical properties of LNG. As Molitor et al. (2012) have asserted, although LNG fuel is not a toxic substance and the flammability lower-upper limit range is narrow, rapid phase transformation may occur in the event of leakage during transport, transfer and use of the fuel due to its cryogenic properties. This potential hazard can manifest in the form of flammable vapour clouds, flash fires, fireballs and explosions. Furthermore, although this has not yet been observed, it is a matter that should be evaluated, as LNG may also pose a security vulnerability due to its structural features that can cause major damage.

The findings indicate that factors such as operation cost, voyage and route planning, refuelling network, competition, machinery type, unburned methane emission, exhaust emission (NOx, SOx, PM, CO_2), safety issues, and LNG fuel sales price are of paramount importance in the utilisation of LNG-fuelled ships in maritime transport. As previously indicated by other studies, it has been determined that the most significant and influential factors in the role of LNG-fuelled ships in maritime transport are the refuelling network, the machinery type, unburned methane emission, exhaust emission (NOx, SOx, PM, CO_2), safety, operation cost and voyage and route planning.

The extant research results indicate that liquefied natural gas (LNG)-fuelled ships reduce operational costs depending on geographical regions and operation-maintenance costs, whilst concomitantly contributing to stakeholders with environmental savings. Concurrently, they increase competition in accordance with IMO and EU's stringent emission targets. LNG-fuelled ships thus offer an economic alternative in ECA regions by meeting the current rules with appropriate engine type choices, and are regarded as the most suitable option for zero emission targets in the medium term.

The geographical disparities in the adoption of LNG-fuelled ships and the prospective expansion of the regulatory framework constitute the study's limitations. This study serves as a foundation for future research in the context of emission regulations and the advancement of LNG-fuelled ships. Potential future research directions could encompass the analysis of specific cargo types or the assessment of regional impacts.

This study is derived from the master thesis titled "*Examining the Impact of LNG-Fueled Ships on Maritime Transport: Analysis Using Fuzzy Delphi and Fuzzy Dematel Methods*"

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Digital Reformation and Evolution. Ministry of Culture's Monuments and Museums in Greece

Paraskevi A. Evangelou[1] **Georgia K. Broni**[2]

[1] PhD Candidate, University of Western Macedonia, diees00002@uowm.gr and evagelouvivi@hotmail.com, ORCID: 0009-0006-2224-8017

[2] Associate Professor, University of Western Macedonia, gbroni@uowm.gr and georgiabroni@yahoo.gr, ORCID: 0000-0002-2797-8928

Abstract: Technological progress and development affect all areas of society's life nowadays. It is expected that this influence will drag the culture industry along as well.

The means of management and the ways of management of a cultural organization are necessarily adaptable. In addition to being modernized.

The digital transformation and online presence of a cultural organization is becoming a necessity. Its active presence on social media is a means of promotion. In this way, it aims and achieves advertising and promotion to its tourists - visitors in the future. Moreover, it aims to increase the cultural tourism of a region, a monument or even a country.

This study aims to investigate the current situation in cultural heritage management organizations in Greece in the field of advertising and promotion of cultural elements. It also aims to investigate and present the position of the Ministry of Culture officials on these issues.

Employees of the Ministry of Culture have given their opinion on the existing means so far. They also state and give their opinion on what would be good to change and modify in the future.

The study involved an online survey using an questionnaire with Greek respondents. The participants are employees of the Ministry of Culture in greece. The statistical processing of the research data was done with a statistical software package. The results are of particular interest, both from a statistical and a social perspective.

In particular, the active presence of cultural organizations on social media, such as Facebook, Twitter or TikTok platforms, already exists. This brings about direct communication between the organization and the public. Furthermore, it gives valuable information about its characteristics. So, it can be easily and directly targeted at audience groups and increase awareness.

Keywords: Cultural Monuments, Cultural Organization Digital Marketing, Museums, Tourism Managment.

1. INTRODUCTION

Technology and the technological revolution affect all scientific groups. It is expected that they will equally affect the cultural sector. Digital marketing and the use of the corresponding applications provide opportunities for any organization to have contact with its audience and to advertise effectively at a national and international level.

Therefore, it brings about the necessity of evolution and adaptation of the organization to the digital age. It defines the necessity of the organization's development in digital media.

This research was conducted online and employees of the Ministry of Culture of Greece participated. It presents the workers' point of view on the use of digital media by those organizations that are designated by law to preserve and protect the country's Cultural Heritage.

The aim is to listen to the opinion of the employees of the Ministry of Culture regarding the connection of cultural organizations and museums in Greece with the digital reform and digital marketing.

The results in some cases were known and expected and in others very interesting and complex. The participants' answers gave interesting results. Also, some of the correlations to the questions were particularly interesting.

In conclusion, it is presented that the digital reform, where it has already occurred, brings positive results in the awareness of the organization. Moreover, where it is done slowly at the present time, it already brings obvious elements of development and advertising of the cultural organization.

2. CULTURAL ORGANIZATIONS

As political units, museums offer various services, but at the same time they also have specific peculiarities, which have the effect of differentiating the public's experience and the context of communication with them. The particularities arise mainly from the fact that the museum belongs to the service sector, but also from its nature, which it characterizes as cultural [10].

2.1. Cultural Monuments, Communication and Digital Environment

Nowadays, the museum has taken on a role of focusing on visitors and meeting their needs. As a result, it turns to the community it is addressed to and develops new communication methods, acquiring mainly a social dimension [6].

In recent years, the museum has been considered a clearly living organism, which could adapt to the continuous changes observed in the external environment, to enrich the experience of visitors through interaction with them, to better understand their desires and needs, and more generally to place them at the center of all actions [8].

Furthermore, every museum is responsible for promoting knowledge, entertainment, open dialogue and participation, either to entertain, or to educate its visitors. This role places great value on communication, since it is the medium that connects it with the public, which makes it necessary to have an effective communication strategy [17].

2.2. Cultural Monuments' Digital Marketing

Digital technologies today have the potential to change the way audiences are approached. To choose something, visitors can view online photos, take digital tours or even see online via camera whatever they are interested in. Marketing over the internet is more interactive and immediate. Websites are the most basic tool used by digital [11].

An organization that uses digital marketing can strengthen itself nationally and internationally [19].

2.3. Digital Marketing in Cultural Field

The way in which digital technology is changing is leading to rapid changes in many sectors, including communications [12]. Digital marketing can offer many advantages to a museum's communication strategy. Some of these are:

- Interactivity with visitors can be developed through a more active role for the public and their desires and needs can be met first.
- Even more targeted messages can be received, sent quickly and corrected.
- All implementable actions can be effectively evaluated to examine effectiveness [2][3].

The goal of digital marketing in museums is not simply to increase audience data and revenue, but to preserve the philosophical mission they have [18].

It should be emphasized that there is a big difference between the simple way users use Social Media and integrating it into their strategy. If communication managers want to adopt it as a very important tool for achieving their goals, then this process will have to be modified [16].

3. CULTURAL MONUMENTS AND SOCIAL NETWORKING MEDIA

Social Networking Media is a set of different sources that allow the creation and analysis of content generated by their users [7]. Furthermore, Social Media are forms of electronic communication through which it is possible to create communities for the sharing of information, ideas, messages and any other type of content, such as videos [4].

3.1. Cultural Monuments' Strategy for the adoption of Social Networking Media

According to Chaffey and Ellis-Chadwick [5], there are twelve questions that need to be answered to determine the most effective Social Media strategy. Some of these questions relate to audience preferences, the museums' strategic goals, Social Media, the content to be promoted, how to manage all negative or positive comments made by the audience, and the frequency of content publication. To achieve all the objectives of this strategy, it should be evaluated and monitored continuously, to obtain the required feedback. After adopting the Social Media strategy, it is necessary to make continuous efforts to respond to the needs of the audience and to be able to emotionally involve them in specific actions [16].

To develop strategic planning and put the Social Media strategy into action, specific steps should be followed:

- to analyze the situation and identify opportunities based on the SWOT analysis of the external and internal environment of museums.
- To formulate objectives, the main characteristic of which should be their clarity and the ability to be measured and realistic. Typical objectives in this case are to increase the museum's awareness, improve its reputation and expand its audience.
- To collect information and gain more knowledge about the categories that the audience includes. This can be done with specific criteria.
- To select the appropriate Social Media.
- To create a strategy of experiences, this will be directly linked to the creative and technical features, on which the messages to the audience are based, so that the strategic objectives are achieved. A basic reason for this to be done in practice is the answer to questions about the audience.
- To determine the activation program.
- To execute and measure the result [16].

In order to effectively measure the performance of Social Media, it is necessary to measure three specific objectives: the first is museum awareness, the second is audience engagement in the museum, and the third is mouth to mouth communication. Social Media awareness can be measured through the number of members that each application of the museum account has. Unique visits to the website, viewing videos and photos and their evaluation can also be measured. Consumer engagement, as well as mouth to mouth communication measurements, are also done through the internet and are based on audience experiences [1].

3.2. Interaction and Dissemination through Social Networking Media

Museums must use every advantage that Social Media gives them, so as to achieve the active sharing of information and messages and to ensure interaction with the public, so that communication is multifaceted and two-way. Moreover, every museum should be in constant dialogue with users, informing and entertaining them [14].

According to Zafeiropoulos and colleagues [20], those who use the media and social networks have found a very strong art system. The museum should therefore constantly evolve to promote culture.

Additionally, it is emphasized that evolving museums demonstrate that interaction between themselves and users has been achieved through a changing process. In this way, its digital content is created, but with the help of the public. The use of Social Media, if done in the right way by museums, can prove to be absolutely helpful for them [20].

The way humans interact with the computer has been characterized as interaction. This kind of technology can stimulate users and motivate them. In the case of museums, interactivity is the interaction that can secure users' attention and attract their interest. It is a reciprocal interaction between them and the Internet, which can be very effective [3].

The interaction within the museum space is essentially the experience that the public gets when it participates in an energetic way in all its actions. It is precisely this interactivity that is very important for communication using Social Media [15].

4. METHODOLOGY

4.1. Data Collection and Analysis

An online survey using a questionnaire with 603 Greek respondents constitutes the research. The entire sample is employees of the Ministry of Culture. In particular, 173 men and 430 women of various ages from 18 years and above. The study involved an online survey that took place with Google Forms from 1st of February 2024 until 11th of March 2024. The responses were anonymous.

Table 1: Genter (of the sample)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Men	173	28.7	28.7	28.7
	Women	430	71.3	71.3	100.0
	Total	603	100.0	100.0	

The questionnaire sample has been collected by objective methods and random sampling techniques. It is satisfactory and is also able to generalize and provide predictions for the rest of the similar population [13].

Many different scales were used to measure the variables, which were adapted from the works of several authors. Most of the items were measured using closed questions and some of them were measured using a five-point Likert scale, where 1 indicated ‘never’ and 5 indicated ‘always’. SPSS was used to answer research questions guiding this study.

The characteristics of the sample are presented in Tables 1, 2 and 3. Female respondents consisted for 71.3% of the sample. Most respondents (63.3%) have been working for more than 20 years at the Ministry of Culture. Additionally, the respondents who had a postgraduate degree or a Phd or a Postdoctoral graduate consisted for 49.9%. Finally, 77.7% of the participants are scientific personnel of the Ministry of Culture in Greece.

Table 2: Education level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	high school - high school graduate	129	21.4	21.4	21.4
	university graduate - university graduate	173	28.7	28.7	50.1
	postgraduate - Phd - Postdoctoral graduate	301	49.9	49.9	100.0
	Total	603	100.0	100.0	

Regarding on the digital presence of the cultural monuments and museums of the Ministry of Culture in Greece, it is worth noting that 59.0% (N=603) of the respondents stated that short videos exist and are presented on social media. Furthermore, 58.0% of the respondents believe that the units of the institution in which they serve have digital reform features with views through social networking pages, such as Facebook or Twitter or TikTok.

Nevertheless, the overwhelming majority, with a percentage of 62.7%, claim that artificial intelligence is not currently being actively used by their service as part of their digital presence.

Table 3: Education level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cleaning Staff - Technicians	69	11.4	11.4	11.4
	Security Guards	65	10.8	10.8	22.2

Mechanics - Maintenance	64	10.6	10.6	32.8
Administrative Employees	219	36.3	36.3	69.2
Archaeologists	186	30.8	30.8	100.0
Total	603	100.0	100.0	

An exploratory factor analysis was conducted on the digital reform of cultural monuments and museums under the auspices of the Ministry of Culture in Greece. In addition, on the existence of material from the actions and events of museums and cultural monuments on the Internet of the institution's website to identify the underlying factors.

4.2. Reliability Statistics

The final eleven correlated variables had a Cronbach's Alpha of 0.809. The final three-factor solution was clean and explained 55.28% of the total variance. The Kaiser–Meyer–Olkin measure of sampling adequacy had a very high value of 0.826, using the Rotation Method: Varimax with Kaiser Normalization.

The results revealed three factors that present. Firstly, the existence of videos of events and virtual tours of cultural monuments is presented. Secondly, the participatory presence of citizens on the social network pages of museums and cultural monuments is described, as well as the use of artificial intelligence in the wider cultural sector. Finally, the existence and use of QR-codes, active presentation on social networking pages, as well as virtual tours of the spaces, are presented.

Online and On-Demand videos and Virtual Tours (variance 34.74%),

Digital Medias' Participation and Artificial Intelligence (AI) (variance 10.61%) and

Digital Reform and Virtual Tour (variance 9.93%).

A set of variables that record the presence of cultural organizations in new technological media, in social networking media are the variables of the exploration factor analysis. The presentation of the events and actions of the cultural organization on the internet and the digital reform of cultural organizations is successfully captured and presented.

The first factor describes 59% and says they have noticed the existence of short videos on social networking pages. Women aged 48-57 are aware of the existence of short videos by 36.3% and 27.2% are men of the same age.

Online videos from cultural organizations' performances and events provide direct communication between the public and the organization. Taped videos of performances or events enable audiences to have on-demand access to the material and present the history of an organization. When this material is placed on social network pages, the organization is directly advertised. The virtual tour can provide important information to citizens and entice them to become visitors.

The second factor describes in the total sample, 57.9% declare the existence of the participation of citizens and visitors in online educational programs. As a means of promotion and marketing museums, while in the total of archaeologists 58.6%.

The participation of citizens in forums and in podcasts with the theme of culture and cultural organizations on the one hand develops the communication of the organization with its audience and on the other hand informs the organization about the position of the public and the pulse of public opinion. It is a two-way communication that is valuable for both the organization and the public.

The emergence and spread of distance education programs and competitions, especially after the covid-19 era, is dynamically active in the everyday life of citizens. The participatory presence of the public in such events is increasingly developing and is becoming a tool in the hands of teachers and schools for children. Finally, the emergence of artificial intelligence nowadays is rapid and as it spreads in all scientific fields, it also appears in the field of culture.

The third factor describes the digital reform in museums as confirmed by 37.8% with the existence of the QR-Code and by 58% with the promotion through social networks. In addition, 55.9% of female archaeologists support the existence of promotion on social media. Contrasted with 16.1% of male archaeologists.

The digital reform and the active presence of a cultural organization in the digital media nowadays of the time is expected and part of its adaptation. Its evolution is seen through the existence of QR codes that lead the visitor either to the organization's online pages or to digitally modified material that refers to the monuments. Social media screenings and virtual tours are part of the cultural organization's advertising campaign.

4.3. Independence Test

The chi-square analyses of contingency tables, as early as 1949, D. Lewis and C. J. Burke [9] have been one of the most used nonparametric procedures in psychology, and in the social sciences in general. They reported at least nine common errors made by expert researchers using the chi-square. The updated review of the chi-square test and examines complementary and alternative approaches.

The first test examined whether employees' professional qualifications are related to viewing short videos on social media in the carrier's digital environment.

The null hypothesis was that the two variables were independent. H0: professional qualifications do not affect viewing short videos on social media in digital environment.

An alternative hypothesis was that these two variables are dependent. H1: professional qualifications affect viewing short videos on social media in digital environment.

There is a correlation between employees' professional qualifications and viewing short videos on social media in digital environment of the services of the Ministry of Culture in Greece, with a moderately strong and statistically significant relationship with prices ($X2=26.470$, $p<0.001$, $V=0.148$).

Table 4: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	26.470[a]	8	.001
Likelihood Ratio	29.096	8	.000
Linear-by-Linear Association	7.457	1	.006
N of Valid Cases	603		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.40.

Secondly, the test examined the level of education in relation to screenings in social media (Facebook – Twitter – Tik Tok) within the context of the digital reforming of the departments of the Ministry of Culture in Greece.

The null hypothesis was that the two variables were independent. H0: Education level is independent on screenings in social media (Facebook – Twitter – Tik Tok) within the context of the digital environment.

An alternative hypothesis was that these two variables are dependent. H1: Educational level is dependent on screenings in social media (Facebook – Twitter – Tik Tok) within the context of the digital environment.

There was a correlation between educational level and screenings in social media (Facebook – Twitter – Tik Tok) within the context of the digital reforming of the departments of the Ministry of Culture in Greece with a low intensity and statistically significant relationship with values ($X2=29.493$, $p<0.000$, $V=0.156$).

Table 5: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	29.493[a]	4	.000
Likelihood Ratio	30.122	4	.000
Linear-by-Linear Association	25.635	1	.000
N of Valid Cases	603		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.03.

Finally, the gender of the survey participants was studied in relation to the existence and use of artificial intelligence in digital reforming of the services of the Ministry of Culture in Greece

The null hypothesis was that the two variables were independent. H0: The gender is independent on the existence and use of artificial intelligence in digital reforming.

An alternative hypothesis was that these two variables are dependent. H1: The gender is dependent on the existence and use of artificial intelligence in digital reforming

There was a correlation between the gender of the survey participants and the existence and use of artificial intelligence in digital reforming of the services of the Ministry of Culture in Greece with a low intensity and statistically significant relationship with values (X2=2.989, p<0.224, V=0.070).

Table 6: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.989[a]	2	.224
Likelihood Ratio	3.040	2	.219
Linear-by-Linear Association	2.721	1	.099
N of Valid Cases	603		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.45.

5. DISCUSSION AND CONCLUSION

Several findings emerged from this study for future theoretical development efforts on the topic of digital marketing of Cultural Organizations and Museums and their promotion through digital media. The Ministry of Culture in Greece aims at the development of the organization itself.

5.1. Discussion

The continuous development of the Ministry of Culture and its evolution to follow the pulse and technology of its time is logical and desirable. In addition, the promotion of the monuments and the advertising of the museums is a way of increasing awareness and the visitors as well. It is the main way for the public to learn about the monument's existence and visit it.

As a result, promotion and awareness influence and preserve the emergence of Greek Cultural Heritage as a central element. The research examined the existence of digital material of monuments and museums. Moreover, the research investigated the use of technology by a group of employees of the Ministry of Culture to exploit its potential.

5.2. Conclusions

Research led us to very interesting results. Employees' professional qualifications are related to viewing short videos on social media in the carrier's digital environment. The level of education affects the number of views in social media (Facebook – Twitter – Tik Tok) within the context of the digital reforming of the cultural monuments and museums of the Ministry of Culture in Greece. Gender influences the existence and use of artificial intelligence in digital reforming of the services of the Ministry of Culture in Greece

It is worth noting that, regarding on the Ministry of Culture's monuments and museums in Greece and its digital presence, 59.0% (N=603) of the respondents stated that short videos exist and are presented on social media. Furthermore, 58.0% of the respondents say that the units of cultural organizations have digital reform features with views through social networking pages, such as Facebook or Twitter or TikTok.

The majority of survey participants state that there are short videos on social media that present and highlight the cultural monuments and museums of their region. Additionally, the majority state that there is public participation in online educational programs that are under the auspices of the institution in which they serve. Finally, a large percentage of them report the existence of views via Social Networking Media (Facebook, Twitter and Tik Tok).

Our proposal is to analyze a larger audience for research in the future, with aim of drawing generalized conclusions for the influence of digital reformation and evolution in Ministry of Culture's monuments and museums in Greece

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The Role of Formative Assessment in Communicative Grammar Teaching: Opinions of German Teacher Candidates*

Araş. Gör. Rahim Şentürk[1] **Prof. Dr. Handan Köksal[2]**

[1] Trakya Üniversitesi Eğitim Fakültesi Yabancı Diller Eğitimi Bölümü Alman Dili Eğitimi Anabilim Dalı, Edirne. rahimsenturk@trakya.edu.tr. ORCID-ID NO: 0000-0002-3053-6784

[2] Trakya Üniversitesi Eğitim Fakültesi Yabancı Diller Eğitimi Bölümü Alman Dili Eğitimi Anabilim Dalı, Edirne. handankoksal@trakya.edu.tr. ORCID-ID NO: 0000-0002-6083-4723

Abstract: Foreign language teaching employs diverse methods and approaches that have evolved significantly over time. In response to critiques of earlier methodologies, the communicative approach emerged, emphasizing effective, sustainable, and practical language instruction. The communicative approach, along with its methodological and didactic principles, has reshaped teaching and learning practices, particularly in the assessment and evaluation of language skills. This study aims to explore the perspectives of German teacher candidates regarding the application of formative assessment techniques in communicative grammar instruction. The central research question guiding this inquiry is: *"What are the perceptions of German teacher candidates on the integration of formative assessment techniques in communicative grammar lessons?"* The study employs a qualitative research design and adopts a descriptive analysis framework. The purposive sample consists of 14 first-year German teacher candidates enrolled in the German Teaching Department at Trakya University. Over the course of four weeks, communicative grammar lessons were conducted, followed by data collection through semi-structured focus group interviews. The qualitative data were transcribed and systematically analyzed using the MAXQDA software, adhering to rigorous content analysis protocols. The findings offer valuable insights into German teacher candidates' perceptions, emphasizing the role of assessment techniques in practice-oriented teacher training. The results underline the significance of these techniques in further developing communicative teaching methods, particularly in fostering practical and student-centered grammar instruction. Future research could build on these findings by involving larger and more diverse samples or by conducting interdisciplinary comparative studies.

Keywords: Formative evaluation, assessment techniques, communicative approach, grammar instruction, teacher candidates

1. Introduction

Over the past decades, foreign language education has shifted from rule-based instruction to more communicative, student-centered approaches. Traditional methods focused on explicit grammar instruction and structural accuracy. However, communicative language teaching (CLT) has largely replaced these methods. CLT prioritizes meaningful interaction, authentic language use, and functional competence (Schart & Legutke, 2023). This paradigm shift has also influenced grammar instruction, leading to the emergence of communicative grammar teaching, which emphasizes not only the acquisition of grammatical structures but also their contextualized use in real-life communication (Funk & Koenig, 1991). Communicative grammar integrates grammatical concepts into interactive learning, allowing learners to construct knowledge through real-world exchanges. Research highlights that combining this approach with formative assessment enhances students' oral response abilities in classroom interactions (Hadeli, et al., 2023).

Given the communicative nature of language, grammar assessment should align with these communicative principles. Traditional summative methods, which emphasize memorization and discrete testing, often fail to measure students' ability to apply grammar in real-life situations (Richards & Rogers, 1986). As a response, formative assessment techniques have gained prominence, providing ongoing, process-oriented evaluation that supports learner development, engagement, and self-regulation (Schütze et al., 2018). It involves continuous feedback mechanisms, enabling learners to monitor their own progress, reflect on their linguistic performance, and make adjustments accordingly (Jones, 2006). Research indicates that strategic questioning within formative assessment can effectively elicit student understanding and misconceptions, allowing teachers to tailor instruction to students' needs in language learning contexts (Pan, et al., 2024).

* This study is derived from the doctoral thesis titled "Examine, Testing, and Evaluating in Communicative Grammar Lessons in Turkish German Teacher Education: Problem Areas, New Approaches, and Implementation Possibilities- Prüfen, Testen und Evaluieren im kommunikativen Grammatikunterricht der türkischen Deutschlehrerausbildung. Problemfelder, neue Ansätze und Implementierungsmöglichkeiten"

A central aspect of formative assessment in communicative grammar instruction is its multidimensional approach, incorporating self-assessment, peer assessment, and teacher feedback (Hughes, 2003). Self-assessment fosters learner autonomy, encouraging students to take responsibility for their own learning by evaluating their strengths and weaknesses (Cauley & McMillan, 2010). Peer assessment enhances collaborative learning, allowing learners to engage in constructive feedback exchanges, develop critical thinking skills, and gain alternative perspectives on their grammatical proficiency (Rea-Dickins & Gardner, 2000). Recent studies show that both self- and peer-assessment play crucial roles in promoting self-regulated learning, critical thinking, and problem-solving skills in foreign language learners (Kumar, et al., 2023). Meanwhile, teacher feedback remains an essential component, guiding learners through structured reflections, corrective feedback, and scaffolded learning experiences to refine their grammatical competence in meaningful communicative contexts (Brown, 2004).

Formative assessment is most effective when integrated into structured peer review, as research suggests scaffolded feedback improves students' evaluation skills and overall learning (Fleckney, et al., 2024). In peer feedback, scaffolding involves giving specific prompts, models, or rubrics to help students assess each other's work effectively (Alemdag & Yildirim, 2022). These findings emphasize the necessity of structured formative assessment strategies in communicative grammar instruction, ensuring that assessment serves not only as a means of evaluating knowledge but also as a tool for active learning and pedagogical adaptation.

This study examines the perceptions of German teacher candidates regarding the integration of formative assessment techniques in communicative grammar instruction. By exploring how self-assessment, peer feedback, and teacher evaluation shape their learning experiences, this research seeks to contribute to the pedagogical discourse on assessment in foreign language education. Through a qualitative investigation, the study aims to provide empirical insights into the practical implementation and effectiveness of formative evaluation in communicative grammar courses, highlighting its role in enhancing reflective learning, student engagement, and instructional quality.

2. Literature Review

Formative evaluation plays a vital role in communicative grammar teaching and language learning. Research indicates that formative tests can enhance students' oral response ability and communicative competence (Hadeli et al., 2023). Similarly, formative feedback on written production has been shown to either complement or replace traditional grammar instruction, fostering grammatical awareness within a communicative approach (Fernández & Kjærgaard, 2019).

Studies with adult ESL learners demonstrate that formative assessment helps identify and correct learning difficulties in real time, improving learning outcomes (Yi, 2012). A study in Norway revealed limited effects of formative feedback on agreement marking accuracy and highlighted students' difficulties with metalinguistic terminology (Garshol, 2019). In tertiary education, where grammar instruction often diminishes after the first year, formative assessment is proposed as a continuous support mechanism throughout the study period. Interestingly, junior lecturers show greater enthusiasm for integrating formative assessment in grammar evaluation than their senior counterparts (Aulia et al., 2016). These findings underscore the potential of formative evaluation in grammar teaching while acknowledging its complexities and limitations.

3. Aim

This study aims to provide a comprehensive analysis of prospective German teachers' perspectives on the integration and effectiveness of formative assessment techniques in communicative grammar instruction. By examining how these techniques influence teaching practices, student engagement, and learning outcomes, the study seeks to contribute to the advancement of pedagogical strategies in foreign language teacher education. Given the increasing emphasis on student-centered, interactive learning in communicative language teaching, this research is particularly significant in addressing the pedagogical and methodological implications of formative assessment in grammar instruction.

4. Research Question

This study is guided by the following central research question:

- How do German teacher candidates perceive the role and effectiveness of formative assessment techniques in communicative grammar instruction?

5. Method

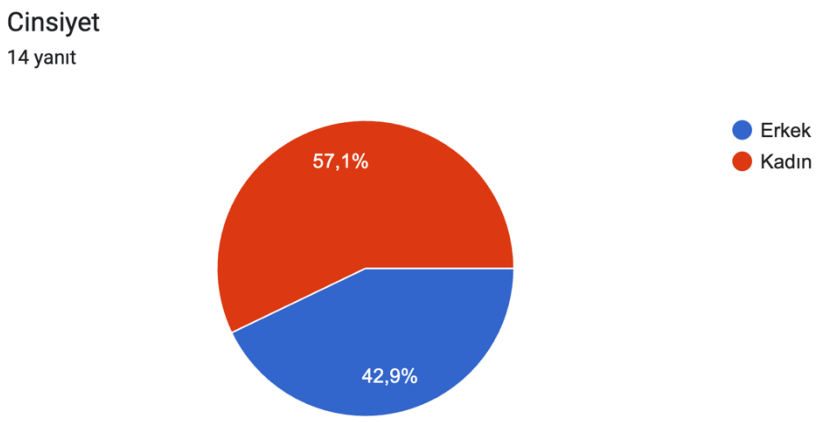
In the study, descriptive research method, one of the qualitative research methods, was used. According to Yıldırım and Şimşek (2011), qualitative research is a type of research in which qualitative data collection methods such as observation, interview and document analysis are used and a qualitative process is followed to present perceptions and events in a realistic and holistic way in a natural environment.

5.1. Participants

The study's sample consists of 14 German teacher candidates, who were randomly selected from the German Teaching Department at Trakya University. These participants were chosen to ensure diverse perspectives on formative assessment in communicative grammar instruction while maintaining a manageable sample size for in-depth qualitative analysis.

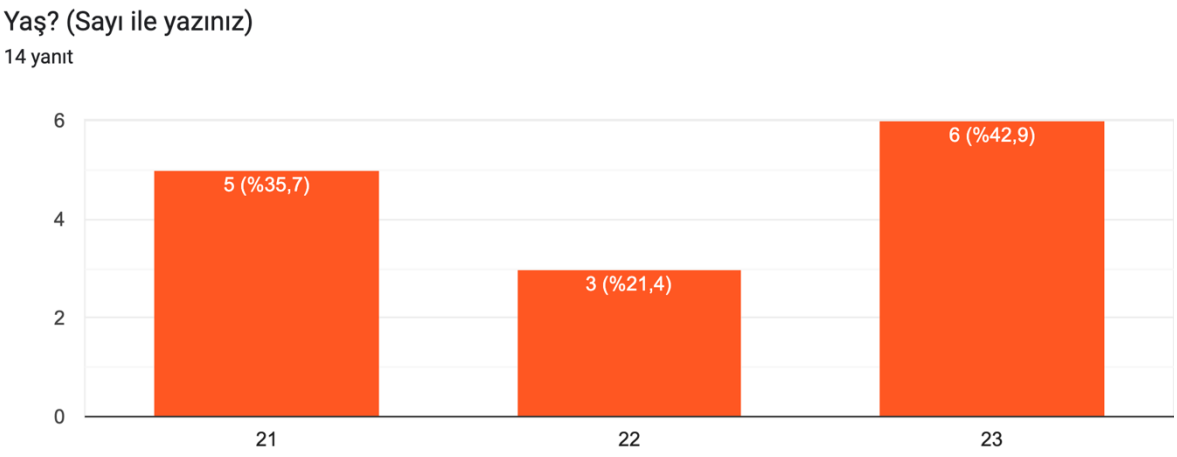
During the four-week intervention conducted in the Spring semester of 2024–2025, participants engaged in formative assessment-driven communicative grammar lessons. Their performance, engagement, and reflections were systematically monitored using various formative assessment techniques, such as peer assessment, self-reflection, teacher feedback, and interactive corrective feedback strategies. All participants were informed about the study, and it was explained that participation was based on voluntariness. The following visuals provide the demographic information of the participants.

Figure 1: Gender of participants



The pie chart in Figure 1 illustrates the gender distribution among the 14 participants. The data reveals that 57.1% of the participants are female, while 42.9% are male. This slight predominance of female participants provides a balanced representation, allowing for diverse perspectives in the study.

Figure 2: Age of participants



The bar chart in Figure 2 presents the age distribution of the 14 participants. The majority of participants (42.9%) are 23 years old, followed by 35.7% who are 21 years old, and 21.4% who are 22 years old. This distribution indicates that the participants predominantly belong to the 21–23 age group, reflecting a relatively young cohort suitable for the study's context.

5.2. Data Collection Tool

A set of feedback questions was developed as the primary data collection instrument. The questions were designed based on a comprehensive review of relevant literature to ensure alignment with established frameworks in formative assessment, communicative grammar instruction, and foreign language education.

To enhance the content validity and reliability of the feedback form, it was reviewed by two subject-matter experts in German language teaching and one expert in educational measurement and evaluation. Based on their insights, the form was revised and refined to improve clarity, relevance, and coherence in assessing participants' perspectives.

The feedback form was used to gather qualitative insights into participants' experiences, perceptions, and challenges regarding the implementation of formative assessment techniques in communicative grammar instruction.

5.3. Data Analysis

The qualitative data obtained from semi-structured interviews with participants were analyzed using the content analysis method as outlined by Krippendorff (2018). To ensure a systematic and structured approach, the analysis was conducted in five stages:

- Familiarization with the Data: The students' responses were read multiple times to help the researchers gain an in-depth understanding of the data and identify emerging themes.
- Coding: Each researcher independently coded the data by segmenting the responses into meaningful units and identifying recurring ideas and patterns. The coding process was supported by the use of MAXQDA software, which facilitated transcription and systematic organization of the data.
- Categorization and Theme Identification: The identified codes were grouped into broader themes and sub-themes based on participants' experiences, reflections, and observed challenges. This step enabled the extraction of key insights and recurring patterns, providing a comprehensive understanding of participants' perceptions.

5.4. Validity and Reliability

The validity and reliability of the findings in this study were established through several measures to ensure the rigor and credibility of the analysis:

1. Triangulation: Data from multiple sources, including student responses, independent researcher analyses were cross-referenced to ensure consistency and accuracy in the findings.
2. Inter-Coder Reliability: Two researchers independently coded the data. Their codes were compared to identify similarities and differences, with discrepancies resolved through discussion and expert review. This process ensured the consistency and objectivity of the thematic analysis.
3. Expert Review: The final themes and sub-themes were reviewed by experts in qualitative research and language education to confirm the appropriateness and relevance of the analysis.
4. Systematic Data Handling: The use of MAXQDA software allowed for a systematic and structured organization of the data, ensuring that the coding and categorization were transparent and replicable.
5. Multiple Iterations of Analysis: The researchers read the responses multiple times to thoroughly familiarize themselves with the data and ensure that all meaningful units and patterns were accurately identified.

6. Findings

The findings of this study were generated through a detailed content analysis of students' responses collected after a 4-week communicative grammar course. The semi-structured interviews provided qualitative insights into the students' experiences with formative assessment methods. The questions, themes, subthemes, and frequencies of responses are summarized below:

Table 1: Content analysis of students' responses

Questions	Main Theme	Subtheme	Student Sentence (Shortened)	Frequency (n=14)
Do you think the methods used to determine your performance in the communicative grammar course had an impact on your motivation to learn German? How?	Impact on Motivation	Increased retention	*"I didn't forget rules in this method."* *"I remembered grammar rules easily."* *"My retention improved a lot."*	3
	Impact on Motivation	Overcoming fear	*"I overcame my fear of grammar through this approach."* *"This method removed my grammar anxiety."*	2
	Impact on Motivation	Group dynamics	*"Group work reinforced my motivation."* *"Collaborating helped me stay motivated."*	2
Which of these measurement and evaluation methods had the most impact? Why?	Effectiveness of Assessment Methods	Peer assessment	*"Peer assessment made mistakes visible."* *"I learned from my peers' evaluations."* *"It was helpful to get feedback from classmates."* *"Mistakes became learning opportunities."* *"Peer evaluation improved my performance."* *"I could spot errors better."*	6
	Effectiveness of Assessment Methods	Self-assessment	*"Self-assessment helped me reflect on progress."*	5

			"I realized my strengths and weaknesses." *"It guided me to improve myself."* *"Self-review improved my learning."* *"I could track my progress well."*	
	Effectiveness of Assessment Methods	Teacher feedback	*"Teacher feedback was more comprehensive."* *"Teacher's comments clarified doubts."* *"Detailed feedback made learning better."* *"Teacher evaluation was reliable."*	4
What is the impact of the methods used to determine your performance in the communicative grammar course on your German learning process?	Grammar Learning Process	Faster learning	*"Learning was faster with partner work."* *"Collaborating accelerated learning."* *"Grammar concepts were quickly grasped."* *"Teamwork enhanced my understanding."*	4
	Grammar Learning Process	More engaging activities	*"Poster preparation made learning fun and interactive."* *"Creative activities kept me engaged."*	2
Would you compare the communicative grammar conducted with this assessment model with the grammar courses you have taken before?	Comparison with Traditional Lessons	Interactive feedback	*"Feedback showed areas of improvement."* *"Interactive reviews highlighted my gaps."* *"I became aware of my mistakes."* *"Instant feedback was very effective."*	4
	Comparison with Traditional Lessons	Real-world applications	*"Grammar was applied to real-life contexts."* *"Using grammar in daily scenarios helped."* *"Real-world examples enhanced my learning."*	3
Do you recommend using these assessment methods in future courses? Why? When you started your professional life, did you want to use such assessment and	Recommendation for Future Use	Immediate feedback	*"Correcting mistakes immediately helped."* *"Timely feedback improved my confidence."* *"Quick corrections enhanced understanding."* *"Immediate feedback boosted retention."* *"Mistakes were fixed promptly."*	5

evaluation tools in your courses? Which ones and why?	Recommendation for Future Use	Group-based assessments	*"Group assessments reduced stress."* *"Collaborating eased pressure."* *"Group activities felt less intimidating."* *"Group reviews created a safe space."*	4
How did the measurement and evaluation methods used to determine your performance in the communicative grammar course affect your attitude towards learning German grammar?	Change in Attitude Towards Grammar	Positive attitude change	*"I developed a more positive attitude toward grammar."* *"Grammar lessons became enjoyable."* *"I felt encouraged to learn more."*	3
	Change in Attitude Towards Grammar	Improved motivation	*"Motivation increased with peer and teacher feedback."* *"I felt inspired to keep improving."* *"Supportive feedback kept me engaged."* *"I enjoyed learning grammar more."*	4
	Total			14

The data set offers valuable insights into students' experiences with formative assessment methods during a 4-week communicative grammar. The findings reveal the significant impact of these methods on motivation, attitudes, and learning outcomes, supported by students' direct statements. Before delving into the details of the data set, the word cloud image below visually highlights some key themes and subthemes.

Figure 3: Word cloud of keywords of students



A word cloud of themes and subthemes was created based on students' statements, providing a visual summary of the key concepts identified in the analysis. The Free Word Cloudop application was used for the word cloud. The word cloud visually emphasizes the prominence of "feedback," highlighting its central role in enhancing students' learning processes. Keywords such as "motivation," "confidence," and "collaboration" reflect the positive emotional and social dimensions of these methods, while terms like "retention" and "reflection" underscore their cognitive benefits. This visual representation confirms the themes identified in the analysis, illustrating the multifaceted advantages of formative assessment in fostering an engaging and effective learning environment.

Positive Shift in Learning and Motivation

Students highlighted how formative assessment improved their motivation and grammar retention. One participant noted, 'I didn’t forget rules in this method,' underscoring the benefits of interactive learning. Another

student shared, 'I overcame my fear of grammar through this approach. Another noted how the approach helped them overcome their apprehension toward grammar, stating, “I overcame my fear of grammar through this approach” (S3). Group-based activities also played a pivotal role in fostering motivation and engagement. One student remarked, “Group work reinforced my motivation” (S5), underscoring the collaborative and dynamic nature of the learning environment.

Effectiveness of Assessment Methods

Peer assessment emerged as the most effective tool, with students valuing the feedback they received from their peers. As one participant explained, “Peer assessment made mistakes visible” (S3). Similarly, self-assessment encouraged introspection, as highlighted by a student who shared, “Self-assessment helped me reflect on progress” (S8). Teacher feedback was also highly valued for its depth and objectivity, with one student noting, “Teacher feedback was more comprehensive” (S1).

Comparison with Traditional Grammar Instruction

The communicative grammar course was favorably compared to traditional methods. Students expressed dissatisfaction with the memorization-heavy approach of traditional lessons, which they felt led to forgetfulness and disengagement. One student stated, “In traditional grammar lessons, we just memorized patterns for exams” (S6). In contrast, the communicative approach allowed them to apply grammar in meaningful contexts. As one student observed, “Grammar was applied to real-life contexts, making learning more effective” (S2).

Challenges and Limitations

Despite the overwhelmingly positive feedback, some challenges were noted. The most prominent issue was the time required for peer feedback, especially in larger groups. One student acknowledged, “While peer feedback was effective, it was difficult to provide feedback to everyone in a larger class” (S8). Additionally, implementing group-based assessments in diverse or crowded classrooms was seen as potentially difficult.

Change in Attitudes Toward Grammar

The formative assessment methods also brought about a positive change in students’ attitudes toward grammar learning. One participant noted, “I developed a more positive attitude toward grammar” (S1), while another highlighted increased motivation, stating, “Motivation increased with peer and teacher feedback” (S7). These shifts reflect the success of formative assessment in creating a supportive and engaging learning environment.

The students' statements highlight the effectiveness of formative assessment in fostering motivation, collaborative learning, and grammar retention. While challenges such as time constraints and scalability exist, the positive impact on students' attitudes and learning processes strongly supports the integration of these methods into grammar instruction. Direct student feedback, such as “Correcting mistakes immediately helped” (S1), reinforces the reliability and transformative potential of this approach.

6.3. Limitations of the Study

This study has several limitations that should be acknowledged. First, the sample size was relatively small, consisting of only 14 participants, which limits the generalizability of the findings. Second, the study was conducted over a short duration of four weeks, which may not capture the long-term effects of formative assessment on grammar learning. Third, the study relied on self-reported data from semi-structured interviews, which may be subject to bias or inaccuracies in students’ reflections. Lastly, logistical challenges, such as managing peer feedback in larger groups, were identified but not fully addressed in the study design. Future research should aim to overcome these limitations by including larger, more diverse samples and conducting longitudinal studies to examine the sustained impact of formative assessment.

7. Conclusion

This study aimed to answer the research question: "What are the perceptions of German teacher candidates regarding the integration of formative assessment techniques in communicative grammar lessons?" The findings revealed that formative assessment methods, including peer assessment, self-assessment, and teacher feedback, had a profound impact on students' learning processes, motivation, and attitudes toward grammar instruction.

Formative assessment methods have demonstrated numerous positive aspects in this study. These methods enhanced long-term retention and accelerated learning through meaningful, interactive activities. Many students overcame their fear of grammar and developed a more motivated and confident approach to learning. Furthermore, group-based assessments fostered peer learning and created a supportive and collaborative environment.

However, the study also highlighted several challenges. Time constraints posed difficulties in providing peer feedback within larger groups. The scalability of group-based assessments in larger or more diverse classrooms may require additional planning and resources. Additionally, self-assessment and peer feedback were observed to be more effective in smaller, closely-knit groups, indicating a dependence on class size for their success.

To address these challenges, the study recommends combining peer and self-assessment with teacher feedback to enhance collaboration and ensure immediate learning gains. Integrating formative assessment into teacher training programs could further familiarize educators with these effective techniques. Tools such as rubrics and digital platforms should be utilized to manage larger groups more efficiently.

In conclusion, formative assessment fosters engaging, student-centered learning. While challenges such as time constraints and scalability remain, the positive impact on students' learning outcomes and attitudes supports the wider adoption of these methods. Thoughtful implementation and further research are essential for maximizing the potential of formative assessment in educational settings.

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The Trump Effect: Analyzing the Short-Term Economic and Financial Implications

Rasim YILMAZ[1]

[1] Tekirdağ Namık Kemal University, Faculty of Economics and Administrative Sciences, Department of Economics, rasimyilmaz@nku.edu.tr, Tekirdağ/ Turkey ORCID: 0000-0002-1084-8705

Abstract: Starting in 2022, Trump's official campaign began uploading a series of policy plans to its website, Called Agenda47, detailing how Trump plans to tackle some of the country's most pressing issues. Trump's pledges encompass a wide range of areas, from economic reforms to political initiatives. This article analyzes how markets responded to Trump's campaign pledges immediately after the election results were announced. It examines shifts in key economic indicators, including stock market performance, bond yields, and commodity prices. Additionally, the article explores investor sentiment and sector-specific impacts based on the proposed policies.

Keywords: The Trump Effect, Financial Markets, Economic Implications, Financial Implications.

1. INTRODUCTION

Starting in 2022, Trump's official campaign began uploading a series of policy plans to its website, Called Agenda47, detailing how Trump plans to tackle some of the country's most pressing issues. Agenda47 is the Trump administration's official policy platform for the 2024 presidential election. Outlined in a series of videos and statements on the Trump website, the proposals were released during primary election season (Walrath-Holdridge, 2024). Trump's "Agenda47" consists of proposals his campaign issued on its website during the primary election season, from December 2022 to December 2023 (Durkee, 2024). Agenda 47 (styled by the Trump campaign as Agenda47) is the manifesto of the Republican Party president-elect Donald Trump, which details policies that would be implemented upon his election as the 47th president of the United States (Wikipedia, 2024).

Trump's pledges encompass a wide range of areas, from economic reforms to political initiatives. His economic proposals include (Picchi, 2024; Marx, 2024; Ioanes, 2024):

1) Tax cuts: Trump pledged to lower corporate tax and income taxes. Trump has pledged to lower the corporate tax rate from 21% to 15% for companies manufacturing in the U.S. He also offered a myriad of tax cuts to various groups, ranging from senior citizens to homeowners. During his presidency, Trump implemented broad tax cuts in 2017 and has pledged to extend them further. The core of his tax plan is to prolong the provisions in the 2017 Tax Cuts & Jobs Act (TCJA) set to expire at the end of 2025, as well as to introduce additional changes. These include the law's lowered tax brackets and expanded standard deduction.

2) Looser regulations: Trump pledged to support for lighter regulations on businesses.

3) Lowering the U.S. Federal Reserve's interest rates: Trump stated that he would pressure the U.S. Federal Reserve to lower interest rates, although he emphasized that he would not make direct demands.

4) Lowering inflation: Trump pledged to end the inflation nightmare and to bring prices down very quickly.

5) Tariffs: Trump pledged to introduce a variety of new tariffs. During his campaign, Trump stated, "To me, the most beautiful word in the dictionary is tariff." Trump proposed financing tax cuts through new tariffs on imports from China and other nations. Trump proposed raising tariffs on all imported goods by 10%, claiming that this measure could eliminate the U.S. trade deficit. He threatened to impose tariffs of up to 100 percent on Mexico, the U.S.'s largest trading partner for goods in 2024. Some experts anticipate the introduction of tariffs ranging from 10% on products from some countries, to up to 60% on goods from China. Trump has proposed ending the import of electronics, steel, and pharmaceuticals from China within four years. He also plans to prevent Chinese companies from owning real estate and infrastructure in the U.S. energy and technology sectors.

6) Mass deportation: Trump pledged to deport millions of undocumented immigrants. Trump stated that he would reinstate the immigration policies from his first presidential term aimed at preventing illegal entry into the United States and introduce comprehensive changes to limit immigration. He mentioned plans to make it more difficult for those entering the country through the Mexican border to obtain asylum status and announced

that he would initiate the largest deportation effort in U.S. history. Trump also declared his intention to end automatic citizenship for children of immigrants.

7) Climate change: Trump pledged to lift regulatory restrictions on oil drilling, gas exploration, and coal mining. He promised to simplify the permitting process for oil exploration and extraction on federal lands to boost domestic oil production and promote the construction of new natural gas pipelines. As part of this plan, he announced his intention to allow oil drilling in Alaska's Arctic National Wildlife Refuge. Additionally, Trump vowed to curtail further expenditures tied to President Biden's Inflation Reduction Act, which has not only supported projects, businesses, and technologies aimed at addressing climate change but also incentivized substantial private investment in green tech, including solar and wind power, carbon capture, and electric battery storage. Trump further stated that he would withdraw the United States from the Paris Climate Agreement, an international accord aimed at reducing greenhouse gas emissions and expressed his support for nuclear energy. He also pledged to revoke the incentives for electric vehicles and the emission-reducing policies introduced by his predecessor, Joe Biden. Moreover, Trump highlighted the need to increase energy production to ensure the United States remains competitive in energy-intensive artificial intelligence systems.

8) Cryptocurrencies: Trump pledge to make the U.S. the "crypto capital of the planet".

The rest of this article analyzes how markets responded to Trump's campaign pledges immediately after the election results were announced. It examines shifts in key economic indicators, including stock market performance, bond yields, and commodity prices. Additionally, the article explores investor sentiment and sector-specific impacts based on the proposed policies.

2. MARKET REACTIONS TO TRUMP'S CAMPAIGN PLEDGES

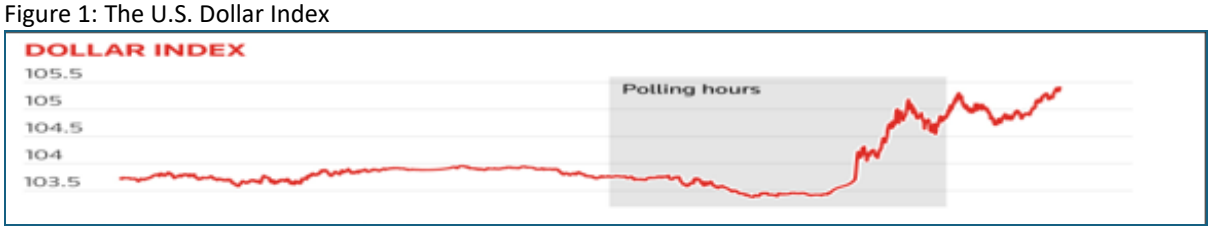
As Donald Trump was elected the new president of the United States, markets began pricing in the possibility of a second term under his leadership. Following his election victory, "Trump pricing" surged, driven largely by the rhetoric and promises made during his campaign. Market reactions are closely tied to the pledges Trump made, reflecting investor anticipation of the potential economic and policy changes associated with his presidency.

Following Donald Trump's victory in the U.S. presidential election, the dollar index rose, while foreign currencies against the dollar depreciated. U.S. stock markets surged, and 10-year Treasury bond yields increased along with higher market inflation expectations and expectations for increased government debt and larger budget deficits grew. Cryptocurrency prices also rose. On the other hand, commodity prices, including Brent oil, copper, and gold, declined, and expectations of interest rate cuts by the Federal Reserve diminished.

The U.S. Dollar Index (DXY)

Donald Trump's victory in the U.S. presidential election triggered a significant surge in the U.S. Dollar Index (DXY) (Krauskopf and Cooper, 2024). The Dollar Index emerged as a key beneficiary of the election results, climbing nearly 2% to surpass the 105 level, reaching its highest point since July. It peaked at 105.311 (see Figure 1). After dipping to the 100.00 threshold at the end of September and maintaining an upward trend throughout October, the Dollar Index rose to 105.00 following the election results, marking a three-month high (Gürer, 2024; Dağ, 2024).

Figure 1: The U.S. Dollar Index



Source: Krauskopf and Cooper (2024)

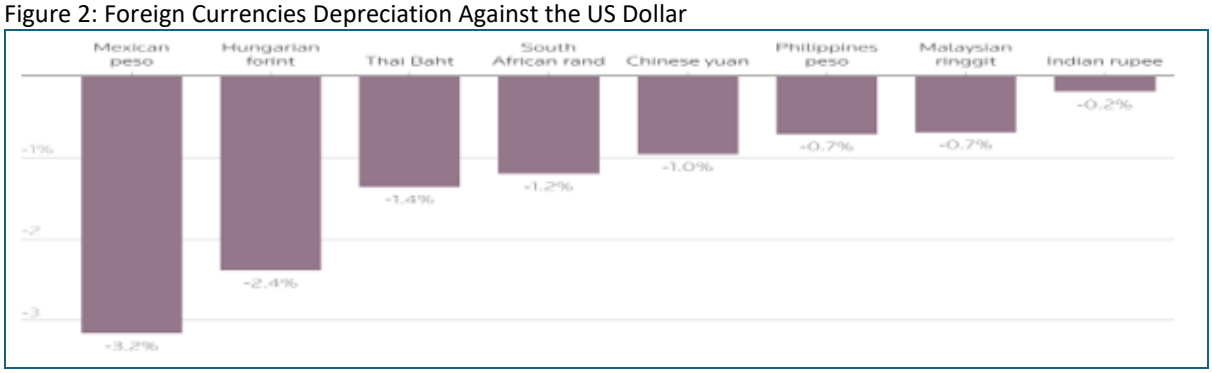
The U.S. Dollar Index (DXY) surged as investors anticipated lower taxes, higher interest rates, and a unified government under Trump's presidency, which is expected to have significant flexibility in implementing fiscal

policies. These factors bolstered the dollar's global strength, with analysts predicting that Trump's victory, combined with the impact of trade tariffs, could further accelerate its rally (BBC News, 2024).

Foreign Currencies Against the US Dollar

Following Trump's victory, foreign currencies depreciated against the US dollar and markets expected to be the most vulnerable to harsher tariffs were hit hardest by the sell-off (see Figure 2). The Mexican peso plummeted to its lowest level in over two years, while the euro was on track for its largest daily decline since 2020 (Krauskopf and Cooper, 2024). The dollar gained more than 1% against the euro, pound, and Japanese yen upon Trump's victory. Selling pressure was observed for the parity of the euro against the US dollar with the euro losing over 1.7% against the dollar, reaching its lowest level in four months at 1.0703. The parity of the dollar against the Japanese yen rose to 154.00, signaling a weakening of the Japanese yen. Markets reacted to expectations of a more fragile geopolitical landscape and the ongoing trade war with China, with trade-sensitive currencies taking a significant hit (Gürer, 2024; Dağ, 2024).

Figure 2: Foreign Currencies Depreciation Against the US Dollar



Source: Krauskopf and Cooper (2024)

Inflation Expectations

Following Trump's victory, inflation expectations in the U.S. surged as his policy proposals are anticipated to reignite inflationary pressures. Two key elements of his agenda—tariffs and mass deportations—are likely to drive up costs for businesses, ultimately pushing consumer prices higher. Proposed tariff hikes could trigger a global trade war, raising prices for American consumers since tariffs function as sales taxes paid domestically rather than by exporting countries. Businesses grappling with increased costs due to tariffs may see reduced profits, potentially leading to lower stock prices unless they offset these losses by raising prices, which would further fuel inflation. Additionally, Trump's plan to deport millions of immigrants could exacerbate inflationary pressures by creating a labor shortage, forcing employers to pay higher wages to attract workers (Picchi, 2024; Marx, 2024). Together, these factors suggest a significant risk of rising inflation under his proposed policies.

Trump's policy proposals are projected to increase the inflation rate by up to 1 percentage point, raising it to an estimated annual rate of 3.4%, well above the Federal Reserve's 2% target. Central to this inflationary outlook is Trump's plan to impose a 10% tariff on all imports and tariffs of 60% or more on Chinese goods entering the U.S. These measures could add approximately $1,700 in annual expenses for the average middle-class household (Picchi, 2024).

Expectations about the Federal Reserve to Lower Interest Rates

After Trump's victory, market expectations for interest rate cuts by the U.S. Federal Reserve have diminished. The anticipated number of rate cuts has dropped from four to two, driven by expectations of rising inflation. Markets predict that a second Trump administration, with policies focused on tax cuts, high tariffs, and immigration restrictions, will push inflation higher, prompting the Federal Reserve to slow the pace of rate reductions (Marx, 2024; BBC News, 2024).

Expectations about Higher Government Debt and Larger Deficits

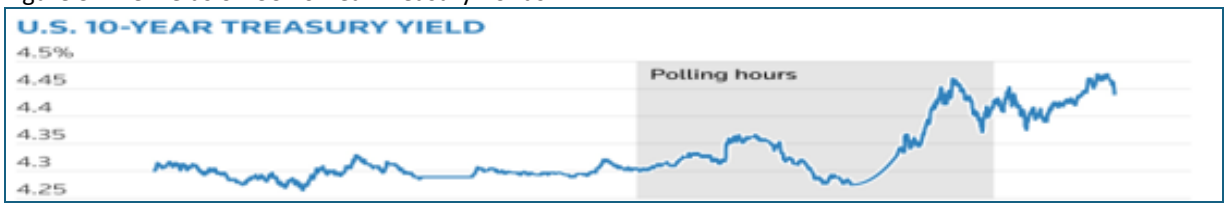
Following Trump's victory, expectations of rising government debt and larger fiscal deficits intensified. During his previous administration, U.S. debt levels soared, driven by tax cuts and emergency spending in response to the COVID-19 pandemic, which also significantly widened the fiscal deficit. With his latest win, the prospect of additional unfunded spending—financed through increased borrowing rather than higher taxes—has raised investor concerns about the long-term trajectory of U.S. deficits and debt. Some estimates suggest this could add more than $7 trillion to the deficit over the next decade (Marx, 2024).

When investors question the sustainability of a nation's debt, they demand higher interest rates on loans to that government. Even before the election, worries over America's public debt had already pushed yields on existing government bonds higher, signaling increased borrowing costs for the U.S. (Marx, 2024). This trend underscores growing unease over the nation's fiscal outlook in the wake of Trump's policy agenda.

The Yields on U.S. 10-year Treasury Bonds

The yields on U.S. 10-year Treasury bonds exhibited a positive reaction to the election outcomes. The benchmark 10-year Treasury yield reached a peak of 4.48%, marking its highest level in over four months, before experiencing a modest pullback (see Figure 3) (Krauskopf and Cooper, 2024).

Figure 3: The Yields on US 10-Year Treasury Bonds



Source: Krauskopf and Cooper (2024)

The rise in yields on U.S. 10-year Treasury bonds reflects market expectations of higher inflation and larger fiscal deficits. Market participants anticipate that if Trump successfully implements his agenda, it will likely lead to greater deficits, significant tax cuts, and increased inflation—all of which are expected to drive long-term interest rates higher (Krauskopf and Cooper, 2024).

According to the Keynesian perspective, expansive fiscal policies, such as significant tax cuts and increased government spending, can stimulate aggregate demand, potentially leading to higher inflation in the short term. Simultaneously, the crowding-out theory suggests that larger deficits might increase the supply of government bonds, causing bond prices to fall and yields to rise as the government competes for capital in financial markets. Additionally, tariffs, a core component of Trump's proposed policies, could contribute to cost-push inflation by raising input costs for goods and services. If Trump successfully implements his agenda, these combined factors are expected to exert upward pressure on long-term interest rates, as higher inflation erodes the real value of fixed returns and investors demand greater compensation for lending their capital over extended periods.

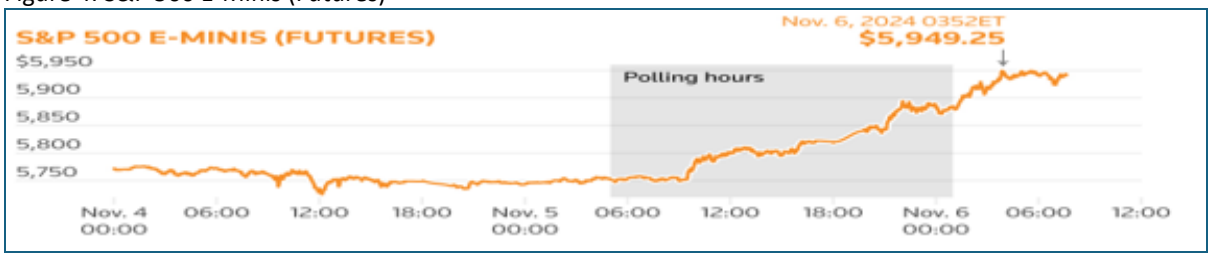
The Commodities Market

Following the presidential election in the USA, the commodities market experienced a downturn, with the strengthening U.S. dollar impacting oil and copper prices. Brent crude fell by over 1%, dropping below $75 per barrel. The price per barrel of Brent crude declined by 2.5% to $73.64, while West Texas Intermediate (WTI) crude fell 2.4% to $70.23. Copper prices also saw a 2.1% drop, falling to $9,537 per ton. Analysts noted that a stronger dollar makes dollar-denominated commodities more expensive for holders of other currencies, leading to reduced demand. The sharpest decline occurred in gold, which posted its largest daily drop in five months. After rising amid pre-election uncertainty, gold prices pulled back due to rising bond yields and expectations of reduced geopolitical tensions. Spot gold fell below the $2,730 range. Analysts suggested that the strengthening dollar could slow gold's upward momentum (Dağ, 2024; Gürer, 2024).

U.S. Stock Markets

Following Donald Trump's declaration of victory in the U.S. presidential election, U.S. stock futures and indices including the S&P 500 and Dow Jones Industrial Average, soared on Wall Street optimism for stronger corporate growth (see Figure 4) (Picchi, 2024). The Dow Jones Industrial Average advanced by more than 350 points, registering a 0.87% increase to close at 42,917. Meanwhile, the S&P 500 index recorded a sharp rise, climbing to 5,866, and the Nasdaq Composite followed suit, reaching 20,527.

Figure 4: S&P 500 E-Minis (Futures)



Source: Krauskopf and Cooper (2024)

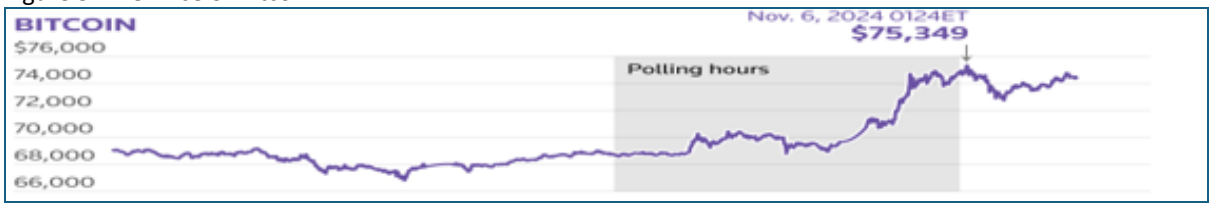
U.S. stock markets surged as Wall Street expressed optimism over the potential for stronger corporate growth under Trump's policy agenda. His proposed corporate tax cuts and commitment to easing regulations, particularly in the energy and financial sectors, are expected to boost company profits, providing significant upward momentum for the stock market (Picchi, 2024).

Trump's promises to raise tariffs, cut taxes, and reduce regulations spurred investor interest across a variety of assets poised to benefit from such policies (Krauskopf and Cooper, 2024). The prospect of lower taxes and deregulation creates an environment where businesses can potentially increase profits, a possibility reflected in the rising share prices of many major American companies. Firms with higher expected future earnings tend to attract more investors, driving up their stock prices. This trend is particularly evident in industries such as banking, cryptocurrency, technology, defense, and fossil fuels (Marx, 2024). Analysts project that financial, fossil fuel, and small-cap companies are likely to outperform the broader market, while renewable energy stocks may lag behind (Goldman Sachs, 2024). Notably, Trump Media & Technology Group, Trump's media company, saw its stock climb approximately 17%. Meanwhile, Tesla, the electric vehicle company led by Trump supporter Elon Musk, experienced a remarkable 14.75% surge in its share price (Krauskopf and Cooper, 2024).

Cryptocurrencies

Cryptocurrency prices surged following Donald Trump's potential election victory, driven by his promise to establish the U.S. as the "crypto capital of the planet" (Picchi, 2024). Trump's supportive stance on cryptocurrencies sparked a significant market rally, with Bitcoin, the leading cryptocurrency, reaching a record-breaking high of over $75,000. This marked its largest single-day gain since March 2023 (see Figure 5) (Krauskopf and Cooper, 2024). Bitcoin's momentum also ignited activity across the broader crypto market, particularly in altcoins. Ethereum, the largest altcoin, saw a sharp rebound, climbing from $2,401 to $2,638 (Hürriyet Gazetesi, 2024).

Figure 5: The Price of Bitcoin



Source: Krauskopf and Cooper (2024)

3. CONCLUSIONS

Starting in 2022, Trump's official campaign began uploading a series of policy plans to its website, Called Agenda47, detailing how Trump plans to tackle some of the country's most pressing issues. Donald Trump's campaign pledges span a wide range of economic, regulatory, and policy reforms. On the economic front, he has proposed significant tax cuts, including lowering the corporate tax rate to 15% for U.S. manufacturers and extending provisions from the 2017 Tax Cuts and Jobs Act. He also aims to ease business regulations, pressure the Federal Reserve to lower interest rates, and address inflation swiftly. In trade, Trump plans to implement sweeping tariffs on imports, targeting nations like China and Mexico, with rates ranging from 10% to 100%, while proposing measures to reduce dependence on Chinese goods. His immigration policies include mass deportations, restricting asylum claims, and ending birthright citizenship. On climate and energy, Trump has vowed to expand oil drilling, roll back green initiatives under Biden's Inflation Reduction Act, and withdraw from the Paris Climate Agreement while supporting nuclear energy. Additionally, he plans to position the U.S. as a global leader in cryptocurrency innovation.

Following Donald Trump's victory in the U.S. presidential election, the dollar index climbed, while foreign currencies against the dollar depreciated. U.S. stock markets surged, and 10-year Treasury bond yields increased along with higher market inflation expectations and expectations for increased government debt and larger budget deficits grew. Cryptocurrency prices also saw an increase. Conversely, commodity prices, including Brent oil, copper, and gold, declined, and expectations of interest rate cuts by the Federal Reserve diminished.

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Key Drivers of Gold Price Fluctuations

Rasim YILMAZ[1]

[1] Tekirdağ Namık Kemal University, Faculty of Economics and Administrative Sciences, Department of Economics, rasimyilmaz@nku.edu.tr, Tekirdağ/ Turkey ORCID: 0000-0002-1084-8705

Abstract: Gold has held a unique position in global economies and societies for centuries, serving as a store of value, a medium of exchange, and a symbol of wealth. This paper explores the historical trajectory of gold prices, examining key periods of stability and volatility from the gold standard era to the modern-day global market. It also analyzes the primary factors influencing gold prices, including macroeconomic variables such as inflation, interest rates, currency fluctuations, and geopolitical events, as well as demand from investors, central banks, and industries like jewelry and technology. By understanding the historical context and key determinants, this study provides a comprehensive view of how gold prices are shaped and their enduring significance in the global economy.

Keywords: Gold Prices, Drivers of Gold Price, Inflation, Interest Rates, Economic Uncertainty.

1. INTRODUCTION

Gold's intrinsic value and radiant luster have made it a symbol of wealth, stability, and prosperity. Across various cultures and religions, it is often linked to purity, enlightenment, and wisdom. Gold has been a cornerstone of human civilization for centuries, valued not only as a symbol of wealth but also for its profound cultural significance and essential applications in modern technology (Pacific Precious Metals, 2024). Gold's value is ultimately a social construct, rooted in the collective belief that it has been valuable throughout history and will continue to hold value in the future. Its enduring appeal lies in its ability to preserve wealth over time, along with its widespread use in jewelry and advanced technological applications (Folger, 2024). Over the past several decades, gold prices have been shaped by a wide range of factors, experiencing notable fluctuations and dramatic shifts throughout its history (Goldprice, 2024).

Figure 1: Gold Price History



Source: https://goldprice.org/gold-price-history.html

Between the 17th and late 19th centuries, gold served as the backing for most currencies. Paper money and coins functioned as representations of physical gold, while international trade largely depended on gold for settling transactions (Pacific Precious Metals, 2024). From 1833 to 1933, gold prices remained steady at approximately $20 per ounce. In 1934, President Roosevelt set the gold price at $35 per ounce, where it remained stable until 1967. That year, the gold price was deregulated, allowing it to be traded freely on the market. From 1967 onward, gold prices experienced significant increases accompanied by rapid fluctuations (Shafiee and Topal, 2010).

Gold prices in the 1970s experienced a dramatic surge, driven by a combination of economic and geopolitical factors. The collapse of the London Gold Pool agreement in 1968, followed by the end of the Bretton Woods system in 1971—which abolished the fixed exchange rate between gold and the U.S. dollar and allowed the dollar to float freely—disrupted the global gold market. This period also coincided with the stagflation crisis caused by the petroleum crisis of the 1970s, which affected the United States and other industrialized countries. It was marked by high inflation, stagnant economic growth, and rising unemployment. These events created widespread economic uncertainty, significantly boosting demand for gold as a safe-haven asset. As a result, gold prices soared to unprecedented heights, peaking at approximately $665 per ounce in January 1980 (Gaspareniene et al., 2018; Hayes, 2024; Meyer, 2024).

In 1999, gold prices hit a local low of approximately $253 per ounce. This decline was driven by the robust performance of the U.S. economy and the strengthening of the U.S. dollar, which diminished gold's attractiveness as an alternative investment. Additionally, an oversupply in the market contributed to the drop, as numerous central banks sold off their gold reserves to generate funds and diversify their portfolios (Hayes, 2024).

Between 2000 and 2006, gold prices experienced a steady upward trend, marking the beginning of a long-term bull market after years of stagnation during the 1990s. Gold prices nearly doubled between 2000 and 2006, climbing from around $270 to over $600 per ounce. This growth was underpinned by a combination of factors, including a weakening U.S. dollar, rising inflation fears, increased investment demand, and geopolitical instability.

The global financial crisis that began in late 2007 caused significant turmoil in global capital markets, with rising risks across securities and futures. However, gold emerged as a safe-haven asset during this period, experiencing a notable price increase. Gold rose from $672 per ounce in August 2007 to $933 per ounce in March 2008 (Qiana et al., 2019). Following the financial crisis in 2008, a flight to safety further boosted demand for gold, driving its price from around $730 per ounce in October 2008 to $1,300 by October 2010 (Hayes, 2024).

In the early 2010s, gold prices soared, reaching an all-time high of approximately $1,900 per ounce in September 2011. This surge was fueled by the lingering effects of the global financial crisis, which drove investors toward gold as a secure asset amidst economic uncertainty and fears of inflation (Folger, 2024). After 2012, gold prices initially surged to $1,700 per ounce, driven by the loose monetary policies adopted by many developed countries to stimulate their economies (Qiana et al., 2019).

However, this upward trend reversed in 2013 as the Federal Reserve's tapering of quantitative easing signaled a gradual normalization of monetary policy and a strengthening U.S. dollar. Gold prices declined sharply, dropping 29% from $1,695 in January 2013 to $1,200 by December 2014 (Hayes, 2024). During this period, gold faced a prolonged decline and stabilization, influenced by a recovering global economy, rising interest rates, and reduced investment appeal. Prices bottomed out at around $1,050 per ounce in December 2015 (Folger, 2024).

Following this low, gold began a recovery, rising to $1,350 per ounce by July 2016 (Qiana et al., 2019). From 2016 onward, gold prices began a steady recovery, regaining much of their lost value by 2019, with averages ranging between $1,300 and $1,500 per ounce. The onset of the COVID-19 pandemic in early 2020 significantly accelerated this upward trend, as global market turmoil and unprecedented economic disruptions drove investors toward gold as a safe-haven asset (Folger, 2024). In 2020, investor concerns surrounding the pandemic propelled gold prices to record levels, with a 27% increase from $1,575 per ounce in January to over $2,000 by the summer (Hayes, 2024). In August, gold reached an all-time high of over $2,070 per ounce, fueled by the economic impact of the pandemic, global stimulus measures, and historically low interest rates. While prices declined slightly following the announcement of a coronavirus vaccine in November, they remained elevated, hovering just below $1,900 per ounce (Standard Chartered, 2024). Gold prices continued to stabilize through 2021 and 2022, typically fluctuating between $1,700 and $1,900 per ounce, as uncertainties related to the pandemic and economic recovery persisted (Folger, 2024).

In late 2023, gold prices experienced a strong rally, breaking out from their post-pandemic trading range of $1,700 to $1,900. Prices initially climbed to around $2,135 before stabilizing just above $2,000. However, in April 2024, gold surged to new all-time highs of over $2,265 per ounce, driven by increased Chinese demand and persistent inflation concerns (Hayes, 2024). This upward momentum continued, culminating in September 2024 when gold reached a record high of just over $2,500 per ounce (Folger, 2024).

2. DETERMINANTS OF THE PRICE OF GOLD

The price of gold is fundamentally determined by the interplay of demand and supply dynamics in the market. The balance between these demand and supply factors determines the price of gold in the global market.

Supply Side

On the supply side, gold availability is influenced by mining output and recycling.

Mining

Mining production is a critical component, but it is often constrained by rising costs, resource depletion, and environmental regulations. Mining accounted for approximately 75% of the total gold supply in 2024 (see Table 1).

Table 1: Annual Gold Supply Breakdown by Source (2010–2024)

	Mine production	Net producer hedging	Recycled gold	Gold Supply (tonnes)
2010	2,754.5	-108,8	1,671.2	4,316.8
2011	2,876.9	22,5	1,626.3	4,525.7
2012	2,957.2	-45,3	1,636.8	4,548.6
2013	3,166.8	-27,9	1,195.3	4,334.1
2014	3,270.5	104,9	1,129.6	4,505.0
2015	3,361.3	12,9	1,067.1	4,441.3
2016	3,515.2	37,6	1,232.1	4,785.0
2017	3,575.7	-25,5	1,112.4	4,662.6
2018	3,655.9	-11,6	1,131.7	4,775.9
2019	3,596.4	6,2	1,275.7	4,878.2
2020	3,482.0	-39,1	1,293.1	4,736.0
2021	3,576.5	-5,4	1,136.2	4,707.3
2022	3,624.8	-13,1	1,140.1	4,751.9
2023	3,644.1	67.4	1,234.4	4,945.9
2024	3,661.2	-56.8	1,370.0	4,974.5

Source: World Gold Council (2025)

Global gold production significantly influences gold prices. Factors such as rising mining costs, reduced exploration activity, and challenges in discovering new deposits have contributed to a decline in mine output. Extracting gold becomes increasingly difficult over time. The expansion of global gold supply remains constrained, as the most efficient and accessible gold mines have already been extensively exploited. Much of the easily accessible gold has already been mined, forcing miners to dig deeper and incur higher costs to access quality reserves (Shafiee and Topal, 2010; Gaspareniene et al., 2018; Folger, 2024).

The increasing difficulty in accessing gold introduces several significant challenges. As mines become deeper and more complex to navigate, miners face greater physical risks, including exposure to hazardous conditions and potential accidents. Additionally, the environmental impact of gold extraction intensifies, as deeper mining operations often require more extensive land disruption, water usage, and the generation of waste materials. These heightened risks and environmental concerns add further complexity and cost to gold production, amplifying the overall challenges within the industry (Folger, 2024).

In essence, these escalating production expenses often translate into higher gold prices. Rising production costs, fueled by deeper mining requirements and higher operational expenses, are expected to push gold prices upward (Shafiee and Topal, 2010; Gaspareniene et al., 2018; Folger, 2024).

Recycling

Recycling of existing gold, such as from jewelry and electronic waste, provides an additional source of supply. In 2024, recycled gold contributed significantly to the global supply, accounting for approximately 25% of the total

gold supply. Its consistent availability and environmentally friendly attributes make recycling a key component of the gold supply chain, helping to balance the market during periods of fluctuating mine production or heightened demand.

The recycling of existing gold, including materials from jewelry, electronic waste, and other gold-containing products, serves as a significant and sustainable source of supply in the global gold market. Recycling plays a critical role in supplementing mined gold, reducing the industry's environmental footprint, and meeting a portion of the demand without relying on new extraction. Jewelry recycling typically occurs when individuals sell their old or unwanted gold items, especially during periods of economic uncertainty or when gold prices are high, incentivizing such transactions.

Similarly, the recovery of gold from electronic waste, such as circuit boards and connectors, has gained traction in recent years due to advancements in recycling technologies and growing awareness of the environmental impact of e-waste. This process not only helps conserve natural resources but also mitigates the energy-intensive requirements of traditional gold mining.

Demand Side

Direct Utilization and Asset Utilization represent the two primary structural components of gold demand. Direct utilization refers to gold's use in various applications, including jewelry, medal minting, electronics, and dentistry. Within this category, Jewelry Fabrication and Technological Usage are the two main contributors. In 2024, jewelry accounted for the largest share of global gold demand, comprising 48.7%, while technological applications represented 6.7% of total demand (see Table 2).

Jewelry Fabrication

Jewelry remains the largest driver of global gold demand, supported by its deep cultural significance, increasing affluence, investment appeal, and evolving fashion trends. In countries like India and China, gold jewelry holds profound cultural and traditional importance, playing a pivotal role in weddings, festivals, and ceremonial events as a symbol of wealth, prosperity, and social standing. Rising incomes and sustained economic growth in emerging markets have amplified disposable income, fueling greater spending on luxury goods, including gold jewelry. Additionally, the ever-changing landscape of fashion trends and gold's enduring reputation as a symbol of luxury and sophistication further enhance its popularity. Beyond its aesthetic and cultural allure, gold jewelry is often viewed as a dual-purpose asset, combining beauty with financial security. This versatility makes it particularly attractive during times of economic uncertainty, reinforcing its status as a timeless and reliable investment (Pacific Precious Metals, 2024).

Gold prices often correlate with emerging market growth. In economies with rapidly growing wealth, such as China and India, demand for gold as both an investment and a cultural asset has driven prices higher (World Gold Council, 2013).

Technological Usage

Gold is a highly versatile and sought-after commodity with diverse applications spanning electronics, medical devices, renewable energy, aerospace, and engineering. Its exceptional conductivity and resistance to corrosion make it indispensable in circuit boards, connectors, and switches. Gold’s biocompatibility and antibacterial properties are particularly valuable in diagnostic tools and medical treatments. Additionally, the growth of green technologies, such as solar panels, has increased demand for gold in production processes. Its durability under extreme conditions further ensures its vital role in these critical industries (Pacific Precious Metals, 2024).

Table 2: Breakdown of Gold Demand by Direct Utilization

	Jewellery fabrication	*Jewellery consumption*	*Jewellery inventory*	Technology	*Electronics*	*Other industrial*	*Dentistry*
2010	2,043.8	2,057.0	-13.3	460.7	326.7	88.3	45.6
2011	2,092.1	2,103.8	-11.7	429.1	316.6	76.4	36.2
2012	2,140.9	2,156.1	-15.3	382.3	289.1	64.7	28.4

2013	2,735.3	2,726.0	9.3	355.8	279.2	53.7	22.8
2014	2,544.4	2,532.1	12.3	348.4	277.5	51.2	19.6
2015	2,479.2	2,459.1	20.1	331.7	262.1	51.0	18.6
2016	2,018.8	2,103.6	-84.8	323.0	255.6	49.8	17.6
2017	2,257.5	2,240.5	17.0	332.6	265.6	50.7	16.3
2018	2,290.0	2,250.2	39.8	334.8	268.4	51.2	15.3
2019	2,152.1	2,126.7	25.4	326.0	262.3	49.8	13.9
2020	1,324.0	1,398.1	-74.2	302.8	249.3	41.6	11.9
2021	2,230.3	2,148.4	82.0	330.2	272.1	46.8	11.4
2022	2,195.4	2,088.9	106.5	308.7	252.0	46.5	10.3
2023	2,191.0	2,110.6	80.4	305.2	248.7	47.1	9.4
2024	2,003.5	1,877.1	126.4	326.1	270.6	46.5	8.9

Source: World Gold Council (2025)

Asset utilization represents another key structural component of gold demand. Renowned for its value as an investment asset, gold attracts governments, fund managers, and individual investors alike. The two primary elements of gold's asset utilization are investment purposes and central bank reserves. In 2024, investments accounted for 25.9% of global gold demand, while central bank reserves constituted 22.9% (see Table 3).

Table 3: Breakdown of Gold Demand by Asset Utilization

	Investment	*Total bar and coin*	***Bars***	***Official coins***	***Medals/Imitation coins***	*ETFs & similar products*	Central banks & other inst.
2010	1,611.1	1,204.3	921.2	195.9	87.2	406.8	79.2
2011	1,743.9	1,502.0	1,189.5	228.3	84.2	241.9	480.8
2012	1,614.9	1,322.4	1,023.2	187.5	111.7	292.5	569.2
2013	800.9	1,730.2	1,357.7	271.0	101.5	-929.2	629.5
2014	904.7	1,067.0	780.9	205.5	80.6	-162.3	601.1
2015	967.4	1,091.0	790.7	224.3	76.0	-123.6	579.6
2016	1,616.2	1,073.1	797.6	207.9	67.7	543.1	394.9
2017	1,315.0	1,044.3	780.1	188.1	76.1	270.7	378.6
2018	1,160.9	1,090.7	775.8	241.9	73.0	70.2	656.2
2019	1,274.7	871.1	583.6	220.7	66.8	403.6	605.4
2020	1,794.9	902.3	542.8	290.4	69.1	892.5	254.9
2021	991.5	1,180.3	810.9	284.4	84.9	-188.8	450.1
2022	1,113.0	1,222.6	802.7	320.9	98.9	-109.5	1,081.9
2023	945.5	1,189.8	781.7	293.5	114.6	-244.2	1,050.8
2024	1,179.5	1,186.3	860.0	201.0	125.2	-6.8	1,044.6

Source: World Gold Council (2025)

The investment component of gold demand includes purchases made by individuals and institutions for the purpose of wealth preservation, portfolio diversification, or speculation. This category can be broken down into the following: 1. Total Bar and Coin and 2. ETFs & Similar Products. Total Bar and Coin refers to the physical gold purchased by investors in the form of bars and coins, excluding jewelry or industrial use. Bars, official coins, and medals/imitation coins are sub-categories of Total Bar and Coin category. ETFs & Similar Products refers to Exchange-Traded Funds (ETFs) that track the price of gold, as well as other financial products like mutual funds or gold-backed securities. Some gold ETFs are backed by physical gold, offering direct ownership of the metal,

while others invest in shares of gold mining companies, providing indirect exposure to gold's value through the performance of the mining sector (Folger, 2024).

Inflation, interest rates, the value of the U.S. dollar, economic uncertainties, financial instabilities, currency devaluation, monetary policy, debt levels, and geopolitical risks all help drive the demand for gold as an investment asset.

1) Inflation

Real and expected inflation rates play a significant role in shaping gold prices, as rising inflation often drives demand for gold, pushing its price higher (Folger, 2024). This is largely because gold is widely perceived as a hedge against inflation, offering protection against the declining purchasing power of fiat currencies. During inflationary periods, holding physical assets like gold is often considered prudent, as gold is durable, portable, universally accepted, and easily authenticated (Gaspareniene et al., 2018; Qiana et al., 2019).

2) Interest Rates

Interest rates play a critical role in shaping gold prices by influencing both the opportunity cost of holding gold and overall demand for the metal. As a key instrument of macroeconomic regulation, interest rates allow governments to manage money supply and demand, thereby affecting broader economic conditions.

Generally, there is a strong negative correlation between interest rates and gold prices. When interest rates rise, the opportunity cost of holding non-yielding assets like gold increases, as investors can earn higher returns from interest-bearing financial instruments such as bonds and savings accounts. This leads to a decline in demand for gold, often causing its price to drop. Conversely, when interest rates fall, the attractiveness of gold as an investment increases, as the opportunity cost diminishes. Lower interest rates can also signal inflationary pressures or economic uncertainty, further boosting gold’s appeal as a safe-haven asset (Qiana et al., 2019).

3) The Value of the U.S. Dollar

The value of the U.S. dollar is one of the most significant factors influencing gold prices due to gold's dollar-denominated nature. The U.S. dollar index, a comprehensive measure of the dollar’s strength against a basket of major foreign currencies, offers valuable insight into the dollar's influence on gold prices. Both the U.S. dollar and gold serve as key reserve assets in the global financial system, and there is often a degree of substitution between the two from an investment perspective. When the dollar strengthens, it may attract more investment, reducing demand for gold. Conversely, when the dollar weakens, investors may shift toward gold as a safe-haven asset, boosting its price (Folger, 2024; Qiana et al., 2019).

Historically, there has been a clear negative correlation between the U.S. dollar index and gold prices. When the dollar index rises, indicating a stronger dollar, the price of gold typically falls. Conversely, a declining dollar index suggests a weaker dollar, driving gold prices higher. This dynamic arises because a strong dollar makes gold more expensive for foreign buyers, reducing demand, whereas a weaker dollar lowers gold’s relative cost, increasing its appeal in international markets (Folger, 2024; Qiana et al., 2019).

Currency values, particularly those of fiat currencies, play a crucial role in shaping gold's market dynamics. As fiat currencies like the U.S. dollar tend to lose value over time due to inflation and other economic pressures, investors often turn to gold as a hedge against declining currency values. This perceived safety, combined with gold’s longstanding reputation as a reliable store of wealth, ensures its continued appeal in times of monetary uncertainty (Goldprice, 2024).

The interplay between the U.S. dollar and gold prices underscores the metal's sensitivity to macroeconomic factors. As such, many gold investors closely monitor the dollar's strength and forex trends to anticipate price movements in the gold market (Standard Chartered, 2024).

4) Economic Uncertainty

Gold's unique characteristics have established it as a safe-haven asset and a hedge against economic uncertainty, making it an integral part of both institutional and retail investment portfolios. When markets become unstable or uncertain, investors tend to turn to gold due to its enduring value and liquidity, which makes it easily marketable even in volatile financial conditions (Shafiee and Topal, 2010).

One of gold's primary appeals is its ability to react positively to negative shocks in financial markets. Unlike other assets that may lose value during periods of volatility, gold often appreciates, driven by increased demand from investors seeking to safeguard their wealth (Standard Chartered, 2024). During periods of economic recession or financial crises, interest in gold as an investment increases significantly. Historical events like the Mexican peso crisis in 1994, the Asian financial crisis in 1997, the U.S. financial crisis in 2007, and the debt crisis in 2009 have reinforced gold's role as a reliable store of value. These crises have heightened the belief that gold serves as an effective risk management tool, offering protection when the value of traditional assets like stocks, bonds, and real estate decline (Gaspareniene et al., 2018). Similarly, during the COVID-19 pandemic, the price of gold surged as economic uncertainties prompted investors to minimize portfolio risks by shifting away from equities and bonds (Standard Chartered, 2024).

Gold's function as a hedge extends beyond financial crises. It is also viewed as protection against inflation, currency devaluation, and exchange rate risks. Since gold is nobody's liability or debenture, it provides a degree of independence from the risks associated with fiat currencies and financial instruments. This makes it particularly valuable in economies with volatile exchange rates (Gaspareniene et al., 2018).

5) Geopolitical Risks

One significant driver of gold prices is the escalation of geopolitical risks. Gold's role as a safe-haven asset becomes particularly prominent during periods of heightened geopolitical tensions. The escalation of geopolitical risks, such as the China-U.S. trade war, Russian-Ukraine war, Israel-Palestinian clash in recent times, have prompted investors to seek refuge in gold, pushing its price higher (Standard Chartered, 2024).

6) Debt Levels

The relationship between rising global debt levels and gold prices is rooted in the perception of gold as a safe-haven asset. When global debt levels increase, it often signals economic uncertainty, potential financial instability, and risks of currency devaluation, all of which tend to drive up the demand for gold. Rising global debt levels amplify economic risks, lower confidence in traditional financial instruments, and often lead to inflationary pressures. These dynamics collectively enhance the appeal of gold as a hedge, leading to higher demand and, consequently, rising gold prices (Standard Chartered, 2024).

High levels of global debt can create concerns about the sustainability of economic growth and governments' ability to meet their obligations. These concerns may lead investors to move their assets into gold, which is viewed as a stable store of value during times of uncertainty. Moreover, when global debt levels rise, central banks often resort to measures such as monetary easing (e.g., lowering interest rates or printing more money) to stimulate economic growth. These measures can devalue currencies and raise inflation expectations, making gold, which retains its intrinsic value, an attractive hedge against currency depreciation and inflation. Besides, higher debt levels can push central banks to maintain low interest rates to service debt and avoid economic stagnation. Low interest rates reduce the opportunity cost of holding non-yielding assets like gold, encouraging investors to buy more of the metal.

When global debt reaches unsustainable levels, the risk of default or a financial crisis increases. Historical debt crises have shown that gold prices often spike as investors seek refuge from the instability of traditional financial systems. During the European sovereign debt crisis, massive government stimulus packages and increasing debt levels led to rising inflation expectations, contributing to gold prices surging to record highs by 2011. Similarly, the pandemic saw a dramatic increase in global debt, with governments borrowing heavily to fund relief measures. This, coupled with low interest rates and economic uncertainty, drove gold prices to over $2,000 per ounce in August 2020.

Central Banks

Central bank demand for gold has significantly increased over the years, reflecting its strategic importance in reserve diversification and economic stability. Purchases rose from 79.2 tonnes in 2010 to a peak of 1,081.9 tonnes in 2022, before slightly declining to 1,044.6 tonnes in 2024—still representing a substantial share of global gold demand. This growing trend underscores the role of gold as a stabilizing factor, particularly during periods of geopolitical and economic uncertainty (Standard Chartered, 2024).

Gold is integral to central bank reserves due to its unmatched safety, liquidity, and potential for returns, aligning with the three core objectives of central bank investments: capital preservation, liquidity, and profitability (World Gold Council, 2024b). Central banks accumulate gold to diversify foreign exchange reserves, reducing reliance on dominant currencies such as the U.S. dollar, and to bolster economic stability by safeguarding against financial crises and currency fluctuations.

Geopolitically, gold serves as a strategic asset, enhancing global influence, strengthening national monetary policies, and providing leverage in trade and diplomacy during periods of international tension. Its role as a long-term store of value ensures consistent demand, independent of short-term market volatility, solidifying gold's position as a cornerstone of central bank asset portfolios (Pacific Precious Metals, 2024).

3. CONCLUSION

Over the past several decades, gold prices have been influenced by a complex interplay of factors, resulting in notable fluctuations and dramatic shifts. The price of gold is fundamentally governed by the balance between supply and demand dynamics in the global market.

On the supply side, rising mining costs, diminishing exploration activity, and the increasing difficulty of discovering new deposits have constrained output. These challenges, combined with escalating production expenses due to deeper mining operations and higher operational costs, often lead to upward pressure on gold prices.

On the demand side, a diverse range of economic and geopolitical factors drives the appeal of gold as an investment asset. Key drivers include inflation, interest rates, the strength of the U.S. dollar, and economic growth in emerging markets. Additionally, financial instability, currency devaluation, monetary policy shifts, rising debt levels, and geopolitical tensions further bolster demand. Central banks also play a crucial role, with their purchases of gold highlighting its strategic importance in reserve diversification and wealth preservation. Together, these supply constraints and demand drivers underscore the intricate factors shaping gold prices and affirm its enduring significance as both a commodity and an investment in the global economy.

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Global Debt Trends in 2024: Surging Borrowing and Shifting Debt Ratios

Rasim Yilmaz[1]

[1] Tekirdağ Namık Kemal University, Faculty of Economics and Administrative Sciences, Department of Economics, rasimyilmaz@nku.edu.tr, Tekirdağ/ Turkey ORCID: 0000-0002-1084-8705

Abstract: Global debt comprises both public and private debt. In the first three quarters of 2024, it surged to nearly $323 trillion, driven by falling borrowing costs and narrowing sovereign and corporate spreads. Since the 1950s, global debt-to-GDP ratios have been on an upward trajectory, peaking at 257.5% during the 2020 pandemic. However, over the past three years, this ratio has declined by 20 percentage points of GDP, primarily due to a reduction in private debt that more than offset the increase in public debt. This article investigates the historical trend of global debt, analyzing key drivers of debt accumulation, regional variations, and the economic consequences of rising debt levels on financial stability and growth prospects.

Keywords: Global Debt, Financial Stability, Debt-to-GDP Ratio, Debt Ceiling.

1. INTRODUCTION

The analysis of public debt suggests that a high debt burden negatively impacts long-term economic growth, providing a strong argument for debt ceiling advocates. Excessive debt raises risk premiums, signaling creditors' concerns about the government's ability to refinance itself. If the government struggles not only to repay its obligations but also to cover expenditures exceeding its revenues, it must take immediate corrective measures—such as raising taxes or cutting investments—both of which can severely hinder economic growth. However, the potential benefits of public debt should not be overlooked. Investments in social policies, education, healthcare, justice, research, and infrastructure can foster private sector development and contribute to sustainable growth. As long as the interest rate remains below the economic growth rate, a high deficit does not necessarily lead to an increasing debt-to-GDP ratio (Dammann et al., 2024).

The assessment of debt sustainability frequently revolves around the trajectory of the debt-to-GDP ratio. From this perspective, a sustainable fiscal policy requires that a government with outstanding debt eventually generates primary budget surpluses. These surpluses must be substantial enough to offset interest payments that exceed the economy's growth rate. Under the conventional framework of public debt sustainability, fiscal austerity is often viewed as the necessary course of action for many countries seeking to restore their debt-to-GDP ratios to sustainable levels. It is also important to define the debt ceiling—the critical debt-to-GDP ratio at which government intervention becomes necessary to ensure fiscal stability (Leao, 2013).

The debt-to-GDP ratio is a vital economic indicator that gauges a country's government debt in relation to its gross domestic product. This metric is essential for evaluating a nation's financial stability and its ability to meet debt obligations. Expressed as a percentage, it offers a clear snapshot of a country's fiscal health. A lower ratio indicates strong debt management capacity, whereas a higher ratio may signal financial stress, especially if economic growth is weak or debt levels are excessive. Economists warn that when the debt-to-GDP ratio surpasses 77%, it can hinder economic growth and, in extreme cases, heighten the risk of sovereign default. Such a default can trigger financial instability, undermine investor confidence, and disrupt both domestic and global markets (World Population Review, 2024).

Global debt surged to nearly $323 trillion in the first three quarters of 2024, driven by declining borrowing costs and narrowing sovereign and corporate spreads. Greece and Türkiye saw significant reductions in their total debt ratios, while Hungary, Ireland, Nigeria, Sweden, and Brazil recorded the largest increases. Outside the financial sector, debt accumulation was most pronounced in Nigeria, China, and Mexico, primarily due to government borrowing, which accounted for approximately 40% of the global debt increase during this period. Meanwhile, Greece, Pakistan, Türkiye, and Japan experienced the steepest declines in government debt-to-GDP ratios (IIF, 2024).

The rest of this article investigates the historical trend of global debt, analyzing key drivers of debt accumulation, regional variations, and the economic consequences of rising debt levels on financial stability and growth prospects.

2. GLOBAL DEBT

Global debt comprises both public and private debt. It rose from $235 trillion in 2022 to $250 trillion in 2023. However, as a share of global GDP, it declined slightly from 238% in 2022 to 237.2% in 2023. Since the 1950s, global debt-to-GDP ratios have followed an upward trend, peaking at 257.5% during the 2020 pandemic. Over the past three years, the ratio has fallen by 20 percentage points, primarily due to a decline in private debt that more than offset the rise in public debt. Despite this decrease, the ratio remains 8 percentage points above pre-pandemic levels, when global debt stood at 228.9% of GDP in 2019 (see Table 1).

Table 1: Global Total Debt, 1950–2023 (Percent of GDP, weighted averages)

	1950s	1960s	1968	1970s	1980s	1986	1990s	2000s	2004	2010s	2019	2020	2021	2022	2023
World	**96.8**	**101.5**	**106.6**	**114.7**	**144.3**	**157.2**	**180.6**	**197.1**	**198.9**	**219.3**	**228.9**	**257.5**	**247.2**	**238.0**	**237.2**
Advanced Economies	**110.1**	**115.5**	**119.0**	**133.5**	**165.8**	**177.9**	**202.9**	**230.2**	**226.5**	**267.4**	**268.7**	**300.3**	**288.6**	**276.7**	**270.2**
Euro Area	53.6	68.1	70.9	117.6	142.6	146.0	176.3	213.6	207.9	253.4	245.0	271.7	261.5	248.6	237.4
Japan	13.1	79.6	127.7	157.3	229.5	242.4	296.4	336.7	333.5	386.8	400.7	441.5	437.7	443.2	432.2
United Kingdom	134.0	120.5	129.0	115.5	119.7	127.5	154.2	205.8	198.0	249.9	242.6	282.4	269.1	250.1	243.5
United States	133.5	140.4	138.8	140.4	165.2	179.5	191.9	221.6	220.7	258.2	261.8	297.4	285.9	276.6	273.2
Emerging Market Economies	**27.7**	**32.8**	**38.0**	**39.1**	**64.9**	**71.9**	**86.6**	**100.8**	**102.1**	**148.2**	**177.1**	**200.9**	**194.7**	**191.5**	**197.1**
China 1/					68.8	70.8	94.2	137.1	142.4	211.5	246.8	268.8	264.6	275.6	289.4
Others	27.7	32.8	38.0	39.1	65.2	72.1	85.2	90.3	90.9	110.3	123.7	140.9	131.3	123.3	125.9
Low-Income Developing Countries				**20.2**	**43.3**	**51.1**	**73.4**	**61.7**	**64.9**	**62.0**	**76.3**	**84.5**	**85.8**	**87.0**	**88.3**

Source: IMF (2024)

As seen in Table 1, advanced economies were key contributors to the overall decline, with their average debt decreasing by 8 percentage points of GDP to 270% in 2023, just above the pre-pandemic level of 269% in 2019. Total debt in emerging markets rose by 6 percentage points of GDP in 2023, reaching 197.1% of GDP. This increase was primarily driven by China, where the total debt-to-GDP ratio surged from 275.6% in 2022 to 289.4% in 2023—exceeding its pandemic peak of 268.8%. Since the mid-1980s, when China's debt stood at around 70% of GDP, close to the average for EMs at the time, it has nearly quadrupled, reaching a level 16 percentage points higher than that of the U.S. in 2023. However, in absolute dollar terms, China's total debt remains significantly below that of the United States. No other major economy has experienced a comparable rise in debt relative to GDP. The sharpest acceleration began in 2009, driven largely by soaring non-financial corporate debt. Notably, more than half of the global debt-to-GDP increase between 2008 and 2023 can be attributed to China's rapid debt expansion, surpassing the rest of the world. On the other hand, total debt in low-income developing countries saw a modest increase from 87% of GDP in 2022 to 88.3% in 2023, with the entire rise attributed to public debt (IMF, 2023 and 2024).

Global Private Debt

In 2023, global private debt exceeded $150 trillion. As a share of GDP, it declined by 2.8 percentage points, from 146.2% in 2022 to 143.4% in 2023, falling below its pre-pandemic level of 144.2% (see Table 2). This reduction in private debt was a key factor contributing to the overall decline in global debt in 2023.

Table 2: Global Private Debt, 1950–2023 (Percent of GDP, weighted averages)

	1950s	1960s	1968	1970s	1980s	1986	1990s	2000s	2004	2010s	2019	2020	2021	2022	2023
World	**40.6**	**61.7**	**70.2**	**81.6**	**96.2**	**102.1**	**118.2**	**130.4**	**129.0**	**138.4**	**144.2**	**157.4**	**152.0**	**146.2**	**143.4**
Advanced Economies	**46.1**	**71.2**	**79.5**	**97.3**	**114.3**	**119.3**	**135.8**	**154.4**	**149.4**	**162.9**	**163.6**	**176.6**	**171.2**	**164.4**	**158.2**
Euro Area	21.1	43.3	45.8	89.8	95.4	93.7	109.2	143.9	138.4	163.0	159.5	173.0	165.7	157.1	148.1
Japan		220.4	115.9	134.0	165.2	168.3	207.3	170.1	164.0	159.3	164.3	183.2	183.8	186.1	180.6
United Kingdom		55.4	58.1	59.1	78.3	84.7	115.2	163.2	158.2	165.0	157.0	176.6	163.9	149.7	142.3
United States	63.8	86.0	90.0	96.5	111.8	119.4	123.7	155.9	153.2	153.7	153.4	164.8	160.5	156.1	150.1
Emerging Market Economies	**12.3**	**14.1**	**17.3**	**17.9**	**29.6**	**32.0**	**45.6**	**60.3**	**58.4**	**104.1**	**121.6**	**135.4**	**130.2**	**126.8**	**128.1**
China 1/					68.8	70.8	83.5	110.2	116.1	167.1	186.4	198.7	192.8	198.5	205.1
Others	12.3	14.1	17.3	17.9	26.9	26.6	39.5	46.2	42.5	66.6	72.0	79.4	73.4	68.8	68.8
Low-Income Developing Countries		**4.1**	**4.6**	**4.6**	**7.3**	**8.3**	**8.8**	**16.0**	**14.0**	**27.3**	**33.9**	**36.5**	**38.3**	**39.1**	**38.1**

Source: IMF (2024)

Private debt declined in both advanced economies and low-income developing countries, while remaining stable in emerging market economies (excluding China). In advanced economies, the private debt-to-GDP ratio fell from 164.4% in 2022 to 158.2% in 2023, while in low-income developing countries, it edged down from 39.1% to 38.1% over the same period.

The United States contributed to the overall debt reduction, with a 3-percentage point decline in total debt, entirely driven by a 6 percentage point drop in private debt, which fell to 150% of GDP. This reduction was observed in both household debt and non-financial corporate debt, which decreased by 3.4 and 2.5 percentage points, respectively. In contrast, China experienced a sharp increase in private debt, rising by 6.5 percentage points to reach 205% of GDP in 2023, up from 198.5% in 2022.

The IMF (2024) identified three key factors contributing to the decline in private debt in 2023: current and expected future growth, inflation surprises, and economic uncertainty.

1) Current and Expected Future Growth: In line with the permanent income hypothesis, when current growth rates are perceived as temporarily high and future growth expectations are lower, households and firms may hold back on consumption and investment. Instead, seeing the present as an outlier, they are incentivized to repay debt. Between 2022 and 2023, market experts' forecasts for global growth over the next five years dropped from 2.7% to 2.2%, potentially supporting the decline in private debt.

2) Inflation Surprise: Since most debt is fixed in nominal terms, unexpected inflation reduces debt-to-GDP ratios by eroding the real value of debt. Although inflation surprises were smaller in 2023 than in 2022, they still contributed to debt reduction. In emerging markets, the gap between expected and actual inflation narrowed from 6 to 2.3 percentage points, while in advanced economies, it fell from 5.5 to 1.5 percentage points. These inflation surprises effectively transferred wealth from creditors to debtors, easing the debt burden.

3) Economic Uncertainty: High economic policy uncertainty, including concerns about taxes and public spending, prompts firms to delay investments and households to cut back on consumption as a precaution, thereby reducing private debt. In 2023, uncertainty eased as cyclical imbalances diminished, with major economies' output aligning more closely with potential levels. Despite ongoing geopolitical tensions, global trade remained stable as a share of global GDP, supported by intra-bloc trade adjustments. However, in the United States, the uncertainty index rose due to election-related concerns.

Empirical analysis indicates that weak growth prospects were the primary factor behind the decline in private debt in 2023. In China, estimates suggest that expectations of medium-term growth continued to drive the rise in private debt. In contrast, in the United States, a combination of higher realized growth, heightened economic uncertainty, and subdued future growth expectations contributed to the reduction in private debt (IMF, 2024: 3).

Global Public Debt

In 2023, global public debt reached $98 trillion. As a share of GDP, it resumed its upward trajectory, increasing by 2 percentage points to 93.8%. Since the early 1970s, global public debt has tripled, rising from around 30% of GDP to over 90% in 2023 (see Table 3).

Table 3: Global Public Debt, 1950–2023 (Percent of GDP, weighted averages)

	1950s	1960s	1968	1970s	1980s	1986	1990s	2000s	2004	2010s	2019	2020	2021	2022	2023
World	**56.2**	**39.8**	**36.4**	**33.1**	**48.1**	**55.1**	**62.4**	**66.8**	**69.9**	**80.9**	**84.7**	**100.0**	**95.2**	**91.8**	**93.8**
Advanced Economies	**64.0**	**44.3**	**39.5**	**36.2**	**51.5**	**58.6**	**67.1**	**75.8**	**77.1**	**104.5**	**105.1**	**123.7**	**117.4**	**112.3**	**112.0**
Euro Area	32.6	24.8	25.1	27.8	47.2	52.3	67.1	69.7	69.5	90.4	85.6	98.6	95.9	91.5	89.3
Japan	13.1	10.1	11.8	23.4	64.3	74.1	89.1	166.6	169.5	227.5	236.4	258.3	253.9	257.1	251.6
United Kingdom	134.0	81.6	71.0	56.4	41.3	42.9	39.0	42.7	39.8	84.9	85.7	105.8	105.2	100.4	101.1
United States	69.7	54.4	48.7	43.9	53.4	60.1	68.2	65.7	67.4	104.5	108.5	132.6	125.4	120.4	123.0
Emerging Market Economies	**15.4**	**18.6**	**20.7**	**21.3**	**35.3**	**39.9**	**41.0**	**40.5**	**43.7**	**44.1**	**55.4**	**65.5**	**64.5**	**64.7**	**69.0**
China 1/							21.2	26.9	26.4	44.3	60.4	70.1	71.8	77.1	84.3
Others	15.4	18.6	20.7	21.3	38.2	45.4	45.7	44.2	48.4	43.7	51.7	61.4	57.9	54.5	57.1
Low-Income Developing Countries				**15.5**	**36.0**	**42.9**	**64.6**	**45.7**	**51.0**	**34.7**	**42.4**	**48.0**	**47.5**	**47.9**	**50.3**

Source: IMF (2024)

As shown in Table 3, the public debt-to-GDP ratio rose on average in emerging markets, climbing from 64.7% in 2022 to 69% in 2023. Similarly, in low-income developing countries, public debt increased from 47.9% of GDP in 2022 to 50.3% in 2023. In contrast, advanced economies (excluding the United States) saw a decline in their public debt ratios.

Both the United States and China experienced increases in public debt. In the U.S., the public debt-to-GDP ratio grew by 3 percentage points, rising from 120.4% in 2022 to 123% in 2023. Meanwhile, China's public debt climbed from 77.1% to 84.3% of GDP over the same period.

Major Economies with Higher Debt

In 2024, Japan holds the highest public debt-to-GDP ratio at a staggering 251.9%, primarily due to decades of government bailouts, stimulus measures following the 1992 stock market crash, and an aging population. Sudan follows closely with a ratio of 238.8%, reflecting ongoing economic struggles and heavy reliance on borrowing. Singapore ranks third at 168.3%, driven by its strategic investments and financial policies. Bhutan, despite its small size, has a significant public debt-to-GDP ratio of 122.8%, largely due to financing development projects (see Table 4) (Palanisamy, 2024; World Population Review, 2024).

The United States, despite having the world's largest economy, ranks sixth, with its high debt levels attributed to military spending, tax cuts, and underfunded social programs. Meanwhile, although China's overall debt continues to rise, it ranks 28th in public debt-to-GDP ratio (Palanisamy, 2024; World Population Review, 2024).

Table 4: Top 10 Countries with the Highest Debt-to-GDP Ratios (%) in 2024.

	Country	Debt-to-GDP Ratio
1	Japan	251.9
2	Sudan	238.8
3	Singapore	168.3
4	Greece	160.2
5	Italy	143.2
6	United States	126.9
7	Bhutan	122.8
8	Bahrain	119.0
9	Laos	118.7
10	Maldives	111.8

Source: Palanisamy (2024).

Many emerging and low-income economies are grappling with heightened debt distress risks. Around 25% of emerging economies are facing default-like spreads on their sovereign debt. Meanwhile, approximately 15% of low-income economies are already in debt distress, with an additional 45% considered at high risk (Palanisamy, 2024; World Population Review, 2024).

3. CONCLUSION

This article explores the key drivers of global debt trends and their potential impact on global financial stability. A key takeaway from recent history is that once debt levels surge, they rarely return to previous lows. Global debt dynamics remain a critical concern for financial stability and economic resilience. While private debt saw a decline in 2023, public debt resumed its upward trajectory, highlighting the persistent challenges faced by both advanced and developing economies. Key factors such as weak growth prospects, inflation surprises, and economic uncertainty played significant roles in shaping these trends. The growing debt burdens in low-income developing countries are particularly worrisome, as rising interest payments strain already limited fiscal resources.

To mitigate debt vulnerabilities, policymakers need to adopt comprehensive strategies that include credible medium-term fiscal frameworks, vigilant monitoring of private sector debt, and targeted reforms to enhance revenue mobilization. Additionally, boosting medium-term growth through structural reforms and international cooperation on taxation and carbon pricing could help reduce debt pressures globally. Proactive and coordinated

policy measures are essential to safeguard financial stability and support sustainable economic growth in the face of mounting global debt challenges.

On a broader scale, boosting medium-term growth globally would contribute to reducing debt burdens. Structural reforms to enhance potential output at the national level, along with international cooperation on taxation and carbon pricing, could ease public financing pressures and attract necessary private investments.

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Gold Market Dynamics: A Comprehensive Review of Supply and Demand from 2010 to 2024

Rasim YILMAZ[1]

[1] Tekirdağ Namık Kemal University, Faculty of Economics and Administrative Sciences, Department of Economics, rasimyilmaz@nku.edu.tr, Tekirdağ/ Turkey ORCID: 0000-0002-1084-8705

Abstract: This article explores the key drivers behind gold supply and demand trends from 2010 to 2024, examining how different sectors shape the global gold market. Understanding these trends not only provides insight into the economic significance of gold but also helps forecast its future role in global finance and investment. By analyzing these trends, the article provides valuable insights into the future of the global gold market and its potential implications for investors, policymakers, and industries worldwide. The article highlights the leading gold-producing countries, such as China, Australia, and Russia. Gold supply is mainly determined by mine production and recycling activities, while gold demand is primarily shaped by four key sectors: jewelry, investment, central bank reserves, and technological applications.

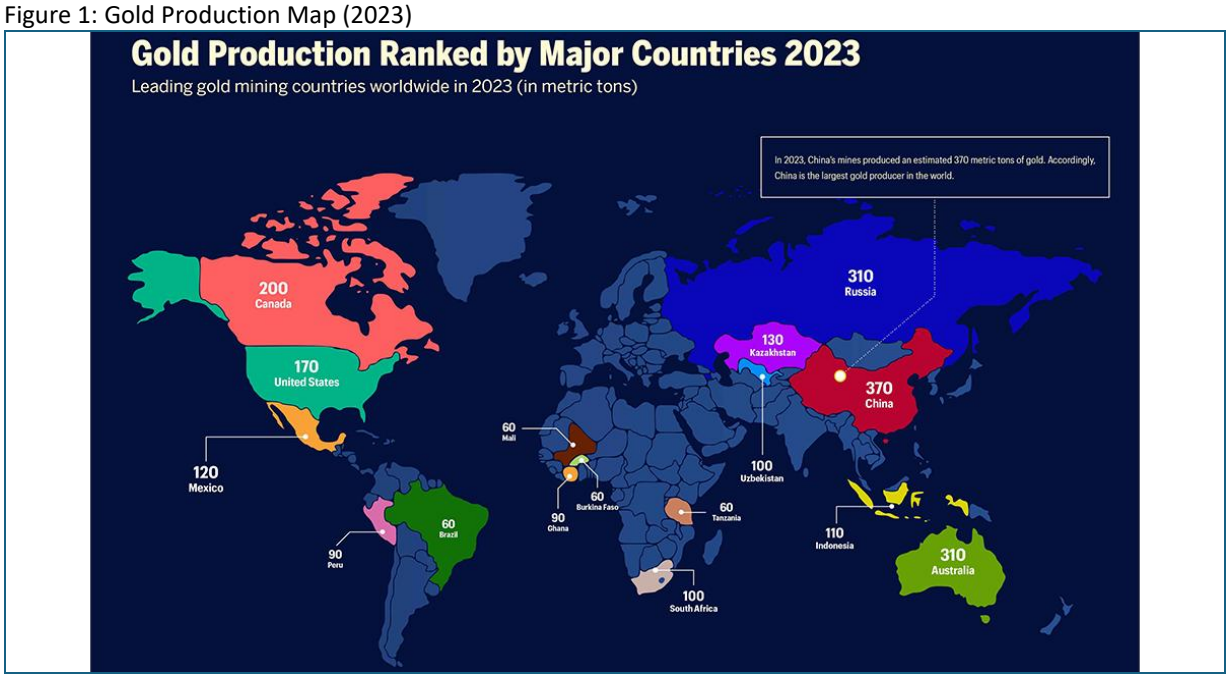
Keywords: Gold, Central Banks, Inflation Hedging, Economic Uncertainty.

1. INTRODUCTION

Gold has been a symbol of wealth, stability, and value for thousands of years, making it one of the most coveted commodities in the world. Its unique properties, such as its rarity, malleability, and resistance to corrosion, have made it a preferred choice for various applications, from jewelry and investment to industrial use. Gold is a renewable resource that retains its quality indefinitely, making it possible to recycle and potentially reduce the global demand for newly mined gold.

Gold production, once dominated by a few countries like the U.S., Australia, and Russia until the 1900s, expanded significantly after South Africa's discovery of the Witwatersrand Basin (Pasific Precious Metals, 2024). By 2023, over 40 nations contributed to global gold production, with China leading at 370 metric tons, followed by Australia and Russia (310 metric tons each), and Canada and the United States producing 200 and 170 metric tons, respectively (see Figure 1 and Table 1).

Figure 1: Gold Production Map (2023)



Source: Pacific Precious Metals (2024)

Table 1: Gold Production (2023)

	Country	Metric tons
1	China	370
2	Australia	310
3	Russia	310
4	Canada	200
5	United States	170
	Total	3.644

Source: Pacific Precious Metals (2024)

Table 2 illustrates the aggregate supply and demand for gold from 2010 to 2024. As can be seen in Table 2, the total supply of world gold is around 4,975 tonnes per annum while the total demand of world gold is around 4,553 tones per annum in 2024.

Table 2: Gold Supply and Demand in the World

Year	Gold Supply (tonnes)	Gold Demand (tonnes)	OTC and other
2010	4,316.8	4,194.7	122.1
2011	4,525.7	4,745.9	-220.2
2012	4,548.6	4,707.2	-158.6
2013	4,334.1	4,521.5	-187.4
2014	4,505.0	4,398.6	106.4
2015	4,441.3	4,357.8	83.5
2016	4,785.0	4,352.8	432.2
2017	4,662.6	4,283.6	379.0
2018	4,775.9	4,442.0	333.9
2019	4,878.2	4,358.1	520.1
2020	4,736.0	3,676.5	1,059.5
2021	4,707.3	4,002.2	705.1
2022	4,751.9	4,699.0	52.9
2023	4,945.9	4,492.5	453.4
2024	4,974.5	4,553.7	420.7

Source: World Gold Council (2025)

The remainder of the article delves into the key drivers shaping gold supply and demand from 2010 to 2024. Section 2 provides a comprehensive analysis of gold supply dynamics, while Section 3 explores the factors influencing gold demand. Finally, the concluding section synthesizes the findings and highlights key takeaways.

2. GOLD SUPPLY

The global gold supply has exhibited a generally increasing trend over the period, with some fluctuations. It started at 4,316.8 tonnes in 2010 and peaked at 4,974.5 tonnes in 2024, showing overall growth. Gold supply is primarily driven by a combination of mine production and recycling activities. The primary source of gold supply, contributing around 3,600 tonnes, was mine production while recycling activities accounted for the second-largest source, providing approximately 1,350 tonnes in 2024 (see Table 3).

Despite short-term fluctuations, the gold supply has grown by approximately 15.2% over 14 years, indicating consistent demand and production efficiency. Gold supply saw a moderate rise until 2012, peaking at 4,548.6 tonnes before declining to 4,334.1 tonnes in 2013. This drop may reflect reduced mining output or lower recycling activity. The supply rebounded, with a sharp increase in 2016 to 4,785.0 tonnes, marking the largest jump in the period. The 2017-2024 period saw smaller year-to-year variations, with a slight decline in 2020 (4,736.0 tonnes), potentially influenced by the COVID-19 pandemic disrupting mining operations. The supply steadily increased, reaching the highest level of 4,974.5 tonnes in 2024, suggesting recovery and expansion in production capacities. The declines in 2013 and 2020 highlight periods of market or operational challenges while the sharp rise in the 2022-2024 period suggests robust recovery post-pandemic and potentially higher global demand.

Mine production of gold increased steadily from 2,754.5 tonnes in 2010 to a peak of 3,655.9 tonnes in 2018, followed by fluctuations in subsequent years. By 2024, mine production reached 3,661.2 tonnes, reflecting a long-term upward trend despite some short-term variations. Over the 14 years, mine production increased by approximately 32.9% from 2010 to 2024, showing a robust long-term growth trend. The peak in 2018 marks the highest annual production during the period. The dip in 2020 highlights the vulnerability of mining operations to disruptions caused by the COVID-19 pandemic, including operational slowdowns and supply chain challenges. The post-2020 recovery indicates stabilization and possible new investments in the sector.
Gold is a renewable resource that retains its quality indefinitely, making it possible to recycle and potentially reduce the global demand for newly mined gold. The recycled gold supply fluctuated significantly between 1,671.2 tonnes in 2010 and 1,370.0 tonnes in 2023, showing a general decline over the period. The trend reflects varying global economic conditions, gold prices, and consumer behavior. From 2010 to 2024, yearly recycled gold decreased by approximately 18%, suggesting a reduction in scrap availability or consumer willingness to recycle gold over time.

Despite 2024's record average gold price, full-year recycled gold supply was nearly 20% lower than the 2009 peak. According to World Gold Council (2024a: 22), two main factors contributed to this decline: first, distress selling of old jewelry was minimal due to fiscal support during the pandemic and energy subsidies in Europe, which shielded households from economic pressures. Second, the stock of old or unwanted jewelry available for recycling remains limited, as much of it was already sold off during the high recycling wave from 2008 to 2012.

Table 3: Annual Gold Supply Breakdown by Source (2010–2024)

	Mine production	Net producer hedging	Recycled gold	Gold Supply (tonnes)
2010	2,754.5	-108,8	1,671.2	4,316.8
2011	2,876.9	22,5	1,626.3	4,525.7
2012	2,957.2	-45,3	1,636.8	4,548.6
2013	3,166.8	-27,9	1,195.3	4,334.1
2014	3,270.5	104,9	1,129.6	4,505.0
2015	3,361.3	12,9	1,067.1	4,441.3
2016	3,515.2	37,6	1,232.1	4,785.0
2017	3,575.7	-25,5	1,112.4	4,662.6
2018	3,655.9	-11,6	1,131.7	4,775.9
2019	3,596.4	6,2	1,275.7	4,878.2
2020	3,482.0	-39,1	1,293.1	4,736.0
2021	3,576.5	-5,4	1,136.2	4,707.3
2022	3,624.8	-13,1	1,140.1	4,751.9
2023	3,644.1	67.4	1,234.4	4,945.9
2024	3,661.2	-56.8	1,370.0	4,974.5

Source: World Gold Council (2025)

3. GOLD DEMAND

Global gold demand fluctuated over the 2010-2024 period, starting at 4,194.7 tonnes in 2010 and ending at 4,553.7 tonnes in 2024, reflecting an overall increase of about 8.5%. Demand reached its peak in 2011 at 4,745.9 tonnes and its lowest point in 2020 at 3,676.5 tonnes (see Table 4).

Between 2010 and 2011, gold demand surged by approximately 13.1%, driven by heightened investment demand due to economic and geopolitical uncertainty following the 2008–2009 global financial crisis. Gold demand showed a consistent decline during the 2011-2016 period, dropping to 4,352.8 tonnes in 2016, as global economic conditions stabilized and investment demand moderated. Gold demand remained relatively stable between 2016 and 2019, fluctuating slightly but averaging around 4,358 tonnes per year. Gold demand fell sharply to 3,676.5 tonnes, its lowest point, reflecting the impact of the COVID-19 pandemic on industrial, jewelry, and consumer markets. Demand recovered steadily between 2021 and 2024, rebounding to 4,553.7 tonnes in 2024, fueled by increased industrial and investment activity.

Gold demand is predominantly influenced by four key sectors: jewelry, investment, central bank reserves, and technological applications. Jewelry accounted for the largest share of global gold demand at 44.0%, followed by central banks at 22.9%, investment at 25.9%, and technology applications at 7.2% in 2024.

Table 4: Annual Gold Demand Breakdown by Source (2010–2024)

	Jewellery fabrication	Technology	Investment	Central banks & other inst.	Gold Demand (tonnes)
2010	2,043.8	460.7	1,611.1	79.2	4,194.7
2011	2,092.1	429.1	1,743.9	480.8	4,745.9
2012	2,140.9	382.3	1,614.9	569.2	4,707.2
2013	2,735.3	355.8	800.9	629.5	4,521.5
2014	2,544.4	348.4	904.7	601.1	4,398.6
2015	2,479.2	331.7	967.4	579.6	4,357.8
2016	2,018.8	323.0	1,616.2	394.9	4,352.8
2017	2,257.5	332.6	1,315.0	378.6	4,283.6
2018	2,290.0	334.8	1,160.9	656.2	4,442.0
2019	2,152.1	326.0	1,274.7	605.4	4,358.1
2020	1,324.0	302.8	1,794.9	254.9	3,676.5
2021	2,230.3	330.2	991,5	450.1	4,002.2
2022	2,195.4	308.7	1,113.0	1,081.9	4,699.0
2023	2,191.0	305.2	945.5	1,050.8	4,492.5
2024	2,003.5	326.1	1,179.5	1,044.6	4,553.7

Source: World Gold Council (2025)

1) Jewelry

Jewelry consistently represents the largest share of gold demand, accounting for nearly half of total demand on average. It peaked at 2,735.3 tonnes in 2013 as consumer demand surged. While jewelry fabrication declined significantly to 1,324.0 tonnes in 2020, reflecting the economic impact of the COVID-19 pandemic, it recovered to 2,003.5 tonnes in 2024, but still below its earlier highs (see Table 4).

Jewelry continues to be the primary driver of gold demand, bolstered by its deep cultural roots, growing affluence, investment potential, and evolving fashion preferences. Gold jewelry holds profound cultural and traditional value, particularly in nations like India and China. It plays a central role in weddings, festivals, and ceremonial occasions, symbolizing wealth, prosperity, and social status. Rising incomes and sustained economic growth in emerging markets have boosted disposable income, leading to increased spending on luxury items, including gold jewelry. The dynamic nature of fashion trends and the enduring appeal of gold as a symbol of luxury and sophistication continue to drive its popularity. Beyond its aesthetic allure, gold jewelry is often regarded as a tangible investment, offering both beauty and financial security, making it a versatile asset in uncertain economic times (Pacific Precious Metals, 2024).

2) Technology Applications

Technology applications represent the lowest share of gold demand. Demand in technology applications (e.g., electronics) decreased steadily from 460.7 tonnes in 2010 to 326.1tonnes in 2024, reflecting increased efficiency and substitution of gold in manufacturing. COVID-19 in 2020 caused a noticeable dip to 302.8 tonnes, followed by modest recovery in subsequent years (see Table 4).

Gold plays a vital role in various industrial and technological applications, contributing to consistent domestic consumption. Its unique properties, such as high conductivity and resistance to corrosion, make it indispensable in electronics, where it is used in connectors, switches, and circuit boards. Additionally, gold is a critical component in life-support devices and other specialized manufacturing processes, showcasing its versatility beyond its status as a precious metal (Standard Chartered, 2024).

Gold is a highly versatile and sought-after commodity with diverse applications spanning electronics, medical devices, renewable energy, aerospace, and engineering. Its exceptional conductivity and resistance to corrosion

make it indispensable in circuit boards, connectors, and switches. Gold's biocompatibility and antibacterial properties are particularly valuable in diagnostic tools and medical treatments. Additionally, the growth of green technologies, such as solar panels, has increased demand for gold in production processes. Its durability under extreme conditions further ensures its vital role in these critical industries (Pacific Precious Metals, 2024).

3) Investment

Investment demand for gold shows the most significant fluctuations, driven by global economic and geopolitical conditions. Investment demand for gold spiked to 1,794.9 tonnes in 2020 during the pandemic as investors sought safe-haven assets while it declined sharply to 1,179.5 tonnes in 2024, reflecting reduced economic uncertainty (see Table 4).

The demand for gold investments is driven by factors such as economic uncertainty, inflation concerns, and the need for portfolio diversification. As a safe-haven asset, gold attracts investors during times of market volatility and geopolitical tensions. Its role as an inflation hedge makes it appealing during periods of currency devaluation and expansive monetary policies. Additionally, gold's low correlation with other assets enhances its value for portfolio diversification. The rise of digital gold platforms has further simplified access for retail investors, boosting demand (Pacific Precious Metals, 2024).

4) Central Banks

Central bank demand has shown a marked increase over the years, reflecting strategic asset allocation trends. Central bank purchases surged from 79.2 tonnes in 2010 to a peak of 1,081.9 tonnes in 2022, highlighting the growing importance of gold in diversifying reserves. It slightly decreased to 1,044.6 tonnes in 2024, but still a significant portion of demand (see Table 4).

Central bank demand has become a stabilizing factor, consistently increasing over the years, particularly in times of geopolitical and economic uncertainty. The 2020 Central Bank Gold Reserves Survey revealed that one of the primary reasons central banks retain their gold reserves is the metal's proven reliability and performance during times of crisis (Standard Chartered, 2024). Gold plays a crucial role in central bank reserves due to its safety, liquidity, and return potential, which align with the three primary investment objectives of central banks (World Gold Council, 2024b).

Central banks accumulate gold to diversify reserves, ensure economic stability, strengthen geopolitical positioning, and preserve long-term value. Gold helps diversify foreign exchange reserves, reducing reliance on a single currency like the US dollar. It supports economic stability by acting as a safeguard against crises and currency fluctuations, bolstering national wealth and monetary policies. Geopolitically, gold reserves enhance global influence, provide leverage in trade and diplomacy, and serve as a strategic asset during tensions. Additionally, gold's role as a long-term store of value ensures steady demand regardless of short-term market fluctuations (Pacific Precious Metals, 2024).

Table 5 shows the top 20 gold reserves held by central banks as of December 2024. As seen, the United States holds the largest amount of gold reserves in its central bank compared to other countries, with 8,133.5 tonnes, representing 0.75% of its reserves. Germany and the IMF also have significant holdings, with Germany holding 3,351.5 tonnes and the IMF holding 2,814.0 tonnes. China and Russia have large gold reserves, but the percentage of reserves is smaller compared to countries like the United States and Germany. Portugal, Uzbekistan, and Italy each have notable gold reserves, with their percentage of reserves nearing 0.7%. India, Japan, and Saudi Arabia hold relatively smaller amounts of gold compared to global leaders.

Table 5: World official gold holding/reserves as of December 2024.

	Country/Institution	Tonnes	% of reserves
1	United States	8.133,5	0,75
2	Germany	3.351,5	0,75
3	IMF	2.814,0	
4	Italy	2.451,8	0,71
5	France	2.436,9	0,73
6	Russian Federation	2.335,9	0,33

7	China, P.R.: Mainland	2.264,3	0,06
8	Switzerland	1.039,9	0,10
9	India	880,5	0,11
10	Japan	846,0	0,06
11	Netherlands, The	612,5	0,65
12	Turkey	612,0	0,37
13	ECB	506,5	0,38
14	Poland, Rep. of	427,2	0,17
15	Taiwan Province of China	422,7	0,06
16	Portugal	382,7	0,77
17	Uzbekistan, Rep. of	373,2	0,77
18	Saudi Arabia	323,1	0,06
19	United Kingdom	310,3	0,15
20	Kazakhstan, Rep. of	290,1	0,56

Source: World Gold Council (2024b)

4. CONCLUSION

The analysis of global gold supply and demand from 2010 to 2024 reveals the significant and evolving factors that have shaped the gold market over the past decade. Throughout this period, gold has remained a crucial asset across various sectors, including jewelry, technology, investment, and central bank reserves. While jewelry fabrication has consistently been the largest driver of demand, the role of investment in gold, especially during times of economic uncertainty, inflation concerns, and geopolitical tensions, has surged, particularly in response to the COVID-19 pandemic.

Gold production has seen steady growth, with China, Australia, and Russia emerging as the top producers. Central banks have continued to accumulate gold as a strategic asset for diversifying reserves and maintaining economic stability. The rise of digital gold investment platforms and the growing adoption of gold-backed financial products have made the precious metal more accessible to retail investors.

Despite the challenges of market volatility and changing economic conditions, gold's reputation as a safe-haven asset has remained strong, underlining its resilience and importance as a store of value. Looking forward, the demand for gold is expected to continue to be influenced by factors such as technological advancements, central bank policies, and global economic dynamics. As such, gold will likely remain a key component of both individual and institutional portfolios, playing a critical role in navigating future economic uncertainties.

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Gümrük Vergilerinin Ekonomi Politiği: Ticaret Savaşı Özelinde Değerlendirmeler

Doç.Dr. Raşit GÜLTEKİN[1]

[1]Trakya Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Maliye Bölümü, rasitgultekin@trakya.edu.tr, ORCID: 0000-0001-8390-327X

Özet: Eşya ticaretinin olabildiğince serbestleştirilerek basitleştirilmesi ve böylece tüm tarafların yararına sonuçlanmasına yönelik girişimler daima uluslararası ticaret gündemin ilk sıralarında olmuştur. Bununla birlikte dünya ticaret hacminde büyük payı olan ülkeler arasında yaşanan siyasi ve ekonomik gerilimler ve buna bağlı olarak oluşan korumacılık, bu girişimlerin aksine, uluslararası ticarete engel oluşturabilen tarife ve tarife dışı araçların sıkça ve karşılıklı olarak uygulandığı durumlara neden olabilmektedir. Gümrük vergileri, literatürde ticaret savaşı olarak adlandırılan bu durumlarda başvurulan bir araç niteliği taşımaktadır. Amerika Birleşik Devletleri kaynaklı ticaret savaşı da göstermektedir ki gümrük vergileri halen uluslararası ticaretin kontrolünü sağlayan önemli bir araçtır ve bu aracın misilleme mantığı içerisinde kullanılmasının çok önemli sonuçları olabilmektedir. Çalışmada korumacılık ve ticaret savaşı bağlamında gümrük vergilerinin politik ve ekonomik yönleri üzerine durulmuş ve uluslararası eşya ticareti ve ülke ekonomileri üzerindeki etkileri incelenmiştir. Bu kapsamda literatür taraması yapılmış ve mevzuat metinlerinden yararlanılmıştır. Çalışma neticesinde gümrük vergilerinin ticaret savaşları bağlamında uygulamasının Dünya Ticaret Örgütü himayesinde kabul edilen çok taraflı düzenlemelere aykırılık taşıdığı, uluslararası ticarete taraf olan ülkeleri kutuplaştırdığı ve misilleme içeriği nedeniyle uluslararası ticaret düzenini bozarak uyuşmazlık kaynağı oluşturduğu sonucuna ulaşılmıştır. Ayrıca ticaret savaşı gümrük vergilerinin gelir elde etme ve dış ticareti ülke ekonomisi yararına yönlendirme aracı olmanın ötesinde siyasi konularda baskı oluşturma, işsizlik ve göçmen sorununa çözüm olma veya ulusal güvenlik gerekçeleriyle de kullanılabilecek mali bir araç olabileceğini göstermiştir.

Anahtar Kelimeler: Korumacılık, Ticaret Savaşları, Tarife, Gümrük, Gümrük Vergileri

Political Economy of Customs Duties: Evaluations in the Context of the Trade War

Assoc.Prof. Dr. Raşit GÜLTEKİN[1]

[1]Trakya University, Faculty of Economics and Administrative Sciences, Department of Public Finance, rasitgultekin@trakya.edu.tr, ORCID: 0000-0001-8390-327X

Abstract: Initiatives to liberalize and simplify trade in goods as much as possible and thus to ensure that it results in the benefit of all parties have always been at the top of the international trade agenda. However, political and economic tensions between countries that have large share in world trade volume, contrary to this approach, can result in the implementation of tariff and non-tariff instruments that can create obstacles to international trade. Customs duties constitute a tool of economic tensions which is called trade wars in the literature. Trade wars originating from the United States show that customs duties are still an important tool in the control of international trade and the use of this tool within the logic of retaliation can have very important results. The study focuses on the political and economic aspects of customs duties and examines their effects on international trade in goods. In this context, a literature review was conducted and legislative texts were utilized. As a result of the study, it was concluded that the application of customs duties in the context of trade wars is contrary to the multilateral regulations adopted under the auspices of the World Trade Organization, polarizes countries that are parties to international trade within the framework of such practices and creates a source of dispute by disrupting the international trade order due to its retaliatory content. In addition, the trade war has shown that customs duties can be used not only as a means of generating revenue and directing foreign trade for the benefit of the country's economy, but also as a financial tool to put pressure on political issues, to solve unemployment and immigration problems, or for national security reasons.

Keywords: Protectionism, Trade Wars, Tariff, Customs, Customs Duties

1. GİRİŞ

Tarihin ilk günlerinden günümüze uluslararası eşya ticaretinin geçirdiği evrim korumacılık veya serbestlik gibi iki görüş ekseninde şekillenmiştir. Bu bağlamda korumacılık, kısaca, eşyanın ithalini sınırlamaya veya yerli eşyanın yabancı menşeli eşyaya nazaran tercihini sağlamaya yönelik düzenlemeleri içeren ticaret politikalarıdır. Bu tür bir ekonomi/ticaret politikasının özünde yerli ekonomiyi kalkındırmak, dışa bağımlılığını azaltmak ve stratejik eşyanın ticaretini ülke yararına olacak şekilde gerçekleşmesini sağlamaktır. Korumacılık bir yönüyle de ithal ikameci kalkınma stratejisiyle değerlendirilmesi gereken bir politika tercihidir.

Ülkeler korumacı politikalar çerçevesinde tarife ve/veya tarife dışı araçlardan bir veya birkaçını kullanılmaktadır. Serbestlik ise, teorik olarak, uluslararası ticaretin ülkelerin bir sınırlaması ya da müdahalesi olmaksızın kendi olağan kuralları içerisinde gerçekleşmesidir. Ekonomik, sosyal veya siyasal nedenlerle uluslararası ticarette tam bir serbestlik olması mümkün olmasa da serbest ticaretin bütün tarafları açısından en çok fayda sağlayan ticaret şekli olduğu kabul edilmektedir. Uluslararası kuruluşlar nezdinde ticaretin kurala bağlanarak olabildiğince serbestleştirilmesi üzerinde yoğun çaba harcanması bunu göstermektedir. Zira ticaretin serbestleştirilmesi bağlamında Dünya Ticaret Örgütü himayesinde korumanın sadece gümrük tarifeleri yolu ile yapılması ve bu tarifelerin de bir daha yükseltilmemek üzere düşürülerek bağlayıcı hale getirilmesi ilkeleri kabul edilmiştir.

Uluslararası ticaretin yönetimi noktasında tarifeler, diğer bir ifadeyle gümrük/ithalat vergileri halen önemli bir araç fonksiyonu görmektedir. Tarifeler, ülkelerin mali bağımsızlığının simgeleri arasında yer almakla birlikte iki taraflı, bölgesel veya uluslararası düzenlemelere göre şekillenebilmektedir. Tarifelerin tüketim, üretim, gelir, bölüşüm ve dış ticaret etkisi söz konusudur ve günümüzde ülkeler politik ve stratejik tercihleri doğrultusunda tarifelerin bu etkilerinden yararlanmayı amaçlayabilmektedirler.

Amerika Birleşik Devletleri ve müttefikleri uluslararası ticaretin serbestleşmesine yönelik girişimlerin daima merkezinde olmuşlardır. Bununla birlikte Amerika Birleşik Devletleri Donald Trump'ın yönetimde olduğu yıllarda bu görüşünü terk ettiği izlenimi vermektedir. Ticaret savaşı kavramıyla açıklanan bu dönemde Amerika Birleşik Devletleri çeşitli gerekçeler göstererek eşya ve ülke bazında veya evrensel düzeyde önlemler uygulamaya başlamış ve bu durum Türkiye'nin de aralarında bulunduğu ülkeleri karşı önlem almaya zorlamıştır. Amerika Birleşik Devletlerinin kısa sürede ticaret savaşından kazançlı çıkacağı ancak uzun dönemde uluslararası ticaretin tüm tarafları açısından ne tür sonuçlarının olumsuz olacağı düşünülmektedir. Bu sürecin dikkat çeken yönü ise hiç kuşkusuz ticaret savaşının gümrük vergilerinin yoğun şekilde ve karşılıklı olarak kullanıldığı bir alan olmasıdır.

Bu bağlamda çalışmada ticaret savaşı özelinde gümrük vergilerinin ekonomik ve politik özellikleri incelenmiştir. Çalışmanın birinci kısmında teorik ve kavramsal yönleriyle uluslararası ticarette korumacılık ve serbest ticaret eğilimleri, Dünya Ticaret Örgütü himayesinde şekillenen çok taraflı serbest ticaret sistemi ve gümrük vergileri; ikinci kısmında ticaret savaşı aracı olması bağlamında gümrük vergilerinin yeri, önemi ve üçüncü kısmında bir uygulama alanı olarak Amerika Birleşik Devletleri kaynaklı ticaret savaşının nedenleri ve sonuçları ile Türkiye'nin durumu değerlendirilmiştir.

2. KORUMACILIK, TİCARET SAVAŞLARI VE ÇOK TARAFLI SERBEST TİCARET SİSTEMİ

2.1. Korumacılık ve Ticaret Savaşları

Uluslararası ticaretin tarihsel seyrinde bazen ticaretin kısıtlanmasına bazen de serbestleştirilmesine yönelik eğilimler öne çıkmıştır. Bu süreçte özellikle merkantilistlerle başlayan korumacı ticaret politikaları klasik iktisatçıların serbest ticaret yanlısı görüşleriyle sınırlandırılmış ancak savaşlar ve küresel kriz dönemlerinde tekrar yükselişe geçmiştir. Ayrıca ülkeler Birleşmiş Milletler (United Nations [BM/UN]), Gümrük Tarifeleri ve Ticaret Genel Anlaşması (The General Agreement on Tariffs and Trade-[GATT]), Ekonomik İşbirliği ve Kalkınma Örgütü (Organisation for Economic Co-operation and Development [OECD]) ve Dünya Ticaret Örgütü (World Trade Organization [DTÖ/WTO]) himayesinde uluslararası ticareti serbestleştirmeye yönelik çaba harcarken (Tuncer, 2012: 238; Gerçek, 2020: 8-10), bir yandan da ABD kaynaklı ticaret savaşına taraf olmuşlardır.

Korumacılık kavramı "*yabancı kökenli malların iç piyasaya girişini sınırlamaya veya iç piyasada yerli malların yabancı kökenli mallara tercih edilmesini sağlamaya yönelik düzenlemeleri*" ifade etmektedir (Ertürk, 2017: 91). Kısaca korumacılık, yabancı ülkeler arasındaki ticareti kısıtlayan ya da düzenlen ve bu sayede ilgili ülkedeki işletmeleri ve yaşama ücretlerini koruyan politikalardır (Aytekin ve Uçan, 2017: 853). Bir dış ticaret politikası tercihi olarak korumacılık "*bir devletin, kendi ulusal üreticilerini ve çalışanlarını haklı ya da haksız dış rekabetten korumak amacıyla uluslararası ticarete çeşitli yollarla kısıtlamalar getirmesi durumu*" olarak tanımlanmaktadır (Eğilmez, 2018a). Birbirleriyle ilişkili iki durumu tanımlayan kavramlardan korumacılık "*gümrük tarifeleri ve kotalar koyarak bir ülkeye ithalat akışını kısmak*", müdahale ise "*bir hükümetin belirli ekonomik hedeflere ulaşmak amacıyla piyasa koşullarını herhangi bir biçimde etkilemesi*" anlamı taşımaktadır (Tuncer, 2001: 391).

Korumacılığın temelinde tüketici tercihlerinde değişmeler, teknolojik yenilikler, genç endüstriler tezi, gerileyen endüstrileri geçici olarak koruma, damping ve sübvansiyon, ekonomik dalgalanmalara ve fiyat değişkenliğine karşı koruma, dış ödeme açıkları, dışa açılma sırasında belirli sektörleri rekabetten koruma, sosyal politika amaçlı ve ticari koruma ile hükümet değişimi gibi nedenler olabilmektedir (Parıltı, 2015: 105-114). Diğer bir ifadeyle

korumacı dış ticaret politikalarıyla ülkeler iç piyasalarını yerli sanayinin pazarı haline getirmek, yeni gelişen sanayilerini korumak ve gelişmesini sağlamak amaçlarıyla yabancı ülke mallarının ülkeye girişine birtakım engeller koymak amaçlanmaktadır (Gündüz, 2019: 141). Korumacılığın dışa bağımlılıktan kurtarma ve kendi kendine yeterli olma, yurt savunmasında önem arz eden sektörlerin korunması, ülkede tüketimi belirli seviyede tutma, halk sağlığı için zararlı malların girişini engelleme ve lüks malların tüketimi kısması şeklinde "***sosyal-siyasal***" ve yeni sanayileri koruma, istihdam, ödemeler dengesini koruma, devlete gelir sağlama ve dampinge karşı silah olması şeklinde "***ekonomik***" nedenleri vardır. Bu nedenlerle korumacılığı olumlu bulan görüşler olmakla birlikte etkinliği-kaynak dağılımını ve sosyal refahı bozması nedeniyle olumsuz bulan görüşler de bulunmaktadır (Tuncer, 2001: 393-395).

Korumacı dış ticaret politikaları sanayileşme stratejileriyle yakın ilişkisi içerisindedir. Sanayileşme stratejileri temelde "*ithal ikameci (import-substitution) sanayileşme*" ve "*ihracata dönük (export-oriented) sanayileşme*" modelleri çerçevesinde şekillenmektedir. ***İthal ikameci sanayileşme stratejisi*** önceden ithalat yoluyla sağlanan malların koruyucu ve özendirici önlemlerle ülke içinde üretilmesini öngörmektedir (Eker, 1993: 40). İhracata dönük sanayileşme ise "*kaynakların yurtiçinde tüketilecek ürünlerin imalatında kullanılması yerine, ihraç edilebilecek ürünlerin imalatında kullanılmasını*" gerektirmektedir (Züngün ve Dilber, 2012: 224).

Ticaret politikalarının yaşadığı dönüşüm süreci içerisinde korumacı politikalar en şiddetli şekilde 1929 Buhranıyla birlikte gündeme gelmiştir. Bu dönemde içe kapanma ve milli üretim politikaları uygulanmış; o yıllardan günümüze, 1970'li yıllardaki petrol arz şokları haricinde, yoğun şekilde korumacı politika uygulamaları veya ticaret savaşı yaşanmamıştır (Aytekin ve Uçan, 2017: 858). Zira 1944'te Uluslararası Para Fonu (International Monetary Fund [IMF]), Dünya Bankası Grubu (World Bank Group [WBG]) kurulmasıyla ve 1947'de GATT'ın imzalanmasıyla birlikte Bretton Woods Sistemi oluşturularak korumacı politikalardan nispeten vazgeçilmiş ve serbest ticaret desteklenmiştir. 1950-1970'lı yıllar korumacı politikalarının ve 1980-1990'lı yıllar gelişmekte olan ülkeler için serbest ticaretin başarısızlığa uğradığı dönemler olmuştur (Shafaeddin, 2020: 3). DTÖ'nün kurulduğu 1995 yılı sorası dönem yine uluslararası ticarette kurala bağlı çok taraflı ticaret sistemi temelinde serbestleşme çabalarının harcandığı yıllar olmuştur. Özellikle GATT(1947) ve GATT(1995) ile birlikte tarifeler konsolide edilerek aşamalı bir şekilde indirilmiş ve uluslararası ticaretin önündeki engeller nispeten kalkmaya başlamıştır. Günümüzdeki tutumlarının aksine, II. Dünya Savaşı sonrasında gelişen bu sistemin en büyük destekçileri ABD ve müttefikleri olmuştur (Çatalbaş, 2021: 81). Küresel ekonomik krizin ve durgunluk döneminin başladığı 2008 yılı ve sonrası ile birlikte de özellikle G-20 ülkeleri çeşitli araçlara korumacı önlemlere başvurmuşlardır (Sönmezler, 2020: 210-211; Nuroğlu ve Çekin, 2020: 77). Bu açıdan uluslararası ticaret, konjonktürden doğrudan etkilendiğinden, ekonomide genişleme dönemlerinde serbest ticaret politikalarına ve daralma dönemlerinde korumacı politikalara geçiş olabilmektedir (Gerçek, 2020: 8-10).

Korumacı politikalar, ulusal ve uluslararası ekonomiyi etkileyebilmektedir. Bu etkiler "***ithalat maliyetlerinde artış***", "***tüketici fiyatlarında artış***", "***ekonomide etkinliğin azalması***", "***para birimi değerinde artış***", "***misilleme (pay-back)***" *ve "****ticaret savaşı/savaşları (trade war/wars)***" şeklinde olabilmektedir (Dupuis and Généreux, 2017: 3; Sağlam Liman ve Erataş Sönmez, 2022: 126-127). Korumacı politikalar, içeriğindeki önlemlerle muhatap olan ülkelerin misilleme yapma ve ticaret savaşına neden olma riski bulunmaktadır. Bu bağlamda **ticaret savaşı** kavramı "*korumacılık uygulayarak ithalatına kısıtlamalar getirmiş olan bir ülkeye karşı başka ülkelerin de benzer yollarla misilleme yapmaları halinde ortaya çıkan durumu*" ifade etmektedir (Eğilmez, 2018a). Diğer bir ifadeyle ticaret savaşı "*iki ülkenin ticaret önlemleri şeklinde birbirlerine karşı korumacı ticaret politikaları uygulamasıyla sonuçlanan ekonomik çatışmasıdır*" ve bu savaşta ticaret politikası önlemi uygulayan ülkeye karşı diğer bir ülke başka bir ticaret politikası önlemiyle misilleme yapmaktadır (CFI, 2025). Yine ticaret savaşı kavramıyla "*herhangi bir hammaddenin ülkesine girişine gümrük vergisi ve kota ile bariyerler koyan ülkeye söz konusu hammaddenin ihracatçısı ülkelerin de ilk ülkenin önemli ihraç ürünlerine benzeri misillemede bulunması*" ifade edilmektedir (Tunçdemir, 2017). Başka bir tanıma göre ticaret savaşı "*dünya çapındaki farklı ülkelerin sahip olduğu farklı kaynakları elde edebilmek adına, dünya güçlerinin ekonomi üzerinden birbirleri ile verdiği mücadelelere*" verilen isimdir (Gökçe Altınbaş, 2018: 93). Yine "*ülkelerin birbirlerine gümrük tarifeleri (kısaca tarife veya gümrük vergisi), kota ve yasaklamalarla misillemede bulunarak ve kendi sanayilerini koruyarak dış ticareti kısıtlamaya yönelik tedbirler alması*" durumunda bir ülke diğer ülkeden/ülkelerden yaptığı ithalata korumacı önlemler uyguladığında diğer ülke/ülkeler de korumacı önlemlerle misilleme yapıyorsa ticaret savaşı başlamıştır (Çatalbaş, 2021: 81). Dolayısıyla ticaret savaşı, korumacı ekonomi-dış ticaret politikalarının doğal sonuçları arasında yer almaktadır (Gündüz, 2019: 141).

Ticaret savaşı ekonomiler için kısa vadede koruyuculuk etkisine sahiptir ve bu yönüyle olumludur; uzun vadede olumsuz sonuçlar doğurmaktadır (CFI, 2025). Bu olumsuzluğun derecesi ise taraf ülkeler arasındaki ticaret hacmine ve misillemenin niteliğine bağlıdır (Kapadia, 2024). Zira bir ticaret savaşından en başta bu savaşa taraf

olan ülkeler etkilenirken zamanla üçüncü ülkeler de olumsuz yönde etkilenebilmektedir. Ticaret savaşına bağlı olarak oluşabilecek olumsuzlukla ise finans piyasalarında çöküş, ekonomik büyüme ve istikrarın bozulması, refah kaybı, GSYİH'de azalma, yüksek üretici ve tüketici fiyatları şeklindedir (Wu, et al., 2025:3). Ayrıca ortada ticaret savaşı olmadığı halde tehdidin gündeme gelmesi bile firmaların ürünlerinin dünyada üretildiği yerleri ve üretim şekillerini değiştirmesine; verimlilik, istihdam, kar ve refah kaybına neden olabilmektedir (Blanchard, 2019: 60). Bu nedenle bir ticaret savaşının doğrudan veya dolaylı olarak tarafı olan ülkeler uzun dönemde kaybetmektedirler (Dupuis and Généreux, 2017: 3; Sağlam Liman ve Erataş Sönmez, 2022: 126-127).

Dünya ekonomi tarihi içerisinde korumacılığın ticaret savaşına dönüştüğü dönemler olmuştur. Örneğin 1815-1846 döneminde Mısır Kanunları, 1890 tarihli McKinley tarifesi, 1930 Smoot-Hawley Tarife Kanunu, 1973 tarihli Arap Petrol Ambargosu ticaret savaşına neden olmuştur (Schepp, 2025). Donald J. Trump'ın Başkanlık yaptığı 2018 ve sonrası yıllarda ABD kaynaklı ticaret savaşları yaşanmıştır. Bu savaşa ABD ile birlikte başta Çin olmak üzere birçok ülke dahil olmuştur. En çok cari açık verdiği ülkenin Çin olması ve bu ülkenin gelecekte dünyanın en büyük ekonomisi olacağı endişesi ABD'nin Çin'e karşı korumacı politika uygulaması ekonomik açıdan doğal bir durumdur (Aytekin ve Uçan, 2017: 858). Dünyanın en büyük iki ekonomisinin ticaret ortakları üzerindeki etkisi düşünüldüğünde bu savaşın diğer ülkelere bulaşma ve ekonomik çöküş riski bulunmaktadır (Dorsey, 2019: 17).

2.2. Çok Taraflı Serbest Ticaret Sistemi

Serbest ticaret kavramı "*mal ve hizmetlerin ülke içinde ve ülkeler arasında devlet müdahalesi ve sınırlamaları olmadan akışını*" ifade etmektedir (Founda, 2012: 351). Serbest ticaret yoluyla pazar büyümekte, ürün çeşitliliği artmakta, tekeller kırılmakta, birim başına maliyetler düşmekte ve teknoloji transferiyle birlikte ölçek ekonomisi sağlanmaktadır (Ferrini, 2012; Gündüz, 2020: 156).

Günümüzde ülkeler genel olarak çok taraflı serbest ticaret ilke ve kurallarına göre hareket etmektedirler (Nuroğlu ve Çekin, 2020: 74). Nitekim GATT, DTÖ'nün anlaşmalar sistematiği içerisinde yer almaktadır. GATT dışında DTÖ ilke ve kurallarını belirleyen düzenlemeler Korunma Önlemleri Anlaşması, Anti-Damping Anlaşması, Sübvansiyonlar ve Telafi Edici Önlemler Anlaşması, Ticarette Teknik Engeller Anlaşması, Sağlık ve Bitki Sağlığı Önlemleri Anlaşması, Tarım Anlaşması, Gümrük Kıymeti Anlaşması, Sevk Öncesi İnceleme Anlaşması, Menşe Kuralları Anlaşması, İthalat Lisansları Anlaşması ve Ticaretle Bağlantılı Yatırım Önlemleri Anlaşmasıdır. DTÖ üyesi ülkeler dört temel ilkeyi kabul etmişlerdir; (1) "***Korumanın sadece tarifeler yolu ile yapılması***", (2) "***Tarifelerin aşağı çekilmesi ve bir daha yükseltilmemek üzere bağlanması ilkesi***", (3) "***En çok kayrılan ülke ilkesi***" ve (4) "***Ulusal muamele ilkesi***". Bu sayılanlar aynı zamanda DTÖ sistematiğine dahil olan ülkelerin uygulayabileceği koruma politikalarının ve karşı önlem uygulamalarının da temelini oluşturmaktadır (Parıltı, 2015: 116-131). Bu ilke ve kurallar temelinde serbest ticareti teşvik etmeyi amaçlayan DTÖ, üyesi olan ülkeler arasındaki ticari uyuşmazlıkların büyük krizlere dönüşmesini de engellemiştir (Schepp, 2025).

İdeal çok taraflı ticaret sistemi, mümkün olan en düşük tarife seviyesinin benimsenmesini kolaylaştırmaktadır. Bu sistemde, en düşük tarifelere sahip ülkeler, en yüksek tarifelere sahip olanlara karşılıklı tarife uygulamakta ve diğer ülke kendi tarifelerini düşürdükçe otomatik olarak bu karşılıklı tarifeyi düşürmektedirler. Bu dengeleme tekniği, eşya bazında veya genel olarak uygulanabilmektedir. Böyle bir değişiklik, yüksek tarifeli ülkeleri ithalat tarifelerini düşürmeye motive etmektedir (Mattoo and Staiger, 2019: 34). Örneğin İrlanda'da yerleşik firmalar üzerinde yapılan bir araştırmada tarife indirimlerinin ihracat üzerindeki etkisi incelenmiş ve belirli bir pazara yönelik tarife indiriminde (%10'dan %0'a düştüğünde), orta/büyük (100'den fazla çalışanı olan) firmaların bu pazara ihracat yapmaya başlama oranının (%38) arttığı sonucuna ulaşılmıştır (Fitzgerald, 2019: 52).

Genel olarak ekonomik çıktı ve gelir düzeyi üzerinde serbest ticaretin artırıcı, ticaret engellerinin ise azaltıcı etkisi vardır. Dolayısıyla tarife artırımları kısa dönemde faydalı olsa da uzun dönemde daha düşük gelir, daha düşük istihdam ve daha düşük ekonomik çıktı anlamına gelmektedir (Arzova, 2020: 55). Ayrıca tarife artışlarının, dış ticaret hacmi ve ekonomik büyüme yanında mal ve sermaye piyasalarını olumsuz yönde etkilemesi; girdi maliyetleri ve tüketici fiyatları üzerinde enflasyonist baskı oluşturması muhtemeldir (Şahin, 2019: 109).

Yukarıda belirtildiği üzere uluslararası ticaretin işleyişi sırasında tarifelerin pazarlık edilmesi ve düşük tutulmaları için izlenmesi kolaydır; ancak tarifelerin düşük tutulması halinde hükümetler üreticilerine yardımcı olmak için DTÖ düzenlemeleri bakımından takibi zor olan, tarifelere göre çok daha teknik ve ayrıntılı düzenlemelere tabi olan ve ekonomik açıdan uygulanması mantıklı da olan sübvansiyonlara yönelebilmektedir. Sübvansiyonların suistimal edilmesini önlemek için kurallara ihtiyaç vardır ve DTÖ'nün sübvansiyonlarda doğru dengeyi bulması zordur (Bown, 2018b; Bown, 2018c). Zira ABD, Çin'in uyguladığı sübvansiyonlara karşı DTÖ nezdinde bile "çaresiz kalan" ülke olduğu ve bu nedenle tek taraflı tarife uyguladığını açıklamıştır (Bown, 2019: 25).

Uluslararası ekonomiyi yeniden kurmak ve II. Dünya Savaşı'ndan sonra barışçıl iş birliklerini teşvik etmek için uluslararası kurallara dayanan serbest dünya düzenini kurmaya çalışan ABD, hem bu sistemi ve hem de DTÖ'yü desteklemeyi bırakmış gibi görünmektedir. Güçlü kalması için reforma ihtiyacı olsa da DTÖ ve serbest uluslararası sistem halen önemlidir ve korunması hem ABD ve hem de diğer ülkelerin çıkarınadır. Hesap verebilirliğinin olmadığı dönemlere geri dönülmesinin de çok ciddi zararları olacaktır. Bu bağlamda DTÖ'nün uluslararası ticarette güçlü ve zayıf yönlerini ortaya koyan göstergelere bakmak yerinde olacaktır (Wolff, 2024).

DTÖ'nün güçlü yönlerine işaret eden göstergeler; (1) "***DTÖ, halen uluslararası ticaretin %75'inden fazlası için geçerli olan kurallar ile tercihli ticaret düzenlemeleri kapsaması nedeniyle küresel ekonomiye değer sağlamaktadır***", (2) "***Sınırdan geçmenin malın maliyetini %24 artırdığı dikkate alındığında, DTÖ'nün çabaları uluslararası ticaretin kolaylaştırılması ve maliyetinin düşürülmesi bakımından önemlidir***", (3) "***ABD'nin engelleme girişimleri olsa da DTÖ himayesinde işleyen anlaşmazlıkların çözümü mekanizması uluslararası ticareti güç temelli sistemden uzaklaştırmakta ve üyelerine eşit haklar sağlamaktadır***", (4) "***DTÖ, ticaret önlemlerinin uygulanmasında şeffaflık sağlamakta ve raporlama/gözden geçirme süreci sayesinde ticaretten zarar görme olasılığını engellemektedir***", (5) "***DTÖ, uluslararası ticareti yavaşlatan tarifelerin aksine onu tamamen engelleyebilen ürün standartlarını üyelerin taslak halindeyken incelemelerine olanak vermektedir***", (6) "***DTÖ, sürdürülebilir ve çevre dostu uluslararası ticareti desteklemektedir***", (7) "***Üye olmak için başvuran 22 aday ülkenin olması DTÖ'nün halen bir umut ışığı olduğunu göstermektedir***", (8) "***Kalkınma, DTÖ'nün faaliyetlerinin merkezi bir hedefi olmaya devam etmektedir***".

DTÖ'nün zayıf yönlerine işaret edenler göstergeler; (1) "***DTÖ üyeleri kurulduğu günden bugüne sınırlı konular haricinde çok taraflı anlaşmalar imzalamadılar***", (2) "***DTÖ üyeleri ek taahhütlerini DTÖ kuralları sistematiğine dahil etmenin yolunu bulamadılar***", (3) "***DTÖ üyeleri, tüm üyelerin katıldığı bir uyuşmazlık çözüm sistemini sürdürmede ve ulusal güvenlik istisnasıyla başa çıkmada başarısız oldular***", (4) "***DTÖ sistematiğinde ayrımcılık yapmama (en çok gözetilen ulus kaydı ve ulusal muamele) kurallarına getirilen tercihli ticaret anlaşmaları ayrımcılığa neden oldu***", (5) "***DTÖ'nün, çalışmalarını organize etmede kurumsal araçları eksiktir***", (6) "***DTÖ, kardeş kuruluşları olan Uluslararası Para Fonu, Dünya Bankası ve OECD'nin aksine bir yönetim kurulu olmadan, bütünün bir komitesi olarak ilerleme kaydetmeye çalışıyor; Örgüt işleyen bir yürütme organına sahip değildir***", (7) "***DTÖ, ABD-Çin rekabeti için kural koyamamıştır ve bu durum uluslararası ticaret açısından riskler içermektedir***".

Ticaret anlaşmazlıklarını çözmek, DTÖ'nün temel faaliyetleri arasındadır. Üye ülkelerden biri veya birkaçı, başka bir üye ülkenin DTÖ anlaşmasını veya taahhüdünü ihlal ettiğine inandığı anda anlaşmazlık doğmaktadır. DTÖ, dünyadaki en aktif uluslararası anlaşmazlık çözüm mekanizmalarından birine sahiptir. 1995'ten bu yana DTÖ'ye 634 anlaşmazlık getirilmiş ve 350'den fazla karar verilmiştir (WTO, 2025). DTÖ düzenlemelerine uygun hareket edilmesi noktasında Anlaşmazlıkların Çözümlenmesi Mutabakat Düzenlemesi kapsamında denetim yöntemleri ve yükümlülükleri askıya alma yolları vardır. Bunlardan ilki panel aşaması öncesinde uyuşmazlığın dostane şekilde çözülmesi için taraf ülkeler arasında işletilen danışma usulüdür. İkincisi danışma usulünün sonuçsuz kalması halinde kurulan paneldir. Üçüncüsü ise panel kararlarının denetlenmesi amacıyla işletilebilen temyizdir. Panel ya da temyiz organının kararları, Anlaşmazlıkların Halli Organı tarafından onaylandığında bağlayıcı nitelik kazanmaktadır. Bu kararlara uyulmaması halinde ise tazminat ve ihlal ile orantılı olarak imtiyazları askıya alma (misilleme) söz konusu olabilmektedir (Akıl, 2021: 372-377).

DTÖ bünyesinde son yıllarda yapılan müzakerelerde yaşanan çıkmazlar, uluslararası ticaretin serbestleşmesi ve sermaye hareketleri gibi konularda üye ülkeler arasında ciddi görüş farklılıklarının olduğunu göstermektedir (Shafaeddin, 2020: 3). Ayrıca literatürde Başkan Trump'ın politikalarının bir yönünün de DTÖ'yü etkisizleştirmek olduğu hususuna da yer verilmektedir. Ancak DTÖ'nün tamamen devre dışı kalması ve uluslararası sorunlarının ikili görüşmelere konu olması, gelişmekte olan ülkeler açısından tehlikeli olacaktır (Sönmezler, 2020: 219). Bu noktada son dönemde yaşanan ticaret savaşlarının çok taraflı kurallara dayalı sistemin faydalarını ortadan kaldırabileceği bazı sonuçlarının olabileceği üzerinde özelikle durulmalıdır. Nitekim DTÖ'ün en çok kayrılan ülke ilkesi ve karşılıklılık esası hem stratejik davranışı hem de bu tür davranışlara eşlik edebilecek pazarlık sürtüşmelerini azaltmaktadır. ABD kaynaklı ticaret savaşı ise bu işlevi olumsuz etkilemiştir (Mattoo and Staiger, 2019: 38). Yine ABD kaynaklı ticaret savaşının küresel reel GSYİH'yi, reel sabit yatırımları ve ihracatı, finans stresi, hisse senedi fiyatlarını düşüreceği ve dış yatırımlar üzerindeki baskıyı artıracağı öngörülmüştür (Arzova, 2020: 55-56). Bir ticaret savaşı kapsamında tarife artışlarının günlük makroekonomik etkilerini izlemek mümkün olmasa da etkilerinin diğer ülkelere/sektörlere yayılacağı ve küresel tedarik zincirini bozarak dünya ticaretini azaltacağı yönünde endişeler de bulunmaktadır (Gündüz, 2020: 164-165).

3. TİCARET SAVAŞI ARACI OLARAK GÜMRÜK VERGİLERİ

3.1. Korumacı Ticaret Politikalarının Temel Araçları

Korumacı ticaret politikalarının çeşitli araçları bulunmaktadır. Teoride bu araçlar; (1) "***geleneksel-klasik araçlar***" ve (2) "***yeni/modern araçlar***" şeklinde iki grup altında toplanmaktadır. Geleneksel araçlar; (1) "***gümrük vergileri (ithalat vergileri ile nadiren de olsa ihracat vergileri)***", (2) "***eş etkili vergiler (gümrük vergilerine benzer etkiye sahip mali yükümlülükler)***", (3) "***miktar kısıtlamaları-kotalar (ithalat kotaları ve ihracat kotaları)***", (4) "***ithalat yasakları***" ve (5) "***dış ticaretin devletleştirilmesi***"; yeni araçlar; (1) "***yardımlar (sübvansiyonlar)***", (2) "***tarife dışı engeller (standartlar, ihale kuralları, idari tedbirler)***", (3) "***gönüllü ihracat kısıtlamaları***", (4) "***gönüllü ithalat artırımları***", (5) "***anti-damping ve anti-sübvansiyon uygulamaları***", (6) "***AR-GE çalışmaları***" ve (7) "***gümrük birlikleri***" şeklindedir (Tuncer, 2012: 245; Tuncer, 2001: 398-400; Sönmezler, 2020: 210-211). Bunlardan "***anti-damping vergisi*** (ihraç fiyatlarını aşırı ölçüde düşük tutarak haksız rekabet yapan ve ithalatçı ülkede zarara yol açan firmalara karşı, ithalatçı ülke hükümetinin uyguladığı vergi)", "***telafi edici vergiler*** (ihracatçı ülkeler kendi firmalarının pazara giriş ve pazarlarda tutunma yeteneğini arttırmak için, üretici ve ihracatçı firmalarına verilen ve haksız rekabete yol açarak, ithalatçı ülkelerdeki yerli üreticilere zarar veren sübvansiyonların zararlı etkisini ortadan kaldıracak düzeyde alınan gümrük vergisi)", "***korunma önlemi vergileri*** (damping veya sübvansiyona dayalı bir haksız rekabet olmasa da, yerli üreticilerin ithalattan zarar görmesi halinde yerli endüstrileri geçici bir süre yabancı rekabetine karşı korumak için, normal gümrük vergisi dışında uygulanan vergiler)", "***değişken nitelikli vergiler*** (değişik evrakların onaylanması veya izinlerin alınmasında tahsil edilen harç veya verilen kamu hizmetinin bedeli şeklinde tahsil edilen mali yükler)" ve "***ihracat vergileri*** (firmaları ihracat yapmaktan vazgeçirmek için advalorem, spesifik veya bu ikisinin çeşitli bileşenleri şeklinde uygulanan vergiler)" mali nitelikli tarife dışı önlemler şeklinde sınıflandırılmaktadır (Parıltı, 2015: 118).

Uluslararası ticarette korumacılığın temelde dış ticaret üzerinden alınan ve dolaylı bir vergi niteliği taşıyan tarifeler ve tarife dışı önlemler şeklinde iki tür aracı vardır. Gümrük vergileri, sübvansiyonlar, ithalat kotaları, kur ayarlaması ve diğer koruma araçlar dahil olmak üzere ticaret engelleri serbest piyasa dostu ülkeler arasında bile yaygındır (Schepp, 2025). Günümüzde gümrük vergilerinde mali amaçtan ziyade korumacılık amacı öne çıkmaktadır (Parıltı, 2015: 115; Şahin, 2019: 96). Gümrük vergilerinin bu açıdan yerli sanayiyi koruma, kayıt dışılığı önleme ve ekonomik dengeyi sağlama gibi amaçları da bulunmaktadır (Gerçek, 2020: 252). 2009-2016 yılları arasında korumacılık en fazla tarife dışı araçlarla (%55 civarında) yapılmıştır (Gündüz, 2020: 163). Bununla birlikte genel olarak korumacılıkta kullanılan gerçek araç gümrük vergileri olmalıdır (Tuncer, 2001: 398-400).

3.2. Gümrük Vergileri (İthalat Vergileri)

Gümrük vergileri genel olarak ithal eşyasının ülke sınırlarından giriş sırasında alınmakta ve "***tarife***" adı verilen listede yer almaktadır. Tarife konusunda bağımsız hareket etmek ulusal ve mali egemenliğin ve dolayısıyla vergilendirme yetkisinin doğal sonucudur. Ülkelerin tek taraflı olarak düzenledikleri tarifelere "***otonom tarife***" adı verilmektedir. Uluslararası etkileşim ve işbirliği sürecinde iki veya çok taraflı anlaşmalara göre düzenlenen tarifelere ise "***sözleşmeli-akdi tarife***" adı verilmektedir (Seyidoğlu, 1999: 129).

Gümrük vergilerinde "***hazineye gelir sağlama***" ve "***yerli sanayiyi dış rekabetten koruma***" şeklinde iki temel amaç bulunmaktadır. Gümrük vergilerinin, doğrudan yasaklamaya varmadığı ve bir miktar ithalat devam ettiği müddetçe, koruma ve gelir etkisi birlikte görülmektedir. Gümrük vergileri uygulandığı eşyayı göreli olarak yurtiçinde üretilen eşyaya göre pahalı hale getirmektedir ve ithal girdi kullanılarak üretilen eşyanın artan maliyeti genellikle tüketicisine yansıtılmaktadır. Bu noktada gümrük vergilerinin etkisi piyasa arz-talep koşulları içerisinde hukuki ya da ekonomik bakımından yansıma kapasitesine bağlıdır (Gündüz, 2020: 159-160).

Gümrük vergilerinde artışın veya düşüşün bazı ekonomik sonuçları bulunmaktadır. Gümrük vergilerinde artış mikro düzeyde tüketimi kısarken tüketici refahını düşürmekte (***tüketim etkisi***) ve ithalattaki daralmaya bağlı olarak (***dış ticaret etkisi***) dış rekabete karşı oluşan koruma etkisi sayesinde yerli üretimi artırmaktadır (***üretim etkisi***). Ayrıca gümrük vergileri az gelişmiş ülkelerde hazinenin önemli gelir kaynakları arasındadır (***gelir etkisi***) ve gelirin tüketicilerden üreticilere doğru yeniden bölüşümünü sağlamaktadır (***bölüşüm etkisi***). Diğer taraftan gümrük vergileri makro düzeyde ithalatı kıstığı ölçüde ödemeler dengesi açığını kapatıcı etki yapmaktadır. Talebin yerli mallara yönelmesi milli geliri ve istihdamı artırmaktadır. Ancak önemle belirtilmelidir ki bu etki karşı ülkenin misilleme yapmaması şartına bağlıdır. Gümrük vergileri lüks eşyanın vergilendirilmesi yoluyla yoksullara aktarılacak gelirin de kaynağıdır. Ancak gümrük vergilerine bağlı fiyat artışı, kaynakları lüks eşya üretimine de yöneltebilmektedir (Seyidoğlu, 1999: 130-139; Tuncer, 2001: 17; Şahin, 2019: 97).

4. ABD KAYNAKLI TİCARET SAVAŞI

4.1. Ticaret Savaşının Nedenleri ve Tarafları

ABD Başkanı Donald J. Trump silahlı çatışmayı sevmiyor olsa da ülkelere siyasi iradesini dayatmak, ülkesindeki ekonomik sektörleri korumak, daha fazla tercihli ticaret koşulları sağlamak veya diğer ülkelerin teknolojik avantaj elde etmesini engellemek için ekonomik bir savaş tercih etmektedir (Dorsey, 2019: 5). Bununla birlikte tarifeyi "***sözlükteki en güzel kelime***" olarak tanımlayan Trump yönetimi, tarifelere bir ekonomik silah gibi yöneldikçe uluslararası ticaret yeni bir korumacılık dönemine girmektedir ve bu kapsamda "***belirli ülkelere ve ülke ve eşya bazlı***" veya bütün ülkeleri kapsayacak şeklide "***evrensel***" tarife artışlarını yapmaktadır (Kapadia, 2024). Ayrıca Başkan Trump yönetimi, kuruluşu ve işleyişi ABD'nin çabasına dayansa da DTÖ'yü ve dolayısıyla kurallara dayalı serbest uluslararası ticaret sistemini desteklememekte ve Örgüte ve kurallarına rağmen tarife artışlarını hayata geçirmektedir (Bown, 2019: 27; Wolff, 2024; BBC, 2025). Ezcümle ABD yönetimi istihdamı arttırmak için ticaret korumacılığına geri dönmüş, Kuzey Amerika Serbest Ticaret Anlaşmasını (NAFTA) müzakere etmeye başlamış ve Trans-Pasifik Ortaklığı'ndan (TPP) çekilmiştir (Özcan, 2020:2; Çatalbaş, 2021: 84; Dorsey, 2019: 5). Tarife artışlarının ABD ekonomisine zarar verebileceği konusunda endişeler olsa da Trump yönetimi, yüksek tarifelerin ABD'ye yatırım yapma olasılığını artıracağını, tarifelerin kendisinden bile büyük bir kazanç olduğunu ve iyi gelir sağlayacağını açıklamıştır (Gültekin Karahacıoğlu ve Karataş, 2025).

ABD'nin hedef aldığı ülkeler açısından seçenekler ise, ABD'den yapılan ithalata bağımlı olma ve ticaret savaşından doğan fırsatları değerlendirebilme yeteneklerine bağlı olarak; (1) "***ticaret savaşına katılmak***", (2) "***hiçbir şey yapmamak***", (3) "***ABD dışındaki bölgelerle ticaret anlaşmaları yapmak***" ve (4) "***ABD'den yapılan ithalat üzerindeki sınırlamaları azaltmak***" şeklindedir ve bunlar içerisinde en dezavantajlı olanı (1) ve lehe olanı (2) seçenekler olarak değerlendirilmektedir (Devarajan, 2018: Gündüz, 2020: 168). ABD'nin gümrük vergisi oranlarında artışa gitmesine ticari partnerlerinin benzer artışlarla karşılık vermesi ise, sorunun küresel bir boyut kazanma riskini yansıtmaktadır (Şahin, 2019: 107). Gümrük vergilerinin kanunla konulduğu ve yürürlüğe girebilmesi için zaman dilimine ihtiyaç olduğu üzerinde durulmakla birlikte ticaret savaşlarında tarifeler ilan edildiği gün yürürlüğe girmektedir. DTÖ kurallarına göre ülkeler tarifeleri yükseltemeyecek olsa da ABD tarifeleri bir kurala dayanmadan yükseltmiştir ve neredeyse her gün yenilerini ilan etmekte veya muafiyet kapsamına almaktadır. Gümrük vergilerinde artış yapıldığı hallerde uyuşmazlığa taraf olan ülkelerin anlaşarak konuyu DTÖ himayesinde çözmesi bir seçenektir. Ancak ticaret savaşından zarar gören ülkelerin bu savaşı bilerek başlatan ABD ile anlaşmaları olası değildir (Çatalbaş, 2021: 90-91). Gümrük vergileri de dahil olmak üzere korumacı politika araçlarına başvurulması ticaret savaşına yol açan misilleme potansiyeli riski taşımaktadır (Schepp, 2025). Bu bakımdan dünya ticaretinde ağırlıklı bir payı olan ülkelerin gümrük vergilerini yükseltme yönünde hareket etme olanağı oldukça sınırlı olsa da bu yöndeki girişimler diğer ülkelerin kendilerini korumak amacıyla benzer uygulamalara yönelmesiyle sonuçlanabilmektedir (Seyidoğlu, 1999: 129). Nitekim ABD'nin Çine karşı başlattığı ticaret savaşı kapsamında karşılıklı hayata geçirilen misillemeler iki ülke arasındaki sürtüşmenin çığ gibi büyümesine ve farklı alanlara sıçramasına sebep olmuştur (Yıldırım, 2018; Özcan, 2020:4).

Başkan Donald Trump'ın birinci döneminde başlayan ve ikinci döneminde de devam eden dönemde genel olarak ABD kaynaklı "***güneş paneli ve çamaşır makinesi***", "***çelik ve alüminyum***", "***teknoloji***", "***otomobil***" ve "***yarı iletkenler***" üzerinden ticaret savaşları yaşanmıştır. Ayrıca gerçekleşen tarife değişikliklerinin gerekçeleri ise "***ithalatının ABD endüstrisine zarar vermesi***", "***ulusal güvenlik tehdidi olma***", "***fikri mülkiyet için haksız ticaret uygulamaları***", "***yasadışı göç***" ve "***ABD'nin iletkenlerde üstünlüğünün korunması***" olarak ilan edilmiştir (Bown, 2019: 24; Bown and Kolb, M. 2025; Bown, 2025). Zira Trump ABD'nin dış ticaret açığının azaltılması tarife artışları yoluyla azaltılması üzerinde durmaktadır (Eğilmez, 2018a; Gündüz, 2020: 163; David, 2025; Mi, Lv and Ge, 2025: 1). İthalatı güvenlik tehdidi gibi gören, adil ve dürüst ticaret kurallarına uymayan ülkelere karşı gümrük tarifelerini yükseltme yetkisi öne çıkaran ABD açısından yerel üreticilerin ve ücretlilerin korunması da tarife artışlarının nedenleri arasındadır (Arzova, 2020: 32-40). Ayrıca tarife kaynaklı gelirler ülkede taahhüt edilen vergi tavizlerinin telafisi için değerlendirilmekte ve tarife artışları işsizlikle mücadelede göçmen kaynağı olan ülkeler üzerinde bir baskı aracı olarak görülmektedir (Kapadia, 2024; Wei, 2025). ABD kaynaklı özellikle evrensel tarife artışlarının bir diğer nedeni ise ticaret sapmasıdır. Zira ABD önlem uygulasa da Çin'in üçüncü ülkelere ihracatı ve ABD'nin üçüncü ülkelerden ithalatı potansiyel ticaret sapması nedeniyle artmaya devam etmiştir (Bown, 2019: 24). Neticede ABD'nin ticareti kısıtlayıcı önlemler almaya başlaması ve bu önlemlere karşılık diğer ülkelerin misillemeler yoluyla önlem alması, tedarik zincirini bozan ve korumacılığa yol açan bir ticaret savaşı ortaya çıkarmıştır (Eğilmez, 2018b; Özcan, 2020:2; Sönmezler, 2020: 215-216).

ABD kaynaklı ticaret savaşının iki farklı nedeni bulunmaktadır. Bunlardan ilki ABD ile AB, Japonya, Kanada, Meksika ve Güney Kore ülke ve ülke grupları arasında karşılıklı tarife pazarlıkları büyük ölçüde sona ermiştir ve karşılıklı tarife kazanımların çoğu daha önceki ticaret anlaşmalarıyla elde edilmiştir. İkincisi ise, Brezilya, Çin ve Hindistan gibi ülkeler, karşılıklı serbestleşmenin önceki dönemlerinde çoğunlukla hareketsiz kalmakla birlikte şimdilerde pazarlarının korunmasını istemektedirler ve bu durum "***sonradan gelenler sorunu***" yaratmıştır. Zira karşılıklı tarife indirimlerinden elde edilen pozitif kazançlar halen olsa da sanayileşmiş ülkelerin koruma seviyesi artık düşüktür ve pazarlıklarda sunacakları çok az şey kalmıştır (Mattoo and Staiger, 2019: 35).

ABD ve Çin arasındaki ticaret savaşı özelinde ekonomik çıkar çatışmalarının belirgin şekilde ortaya çıktığı ve derinleşeceği beklenen alanlar veri güvenliği, yapay zeka ve elektrikli araç teknolojileridir. Ek gümrük vergileri ile başlayan süreç uluslararası ticareti etkileyecek ve yeni bir ticaret savaşının başlaması noktasında belirleyici olacaktır (Ergül, 2025). Ayrıca ABD'nin birçok stratejik ürünün hammaddesi olan, tüketimindeki artışa bağlı olarak 2030 yılına kadar tükeneceği öngörülen ve dünyada en fazla ihracatçısının Çin olduğu nadir toprak metallerine olan bağımlılığı (Arzova, 2020: 58-59) ile küresel siyasi dengeler göz önüne alındığında ABD'nin Asya-pasifik bölgesindeki stratejik avantajını koruma çabası (Ibrahim and Benjamin, 2019: 51; Wei, 2025) da ticaret savaşı nedeni olarak görülmektedir.

ABD başta Çin olmak üzere, Kuzey Kore, Güney Kore, Rusya, Brezilya, Birleşik Krallık, Türkiye, Venezuela, İran, İtalya, AB, Avustralya, Myanmar, Suriye ve Küba'ya değişik yoğunlukta ve kapsamda ekonomik yaptırım veya tarife artışları uygulamış, Trans Pasifik Ortaklığından çekilmiş, NAFTA'yı müzakere etmiş ve ilham kaynağı olduğu DTÖ'yü baltalamaya çalışmıştır. Son dönemde Meksika ve Kanada da ticaret savaşları kapsamında Trump yönetiminin hedefi olmuştur. Orta Doğu ülkeleri dünya ticaretini yeniden şekillendiriyor gibi görünen ticaret savaşlarının merkezinde olmamıştır (Dorsey, 2019: 16). Almanya ise otomobillerine emisyon aşımı nedeniyle uygulanan para cezası nedeniyle ve İskoçya, İspanya ve Fransa bazı eşyaya uygulanan tarifeler nedeniyle ticaret savaşının tarafı olmuşlardır (Atakişi, 2020: 106).

Tarihteki en önemli ticaret savaşı kuşkusuz ABD-Çin arasındadır (Wu, et al, 2025:1). İki ülke arasında neredeyse aynı gün yürürlüğe giren ve bu nedenle misilleme niteliği taşıyan ithalat vergileri, ABD'nin Çin'den satın aldığı bütün ürünleri etkilemiştir (Özcan, 2020:1). Diğer taraftan ABD-AB arasındaki ticareti ve yatırımı etkileyen katma değer vergisi, dijital hizmet vergisi, OECD vergi sütunları-kurumlar vergisi gibi konularda anlaşmazlıklar bulunmaktadır (Hufbauer, 2025). ABD, tarifelerine karşılık AB'nin de tarifelerini uygulaması durumunda ek tarifeler uygulanacağı açıklanmıştır (Şeker, 2025). Yine AB'nin uyguladığı tarifenin kalkmaması halinde ABD, kısa süre içinde bazı ürünlere yüzde 200 tarife uygulayacağını ilan etmiştir (Okuroğlu, 2025a).

Kanada ABD'nin esas hedefi Çin olması sebebiyle anti-damping vergisi ve telafi edici vergileri içeren "haksız" ticaret politikalarına nadiren maruz kalmıştır. Bunula birlikte son dönemde karşılıklı tarife artışlarına ilişkin iki ülke tarafından da açıklamalar yapılmıştır. Kanada ABD'ye olan ihracatı korumak amacıyla ABD'nin haksız ticaret uygulamaları hakkında DTÖ'de toplam 19 dava açmıştır ki bunlardan üçü Başkan Trump dönemindedir (Bown, 2018a). ABD Trump yönetimi, Kanada'dan çelik ve alüminyum ithalatına yönelik ek tarifelerin 12 Mart 2025'te yürürlüğe gireceğini; Kanada'daki Ontario yönetimi ise ABD gümrük vergilerine karşılık bu ülkenin eyaletlerine sağladıkları elektriğe yüzde 25 oranında ek ücret yapacaklarını açıklamışlardır (Okuroğlu, 2025b).

4.2. Ticaret Savaşları ve Türkiye

Türkiye bir dönem ithal ikameci politikalar uygulamakla birlikte 1980 sonrası dönemde ihraç yönlü politikalar uygulamamıştır. DTÖ'nün kurucu üyeleri arasında yer alan Türkiye 2008 küresel finansal kriz sonrası korumacı politikalar uygulamıştır. Bu kapsamda üç yönteme başvurulmuştur; (1) İlave gümrük vergileri, (2) Anti-damping vergileri ve (3) Gözetim uygulamaları (Aytekin ve Uçan, 2017: 854). Türkiye yerli üreticiyi korumak amacıyla ***ticaret politikası savunma araçlarını*** da uygulamaktadır. Bu araçlar Ticaret Bakanlığı (TB) internet sitesinde yer alan bilgiye göre "*ilgili mevzuat uyarınca benzer veya doğrudan rakip mallar üreten yerli üreticilerin ithalattan ciddi zarar görmesinin önüne geçmek amacıyla başvurulan dampinge karşı önlemler, sübvansiyona karşı önlemler ile korunma ve gözetim önlemlerinin bütününü*" ifade etmektedir (TB, 2025).

ABD kaynaklı ticaret savaşının bir tarafı da Türkiye'dir. Bu savaş ekonomik sebeplerden çok siyasi sebeplerden kaynaklanmaktadır. ABD'nin uygulamaya koyduğu ilk yaptırım Türkiye'den ithal ettiği alüminyum ve çeliğin gümrük vergilerini iki kat artırması olmuştur. Ayrıca ABD, 2019'da Türkiye'yi birçok ülke için çeşitli sektörlerde vergi avantajı sağlayan Genelleştirilmiş Tercihler Sisteminden çıkarmıştır. Türkiye de ABD'nin bu adımlarına karşı misilleme kararları alarak ABD'den ithal edilen 22 çeşit ürününe ek mali yükümlülük uygulamıştır (Aytekin ve Uçan, 2017: 861; Eğilmez, 2018a; Arzova, 2020: 35-40).

Türk hukukunda vergilendirme yetkisi Türkiye Büyük Millet Meclisine aittir. Bu yetkinin kullanılmasının biçimsel yönünü ise vergi kanunları oluşturmaktadır. Bununla birlikte Cumhurbaşkanı bağlı yetkisinin sınırları içerisinde vergi düzenlemeleri yapabilmektedir. Gümrük vergileri de bu kapsamda değerlendirilmektedir. Türk hukukunda gümrük vergileri, kapsamı yönüyle tartışmalı olmakla birlikte, dahilde de uygulaması olan bir grup mali yükümlülüğe işaret etmektedir. Bunlardan dış ticaretin düzenlenmesi bağlamında önem arz edenleri şunlardır;

(1) Anayasa'nın 73/3-4 üncü maddesi "*…Vergi, resim, harç ve benzeri mali yükümlülükler kanunla konulur, değiştirilir veya kaldırılır….Vergi, resim, harç ve benzeri mali yükümlülüklerin muaflık, istisnalar ve indirimleriyle oranlarına ilişkin hükümlerinde kanunun belirttiği yukarı ve aşağı sınırlar içinde değişiklik yapmak yetkisi Cumhurbaşkanına verilebilir*" ve **167/2 nci maddesi** "*Dış ticaretin ülke ekonomisinin yararına olmak üzere düzenlenmesi amacıyla … dış ticaret işlemleri üzerine vergi ve benzeri yükümlülükler dışında ek mali yükümlülükler koymaya ve bunları kaldırmaya kanunla Cumhurbaşkanına yetki verilebilir*" şeklindedir.

(2) 4458 sayılı Gümrük Kanunun 55/3 üncü maddesi "*Türkiye ile ticaret, gümrük, taşımacılık anlaşması bulunmayan ve imzalanmış anlaşmaları süresinden önce tek taraflı olarak kısmen veya tamamen hükümsüz bırakan veya Türk kara, hava ve deniz taşıtlarına karşı yasaklama ve kısıtlamalar koyan veya bunlar hakkında farklı işlemler uygulayan yabancı ülkelere ait eşya ve taşıtlara, karşılık olmak üzere, yasaklama veya kısıtlamalar koymaya ve farklı işlemler veya farklı tarifeler uygulamaya Cumhurbaşkanı yetkilidir*" şeklindedir.

(3) 3577 sayılı İthalatta Haksız Rekabetin Önlenmesi Hakkında Kanununun 7 nci maddesi "*Yapılan soruşturma sonucunda … onaylanan damping marjı veya sübvansiyon miktarı kadar dampinge konu malın ithalinde dampinge karşı vergi, sübvansiyona konu malın ithalinde ise telafi edici vergi alınır...*" şeklindedir.

(4) 2976 sayılı Dış Ticaretin Düzenlenmesi Hakkında Kanunun 1 inci maddesi "*Dış ticaretin, ülke ekonomisinin yararına düzenlenmesini sağlamak amacıyla ithalat, ihracat ve diğer dış ticaret işlemleri üzerine vergi ve benzeri yükümlülükler dışında ek mali yükümlülükler konulması ve kaldırılması, …bu Kanun hükümlerine göre yürütülür*" ve "***Ek mali yükümlülükler***" başlıklı **3 üncü maddesi** "*İthalat, ihracat veya dış ticaret işlemleri üzerine konulan ek mali yükümlülüklerin nevi, miktarı, tahsili, …esasları Cumhurbaşkanı kararında gösterilir*" şeklindedir.

(5) 3350 sayılı Cumhurbaşkanı Kararı eki İthalat Rejimi Kararının 4 üncü maddesinde "*…(2) Türkiye ile ticari ilişkilerinde ticaret ve ödemeler dengemizi bozacak nitelikte kayıtlar koyan veya uygulama yapan, anlaşmalar ile kararlaştırılan yükümlülüklerini yerine getirmeyen, ithalat rejimimizin genellik ilkesi ile bağdaşmayacak şekilde ayırıcı işlemler uygulayan ülkeler, kuruluşlar ve firmalar hakkında taraf olunan uluslararası anlaşmalar çerçevesinde uygun görülecek gerekli önlemler alınır. (3) Ticaret politikası önlemleri; İthalatta Haksız Rekabetin Önlenmesi …, İthalatta Korunma Önlemleri …, İthalatta Kota ve Tarife Kontenjanı İdaresi …, İthalatta Gözetim Uygulanması …, Belirli Tekstil Ürünleri İthalatında Gözetim ve Korunma Önlemleri …, İkili Anlaşmalar ve Protokoller veya Diğer Düzenlemeler Kapsamı Dışında Belirli Ülkeler Menşeli Tekstil Ürünleri İthalatında Gözetim ve Korunma Önlemleri .. ile Türkiye'nin Ticari Haklarının Korunması Hakkında Mevzuat hükümleri çerçevesinde yürütülür…*" ifadeleri yer almaktadır.

(6) Gümrük Yönetmeliğinin "Tanımlar" başlıklı **3/1.n maddesinde** "***Ticaret politikası önlemleri***" kavramı "*Gözetim, korunma önlemleri, miktar kısıtlamaları ve ithalat veya ihracat yasaklamaları gibi eşyanın ithal ve ihracı ile ilgili hükümlerle belirlenmiş tarife dışı önlemleri*" ve **205 inci maddesinde** "*…(3) Serbest dolaşıma girişte, ticaret politikası önlemlerine, ilave gümrük vergisine veya ek mali yükümlülük gibi diğer mali yükümlülüklere tabi eşyanın menşei, menşe şahadetnamesi ile ispat olunur*…" şeklindedir.

(7) 2004/7305 sayılı İthalatta Korunma Önlemleri Hakkında Kararın 1 inci maddesi "*Bu Karar bir malın benzer veya doğrudan rakip mallar üreten yerli üreticiler üzerinde ciddi zarar veya ciddi zarar tehdidi oluşturacak şekilde artan miktar ve şartlarda ithal edilmesi halinde, bu zarar veya zarar tehdidini ortadan kaldırmak üzere, söz konusu zarar veya zarar tehdidiyle sınırlı ve geçici olmak kaydıyla, uluslararası yükümlülükler ve ülke yararı göz önüne alınarak korunma önlemleri alınmasına ilişkin usul ve esasları kapsar*" şeklindedir ve "**Geçici Korunma Önlemi**" başlıklı **5 inci maddesinde** "*…Geçici korunma önlemi; gümrük vergisinde artış yapılması, ek mali mükellefiyet getirilmesi, miktar/değer kısıtlaması, tarife kontenjanı uygulaması veya bunların birlikte uygulanması şeklinde olabilir…*" ve "**Korunma Önlemi**" başlıklı **6 ncı maddesinde** "*…Korunma önlemi; gümrük vergisinde artış yapılması, ek mali mükellefiyet getirilmesi, miktar/değer kısıtlaması, tarife kontenjanı uygulaması veya bunların birlikte uygulanması şeklinde olabilir...*" ifadeleri yer almaktadır.

Netice itibariyle Türk hukukunda ülke ekonomisine zarar verebilecek gelişmelere yönelik sürekli veya anlık önlem almayı sağlayacak hukuki ve mali araçlar bulunmaktadır. Bu düzenlemeler çerçevesinde korunma önlemleri olarak tarife dış önlemler; ticaret savaşı bağlamında ek mali yükümlülük öne çıkmaktadır. Ancak ticaret savaşının yoğunluğu ve etkisi ise mevcut ticaret hacmine bağlı olacaktır.

5. SONUÇ

Korumacılık, kısaca, eşyanın ithalini sınırlamaya veya yerli eşyanın yabancı menşeli eşyaya nazaran tercihini sağlamaya yönelik düzenlemeleri içeren ekonomi/dış ticaret politikasıdır. Bu tür politikalar sosyal, siyasal, ekonomik ve mali nedenlerle uygulanabilmektedir. Korumacı politikalar ülkenin içinde bulunduğu ekonomik koşullardan, uluslararası ekonomik krizlerden ve karşı ülke önlemlerinden kaynaklanabilmektedir. Uluslararası ticarette korumacı politika uygulamalarının yaygın ve süreklilik arz etmesi istenmeyen bir durum olarak kabul edilmektedir. Zira bu tür politikalar serbest uluslararası ticaretle beklenen faydanın/refahın ülkeler arasında eşit dağılımını olumsuz etkileyebilmektedir. Korumacılığın muhatap ülkeler tarafından misilleme mantığı içerisinde uygulanması ise ticaret savaşı olarak adlandırılan durumla sonuçlanabilmektedir. Ulusal güvenlik, fikri mülkiyet, göçmen sorunu veya işsizlik gibi sosyo-ekonomik ve politik nedenleri de olabilen ticaret savaşları kurala dayalı çok taraflı serbest ticaretin işleyişi önünde önemli bir engel oluşturmaktadır.

Korumacı dış ticaret politikaları kapsamında genel olarak tarife ve tarife dışı araçlar kullanılmaktadır. Geleneksel araçlar gümrük vergileri, eş etkili vergiler, miktar kısıtlamaları-kotalar, ithalat yasakları gibi araçlar; yeni araçlar ise yardımlar (sübvansiyonlar), tarife dışı engeller (standartlar, ihale kuralları, idari tedbirler), gönüllü ihracat kısıtlamaları, anti-damping ve anti-sübvansiyon uygulamaları gibi araçlardan oluşmaktadır. Söz konusu araçlar mali nitelikte olabileceği gibi mali olmayan nitelik de taşıyabilmektedir. Gümrük vergileri ticari hayatın başladığı ilk çağlardan günümüze devlet hazinesine gelir elde etmek amacıyla uygulanmıştır. Ayrıca gümrük vergileri dış ticareti yönlendirmek amacıyla ticaret politikası önlemi olarak menşe ve/veya eşya bazında uygulanmaktadır.

Uluslararası ticareti önündeki engellerin kaldırılarak olabildiğince serbestleşmesi ve bunun çok taraflı kabul görmüş kurallar dahilinde olması beklenmektedir. Bu amaçla DTÖ himayesinde kabul edilen birçok düzenleme bulunmaktadır ve bu düzenlemeler serbest ticareti teşvik etmekte, tarifeleri düşürmeye, ekonomik büyümeyi teşvik etmeye ve ticari uyuşmazlıkların büyük krizlere dönüşmemesine yardımcı olmaktadır. Ne var ki Donald J. Trump'ın ABD Başkanı olmasıyla birlikte ithalatın ihracatı geçerek ABD endüstrisine zarar verecek boyuta ulaşması, ulusal güvenlik, fikri mülkiyet için haksız ticaret, yasadışı göç ve belirli teknolojilerde üstünlüğünün korunması gibi nedenlerle tarife düzenlemelerinden yararlanılmaya başlanmış ve karşı ülkelerin de misilleme yapması üzerine ticaret savaşı süreci yaşanmıştır. ABD yönetiminin ekonomik ve mali tercihlerinin yanında politik tercihleri de tarife aracını bir silah olarak kullanılmasına sebep olmuştur. Neticede gümrük vergilerinin koruma amaçlı politikalar çerçevesinde uygulanmasına yönelik bütün nedenlerin ABD kaynaklı ticaret savaşının nedenleri olarak da dillendirildiği görülmektedir. Ancak gerekçesi ne olursa olsun ticaret savaşları ve içeriği tarife düzenlemeleri DTÖ düzenlemelerine aykırılıkları açısından birer uyuşmazlık konusu oluşturmaktadır. Zira kısa dönemde sosyo-ekonomik ve politik etkileri ABD açısından olumlu gibi olsa da uzun dönemde uluslararası ticaret sistemi açısından olumsuz olacak ve DTÖ'nün varlığının ve kurallarının sorgulanmasına neden olacaktır.

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Kamu Politikalarının Şirketlerin İş Stratejileri Üzerindeki Etkileri Hakkında Çalışma

Doç. Dr. Resül Yazıcı[1]

[1]Bilecik Şeyh Edebali Üniversitesi, İİBF, İktisat Bölümü, 11100-Bilecik, Türkiye, resul.yazici@bilecik.edu.tr, ORCID: 0000-0002-7875-3331

Özet: Kamu politikaları, ekonomik ve sosyal hedeflere ulaşmak amacıyla devlet tarafından belirlenen kurallar ve uygulamaları kapsamaktadır. Şirketlerin karar alma süreçlerinde kritik bir rol oynayan kamu politikaları, onların iş stratejilerini hem olumlu hem de olumsuz yönde etkileyebilecek geniş bir etki alanına sahiptir. Bunlar, düzenleyici çerçeveler, kamu harcama ve yatırımları, ticaret politikaları, teşvikler, vergisel düzenlemeler, iklim politikalarına yönelik çevresel standartlar ve dijital dönüşüm gibi alanlara yöneliktir. Düzenleyici ve denetleyici, teşvik edici veya maliyet artırıcı özelliklere sahip politikaların bazıları, rekabet avantajı sağlarken; bir kısmı da aşırı regülasyon ve yüksek uyum maliyetleri gibi özellikleri nedeniyle şirketlerin esnekliğini sınırlayabilir. Bu nedenle, kamu politikalarının şirket stratejilerine etkileri dengeli bir yaklaşımla değerlendirilmeli; politika yapıcılar, yürütücüler ile şirketler arasında sürekli bir diyalog sağlanmalıdır.

İş dünyası üzerinde önemli etkileri olan kamu politikaları, liderlik ve girişimcilikten çalışan katılımı ve gelişimine kadar iş stratejisinin çeşitli yönleri üzerinde derin etkileri olan faktörlerdir. Çalışmada, şirketlerin iş stratejilerini şekillendiren, etkileyen bu faktörlerin neler olduğu, önemi verilecektir. Şirketlerin bu faktörleri anlamak, etkilerini artırmak; onların daha bilinçli ve stratejik kararlar almasına yardımcı olması için yapılması gerekenler incelenecektir.

Anahtar Kelimeler: Kamu Politikaları, İş Stratejileri, Ticaret Politikaları, Bağımsız Düzenleyici ve Denetleyici Kurumlar

1. GİRİŞ

Kamu politikaları, ekonomik ve sosyal hedeflere ulaşmak amacıyla devletlerin icra makamları olan hükümetler tarafından belirlenen ve toplumun genel refahını artırmayı amaçlayan kurallar, düzenlemeler ve uygulamalardır. Mikro ölçekte şirketlerin karar alma süreçlerinde kritik bir rol oynayan kamu politikaları, onların iş stratejilerini hem olumlu hem de olumsuz yönde etkileyebilecek geniş bir etki alanına sahiptir. Makro ölçekte de bu politikalar, ekonomik büyümeyi teşvik etmek, çevresel sürdürülebilirliği sağlamak, tüketiciyi korumak gibi çeşitli hedeflere yönelik olabilir.

Dolayısıyla kamu politikaları hem çok yönlü bir süreçtir hem de birçok türü bulunmaktadır. Bunlardan belli başlıları şöyle sıralanabilir: Çevre politikası, maliye politikası, para politikası, sosyal politika, sosyal güvenlik politikası, tarım politikası, sağlık politikası, konut politikası, enerji politikası, yoksullukla mücadele politikası, ekonomik kalkınma ve istikrar politikası, kentsel dönüşüm politikası, bilim ve teknoloji politikası, istihdam politikası, dış politika, ulusal güvenlik politikası, özelleştirme politikası, eğitim politikası, kırsal kalkınma politikası vb. Bu bağlamda kamu politikalarının, yaşamın her alanıyla ilgili olduğunu söylemek mümkündür (Akman, 2019: 35).

Bunların şirketlere yönelik olanları şu başlıklarda toplanabilir: Düzenleyici çerçeveler, kamu harcama ve yatırımları, ticaret politikaları, teşvikler, vergisel düzenlemeler, iklim politikalarına yönelik çevresel standartlar ve dijital dönüşüm gibi. Düzenleyici ve denetleyici, teşvik edici veya maliyet artırıcı özelliklere sahip politikaların bazıları, rekabet avantajı sağlarken; bir kısmı da aşırı regülasyon ve yüksek uyum maliyetleri gibi özellikleri nedeniyle şirketlerin esnekliğini sınırlayabilir. Bu nedenle, kamu politikalarının şirket stratejilerine etkileri dengeli bir yaklaşımla değerlendirilmeli; politika yapıcılar, yürütücüler ile şirketler arasında sürekli bir diyalog sağlanmalıdır. Diğer bir ifadeyle kamu politikaları statik değildir; politik, ekonomik ve sosyal değişimlere yanıt olarak geliştirilmelidir. Bu proaktif yaklaşım, şirketlerin zorluklarını aşmalarına, fırsatları yakalamalarına olanak sağlayarak uzun vadeli uygulanabilirliklerini garanti eder. Örneğin vergi indirimleri, hibeler veya sübvansiyon içerebilen teşvikler, şirketlerin karar verme süreçlerini önemli ölçüde etkileyebilir. Şirketlerin stratejilerinin, kamu politikaları hedefleriyle uyumlu hale getirilmesi, entegrasyonunun, yasal gerekliliklere ve sosyal beklentilerle uyumun sağlanması iş başarısının önemli bir itici gücü haline gelebilir. Bunun için stratejik düşünme, uyarlanabilirlik ve yasal ve düzenleyici ortam hakkında kapsamlı bir bilginin kombinasyonun sağlanması yöneticiler için önemli bir gerekliliktir.

Kamu politikalarını, iş stratejilerine etkili bir şekilde entegre edebilen liderler, organizasyonlarını başarıya yönlendirmek için daha iyi bir konumda olacaktır. Dolayısıyla kamu politikalarının sadece uyulması gereken bir dizi kural değil, aynı zamanda rekabet avantajı elde etmek için kullanılabilecek bir araç olduğunu unutulmamalıdır. Kısaca ifade etmek gerekirse iş dünyası üzerinde önemli etkileri olan kamu politikaları, liderlik ve girişimcilikten çalışan katılımı ve gelişimine kadar iş stratejisinin çeşitli yönleri üzerinde derin etkileri olan

faktörlerdir. Bildiride, şirketlerin iş stratejilerini şekillendiren, etkileyen bu faktörlerin neler olduğu, önemi verilecektir. Şirketlerin bu faktörleri anlamak, etkilerini artırmak; onların daha bilinçli ve stratejik kararlar almasına yardımcı olması için yapılması gerekenler incelenecektir. Girişten sonraki başlıkta kamu politikalarının önemi ve işleyişindeki temel gereklilikler verildikten sonra temel kamu politikalarının şirket stratejilerine etkilerine değinilecektir. Sonuç kısmında genel bir değerlendirme yapılacaktır.

2. KAMU POLİTİKALARININ ÖNEMİNE VE İŞLEYİŞİNDEKİ TEMEL GEREKLİLİKLERE BAKIŞ

Kamu politikaları genel olarak, toplum refahını iyileştirmek adına devletin koymuş olduğu kanunlar, düzenleyici tedbirler ve müdahaleler olarak tanımlanmaktadır. Kamu politikalarının başarısı gerçek birey davranış ve tercihlerinin anlaşılmasına bağlı olmaktadır. İktisadi bireyin aksine bireyler gerçek hayatta kendilerine uzun vadede refah sağlayacak tercih ve davranışlarda bulunamamaktadır. Bunda; Kahneman'ın da belirttiği üzere bireylerin tercih etme durumunda kaldıklarında genellikle otomatik düşünme yöntemini kullanmaları etkili olmaktadır. Aynı zamanda bireyler atalete yenik düşmekte, alışkanlıklarına takılıp kalmakta ve sürekli ertelemektedir. Buradan hareketle kamu politikalarının insan doğasının karmaşık yapısını referans alması oldukça önem taşımaktadır. Karmaşık insan doğasına dayalı birey davranışları genellikle bilinç dışı, otomatik ve duygu odaklı olmaktadır. Dolayısıyla uygulanacak kamu politikalarının maddi teşvik ve yasaklardan ziyade bilinçaltını dürtme, akranları aracılığıyla ikna etme ve toplumsal pazarlama gibi davranışsal yöntemlere dayalı olmasının daha etkili olacağı düşünülmektedir (Kılıç, 2020: 255).

Ülkeler, uygulayacakları kamu politikalarında artık davranışsal iktisattan yararlanmakta ve kamu politikalarını davranışsal öğelerle yeniden şekillendirmektedir. Geçmişte insanın rasyonel olduğu varsayımı her alanda olduğu gibi kamu politikaları üzerinde de etkili olmuş ve belki de bu yüzden kamu politikalarının etkinliği bazı alanlarda sınırlı kalmış ve isteyen etkiyi yaratamamıştır. Ülkelerin uyguladıkları politikaların daha başarılı olabilmesi için birçok değişkeni birlikte değerlendirmesi gerekir. Kamu politikalarının oluşturulma sürecinde merkeze insanı almak büyük fark yaratmaktadır. Davranışsal kamu politikaları sayesinde artık kamu yararına yönelik uygulamalarda bireylerin davranışını yönlendirebilmek mümkün hale gelmektedir. Politika yapıcılar varsayımdan ziyade kanıtlara dayalı olarak politika geliştirebilmektedir. Kamu politikaları davranışsal öğelerle yeniden tasarlanırken, mevcut politikaların iyileştirilmesi için öneriler getirebilir ya da ilgili politikalara yönelik ortaya çıkabilecek tepkileri en aza indirmek için açıklamalarda bulunabilir (Ecer, 2020: 50-51).

Dolayısıyla ortaya çıkabilecek tepkiler, bireysel beklentiler ve davranışlarda farklılıklar olması gibi nedenlerle, ekonomik ve sosyal hayatın değişimlerine yanıt olarak gelişen kamu politikaları statik değildir. Politikaların, özellikle iş dünyasındaki dinamik doğasına, kamudaki yöneticilerin de, gerektiği anlarda zorunlu politika değişiklikleriyle cevap verebilmesi gerekir. Bunun için iş stratejileri hakkında bilgi sahibi olmalarıyla oluşturacakları politikaların, şirketler üzerindeki potansiyel etkilerini tahmin edebilmeleri sayesinde iktisadi hayata müdahale eden kamu politikalarının amaca yönelik başarıları artacaktır.

Devletin, devreye aldığı veya eksik/yanlış aldığı kamu politikalarıyla iktisadi hayata doğrudan müdahale etmesi neticesinde ortaya çıkan politik konjonktürel dalgalanmalar, makroekonomik temel göstergelerde olumlu ve olumsuz etkilere sebep olur. "Politik konjonktür hareketleri teorisinin temellerinin esasen kamu tercihi teorisine dayalı olduğunu söyleyebiliriz. Kamu tercihi alanında araştırma yapan politik iktisatçılar, siyasetçilerin "oy maksimizasyonu", bürokratların "bütçe maksimizasyonu", çıkar ve baskı gruplarının "rant maksimizasyonu" ve seçmenlerin de "fayda maksimizasyonu" yönündeki tercih ve eğilimlerinin politik konjonktür hareketlerinin doğuşunda ve yaygınlaşmasında etkili olduğu görüşünü savunmaktadırlar. Her ne kadar seçim ekonomisine dönük partizan iktisat politikalarını uygulama kararını alan siyasi iktidarlar olsa da siyasi iradeyi bu yönde teşvik eden ve destekleyen sivil irade (seçmen iradesi) analizin dışında tutulmamalıdır (Aktan ve Güdenoğlu, 2023: 59).

Kamu politikasının ekonomik olan ve olmayan özgürlükler arasında ve ayrıca politik özgürlük ile gelir ve servetin eşit dağıtımı arasında denge kurmayı başarması için onun adil, doğru, tarafsız ve yerleşik çıkarlara hizmet etmiyor olarak görülmesi gereklidir. Yalnız o zaman kapsayıcı bir politik mutabakat inşa edilebilir ve kanunen eşitlikçi bir kamu politikası için kamu desteği kazanılabilir (Naqvi, 2019: 64).

Kamunun bu desteği kazanması ve yönlendiriciliğinin kapsayıcı bir şekilde ekonomiye ve onun önemli mikro unsuru olan şirketlere yansıyabilmesi için kamu; belirli sektörleri, üretici ve tüketicileri korumak amacıyla politikalarını oluşturmalıdır. Örneğin, hem çalışanları korumak hem de fiyat kontrolünü sağlamak için asgari ücret, taban-tavan fiyat, vergiler gibi düzenlemeler ile fiyatların oluşumunu etkileyebilir. Aynı şekilde piyasa koşulları, şirketlerin veya sektörün pazar gücü, rekabet seviyesi, fiyatların belirlenmesinde önemlidir. Doğal olarak şirketler arasındaki rekabet genellikle fiyatları düşürür. Fiyatların düşüşü ve/veya piyasalarda adil fiyatın oluşması için

Adam Smith tarafından ifade edilen "laissez faire, laissez passer - bırakınız yapsınlar bırakınız geçsinler" felsefesi de çeşitli nedenlerle istenilen amaca hizmet etmemektedir.

Bu kapsamda kamu politikalarının oluşturulması kadar işleyişinde etkinliğin artması, kamunun yönlendiriciliğinin kapsayıcı bir şekilde şirketlere yansıyabilmesi için bağımsız düzenleyici ve denetleyici kurumlara da ihtiyaç vardır. Çünkü piyasalar, "katılımcıların yolsuzluk ya da rekabet karşıtı davranışlar içerisine girmesi halinde çöker. İşlem maliyetlerinin, teknolojik ve diğer parasal olmayan dışsallıkların içselleştirilmesini engellemesi halinde de çöker. Ayrıca, eksik bilginin etik tehlikeler ve olumsuz seçimlere yol açması halinde de çöker (Rodrick, 2014: 41). Dolayısıyla sistemdeki dönüşümün sağlanabilmesi için temel koşullar Acemoğlu ve Robinson (2016: 407) göre, "mülkiyet haklarını hayata geçiren, eşit rekabet şartları sağlayan ve yeni teknoloji ve becerilere yatırım yapmayı teşvik eden kapsayıcı ekonomik kurumlar olmalıdır".

Bağımsız düzenleyici ve denetleyici kurumların faaliyetlerinde kapsayıcılığın sağlanabilmesi için de uluslararası düzenlemeler ve standartlar kapsamında organize olmaları; bağımsızlık, hesap verebilirlik, şeffaflık kriterlerine göre faaliyetlerini siyaset üstü bir anlayışla yürütebilmeleri gerekir. Çünkü bireylerin, piyasalardaki alıcı ve satıcı rolleri, siyasi ortamda oy veren; vergi ödeyen, bürokrat veya kamu hizmetlerinden yararlanan politikacı gibi statülere dönüştüğü için kişilik değişimleri de kaçınılmaz olabilir. Bu yüzden sistem, bireysel ahlaki değerlerin devreye girmeyeceğini varsayarak tedbiri elden bırakmadan, etik düzenlemeleri; bağımsız düzenleyici ve denetleyici yapıları kapsayıcı bir şekilde devreye almalıdır. Sakal ve Kitapçı (2009: 33) çalışmalarında bu gerekliliği şöyle ifade etmişlerdir: Tüm kamu kaynaklarını yönetmekle ve bunları adaletli bir şekilde tahsis etmekle görevlendirilen siyasetçilerin de ahlaka uygun davranmaları son derece önemlidir. Siyaset insanları mutlu kılma adına gerçekleştirilen en önemli araçlardan biridir. Siyasetin bir araç olarak görülmeyip bir amaç olarak görülmesi siyasal ahlakın dışına çıkmak demektir. Siyasal ahlak, siyasetin temel yapı taşlarından birisidir. Siyasal ahlakın dışına çıkılması siyaseti de ahlaksız bir hale büründürmektedir.

Bu olumsuzlukların yaşanmaması için kurulan Ulusal Sürdürülebilir Kalkınma Koordinasyon Kurulu bünyesinde oluşturulacak komisyonlarda kapsayıcılığın sağlanmasına dikkat edilmelidir. Bunun için şirketlere yönelik kamu politikaların belirlenmesinde yerelden/sahadan bilgilerin alınması, bunlara göre iyileştirmeleri yapılabilmesi için gerekli olan otoritenin/komisyonun nasıl oluşturulması gerektiği konusunda Yazıcı ve Yazıcı'nın (2017: 23) önerisi önemlidir ve şu temel gerekliliklere dikkat çekmektedir:

- Otorite veya komisyon tüm tarafları kapsamalıdır.

- Ticaret Odalarında ve/veya Ticaret Sicil Müdürlüklerinde oluşturulacak bu komisyon, kurumsallaşmanın temellerini atıyor olma bilinciyle çalışmalı.

- Komisyonda, Rekabet Kurumu'ndan, TÜRKAK'dan (Türk Akreditasyon Kurumu), Vergi Dairesinden, Ticaret Odası İlgili Meslek Komitesi'nden, Tüketiciyi Koruma Derneği'nden temsilciler olması kurumsallaşma anlamında önemli bir adım olacaktır.

Ulusal Sürdürülebilir Kalkınma Koordinasyon Kurulu bünyesinde oluşturulabilecek yerel komisyonlar, şirketlerin Sürdürülebilir Kalkınma Amaçlarının (SKA), sürdürülebilirlik konusunda yeterliliklerin var olup olmama durumuna göre kuruluşlarına izin vermelidir. Mevcutlar da kamu kaynaklarından yararlanacakları zaman SKA'lara uyumun olup olmadığına bakılmalıdır.

3. TEMEL KAMU POLİTİKALARININ ŞİRKET STRATEJİLERİNE ETKİLERİ

Kamu politikaları, şirketlerin büyümesi için bir katalizör veya mikro ve makro ölçekte başarının önünde bir engel olabilir. Kamu politikalarının, şirket stratejilerine etkilerinin çerçevesinin belirlenmesinde, şirketlerin tek amacının kâr elde etmek olması durumunda normal olmayan yollara, davranış şekillerine yöneleceği unutulmamalıdır. Şirketlerin bu davranışları, hem diğer paydaşlar tarafından kabul edilmeyecek sonuçlara hem de çevreye zarar verici, yok edici, sürdürülebilir olmayan uygulamalara sebep olmaktadır. Fakat evrensel değer olan doğal kaynakların, ekonomik gelişmeyi ve insan hayatını tehdit edecek şekilde tüketilmesi, atmosferin kirletilmesi, çevresel sürdürülebilirliğin sağlanamaması gibi sorunların çözümleri de, hem bölgesel hem de küresel ölçektedir. Yani çevresel, ekonomik ve sosyal boyutta ortaya çıkan sorunlar nedeniyle her alanda sürdürülebilirlik, hem mikro hem de makro ölçekte içselleştirilmesi gereken en önemli konulardan birisidir. Mikro ölçekte yapılacakların başında, şirketlerde kurumsallaşma, kurumsal yönetim faaliyetlerine önem verilmesi gelmektedir. Bunun için de kurumsal yönetim ilkeleri, işletmelerin sürdürülebilirliği açısından iç kontrol sistemi ve iç denetim faaliyetini bütünleşik bir yapıyla ele almalıdır. Şirketlerde uluslararası standartlara göre süreçlerin oluşturulması ve bunlara göre iç kontrol ve iç denetim uygulamalarının gerçekleştirilmesi sürdürülebilirliğin başarısı için önemlidir. Sonuçta

iyi bir kurumsal yönetim uygulamasını destekleyen bir unsur olarak, tüm paydaşların menfaatlerini gözeten bir yaklaşım içinde, şirket faaliyetlerinin raporlanması da her türlü sürdürülebilirlik için gereklidir.

Kamu politikalarının, yukarıda ifade edilen sorunları dikkate alarak bürokrasiyi azaltma yaklaşımlarıyla şirket kurmanın kolaylaştırılması kadar temel gereklilik kriterlerine de işin başında önem verilmelidir. Örneğin: İzin verilecek şirkete bölgenin ihtiyacı var mı? Evet ise şirket ve yetkililerinin fiziki, finansal ve beşerî sermayesi yeterli mi? Sorularını soracak ve denetleyecek bir sürecin/sistemin kurulması ve işletilmesi gerekir. Bu kriterlere yönelik düzenlemelerin ve kontrollerin sağlanmadığı bir durumda kolay şirket kurmak uzun dönemde devletin vergi gelirlerine de olumsuz yansıyacaktır. Kıt olan finansal sermayenin heba edilmemesi ve adil olmayan rekabet koşullarının oluşmaması için şirket kuruluşunda devletin düzenleyici ve denetleyici gücü mükelleflere hissettirilmelidir. Herkesi kapsayacak, eşit mesafede olacak bir denetim sistemi, hem mükellef haklarını hem de kamu gelirlerini koruyabilir. En önemlisi, ülkede kıt kaynak olan her türlü sermaye korunmuş olur. Vergi kaçırmanın alternatif maliyeti yükseldikçe de vergi bilinci otomatik artacaktır.

Bu temel gereklilikleri dikkate alarak oluşturulacak kamu politikaları, şirketlerin stratejik kararlarını ve operasyonel faaliyetlerini olumlu yönde etkileyecektir. Kamu politikaları, şirketlerin iş stratejilerini çeşitli şekillerde etkileyebilir. Tablo 1'de özetlenen bu faktörler, şirketlerin iş stratejilerini şekillendiren önemli kamu politikası unsurlarıdır.

Tablo 1'in ilk sütunda yer alan ekonomi politikaları, şirketlerin yatırım yapma ve büyüme stratejilerini hem olumlu hem de olumsuz yönde etkileyecektir. Bilindiği gibi yüksek vergi oranları, şirketlerin kâr marjlarını azaltabileceği için yatırım kararları ertelenebilecektir; tersi politikalar yatırımları artırabilecektir. Aynı şekilde bir bölgedeki altyapı yatırımları, şirketlerin o bölgede faaliyet göstermelerini daha cazip hale getirebilir.

Tablo 1: Temel Kamu Politikaları

Ekonomik Politikaları	Çevresel Politikalar	Sosyal Politikalar	Ticaret Politikaları
Vergi oranları, teşvikler ve sübvansiyonlar gibi düzenlemeler	Çevre koruma ve sürdürülebilirlik hedeflerine yönelik düzenlemeler	Çalışanların sağlık ve güvenliğine, işçi haklarına yönelik düzenlemeler	Gümrük tarifeleri, ithalat ve ihracat kotaları gibi ticaret politikaları

Tablo yazar tarafından hazırlanmıştır.

Tablo 1'in ikinci sütununda yer alan çevresel politikalar, iklim değişikliği ile mücadeleye yönelik politikalardır ki, şirketlerin çevresel sürdürülebilirlik stratejilerini etkiler. Örneğin, karbon emisyonlarını azaltmaya yönelik düzenlemeler, şirketlerin yeşil teknolojilere yatırım yapmalarını teşvik edebilir. Dolayısıyla düzenleyici yasalar ve yönetmelikler aracılığı ile şirketlerin sürdürülebilirlik stratejilerini geliştirmelerine katkı vermeyi amaçlayan üretim süreçleri, atık yönetimi, enerji kullanımı gibi başlıklarda yeniden düzenlemeler gerektireceği için maliyet artırıcıdır. Aynı şekilde çevresel standartlara uyum sağlamayan şirketler, cezalar ve itibar kaybı gibi olumsuz sonuçlarla karşılaşabilir.

Tablo 1'in üçüncü sütununda yer alan sosyal politikalar, şirketlerin insan kaynakları planlaması, yönetimi ve işçi hakları konusundaki stratejilerini ifade etmektedir. Bu düzenlemeler de, işyerinde daha fazla önlem alınmasını gerektirerek maliyetleri artırabilir fakat uyulmaması durumundaki alternatif maliyet daha yüksek olabilir.

Tablo 1'in son sütununda yer alan ticaret politikaları ise gümrük tarifeleri, ithalat ve ihracat kotaları gibi politika araçlarıyla, şirketlerin uluslararası stratejilerini etkiler. Örneğin, yüksek gümrük tarifeleri, şirketlerin yerel üretim yapmalarını teşvik edebilir.

4. SONUÇ

Mikro ve makro ölçekte kurumsal kalitenin artırılmasının, ekonomik performansı olumlu yönde etkilediği birçok çalışma ile ispatlanmıştır. Bu bağlamda dinamik bir yapıya sahip olan iş dünyasına yönelik belirlenecek kamu politikaları da, kurumsal kalitenin artırılmasını temel hedef olarak görmelidir. Çünkü iş dünyası sürekli sistemik risklere maruz kaldığı için statik bir yapı yoktur. Kamu politikaları, politik, ekonomik ve sosyal değişimlere tepki olarak geliştirilmesi gerekir. Ekonomik yapının bu dinamik doğasına kamu politikalarının da uyumlu olması gerekir ki, şirketlerin çevik kalmasına yönelik stratejiler geliştirilebilsin. Bu proaktif yaklaşım, şirketlerin zorlukları öngörmelerini ve fırsatları yakalamalarını kolaylaştırarak kamu politikalarının uzun vadeli uygulanabilirliklerini garanti eder. Tabii ki her seviye de kurumsallaşmanın sağlanabilmesi gerekir.

On İkinci Kalkınma Planı da kamu hizmetlerinin katılımcı, kapsayıcı, hesap verebilir, şeffaf, adil, hızlı, kaliteli, vatandaş memnuniyetini esas alan ve sivil toplumu destekleyecek şekilde bütüncül bir anlayışla sunulması, vatandaşların kamu kurumlarına olan güveninin artırılması amacıyla iyi yönetişim ilkeleri ve kamu yönetiminde dürüstlük odaklı anlayışı benimsemiştir. Adaleti esas alan demokratik, iyi yönetişim ilkeleri çerçevesinde, temel hak ve özgürlüklerin adil ve hızlı çalışan bir hukuk sistemiyle korunmasının yanı sıra liyakat esaslı güçlü kurumsal yapılara öncelik verilmesine de dikkat çekilmektedir. Kurumsal yapı ve yönetişimin önemi hakkında Plan'da yer verilen bu ifadelerin içselleştirilmesi de önemlidir. Çünkü kamu politikalarının önemli istikrar ölçütü olan "finansal istikrar hedeflerine ulaşmak veya bunların takibini diğer politika hedefleriyle birleştirmek kolay olmayacaktır" (BIS, 2011a: 27). Özetle kamu politikalarının işlevlerinin hangi kurumlar tarafından yerine getirileceği; aralarındaki uyumun ve yönetimin nasıl gerçekleştirileceği, şeffaflık, verimlilik ve hesap verebilirlik gibi ölçülmesi, saydamlığı zor konular kurumsal yapı ve yönetişim mekanizmasının etkinliğinin önemini artırmaktadır.

Sonuç olarak kamu politikalarının oluşturulmasında şu faktörler unutulmamalıdır:

- Şirketlerin, tüm paydaşların menfaatlerine olacak şekilde iş süreçlerini oluşturmalı,
- Etkin iç kontrol sistemlerini kurmasının ve işletilmesinin sağlanması,
- Doğru, güvenilir ve zamanlı muhasebe bilgilerini üretecek sistemin kurulması,
- Çalışanlar arasında iş barışına yönelik düzenlemeleri de dikkate alan koordinasyonun sağlaması.

Bu temel gerekliliklerin şirketlerde oluşturulması sayesinde hem kamu politikaları, kaynak israfına yol açmadan amacına uygun olabilecek hem de şirketler belirlenen hedeflere ulaşabilecek, geleceğe güvenli adımlarla yürümeleri mümkün olacaktır.

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Döviz Kuru Oynaklığının Bazı Makroekonomik Değişkenler Üzerindeki Etkisi[1]

Rıdvan YENİ [1] **Eda ÖZEN**[2]

[1] Bilecik Şeyh Edebali Üniversitesi, Lisansüstü Eğitim Enstitüsü, İktisat Tezli Yüksek Lisans, ridvan.yeni@ktb.gov.tr

[2] Bilecik Şeyh Edebali Üniversitesi, İİBF, İktisat, eda.ozen@bilecik.edu.tr, ORCID: 0000-0002-0818-1040

Özet: Döviz kuru oynaklığı, makroekonomik istikrarı doğrudan etkileyen önemli bir faktördür. Bu çalışma, kur dalgalanmalarının enflasyon, faiz oranları, dış ticaret ve ekonomik büyüme üzerindeki etkilerini incelemektedir. Özellikle gelişmekte olan ülkelerde, kur oynaklığı ekonomik dengesizlikleri artırarak fiyat istikrarını bozmakta ve yatırımcı güvenini sarsmaktadır. Kur dalgalanmaları, ithalat bağımlılığı yüksek ekonomilerde maliyet yönlü enflasyonu artırırken, merkez bankalarının faiz politikalarını da etkilemektedir. Döviz kurlarındaki oynaklık, faiz oranlarında değişikliklere yol açarak piyasa istikrarını sağlamaya yönelik müdahaleleri zorunlu kılmaktadır. Ayrıca, döviz kuru oynaklığı dış ticareti olumsuz etkileyerek ihracatçı firmaların rekabet gücünü zayıflatabilir. Kurların aşırı dalgalanması, ticaretin sürdürülebilirliğini zorlaştırmaktadır. Ekonomik büyüme açısından bakıldığında, kur oynaklığı finansal istikrarla doğrudan ilişkilidir. Ani kur hareketleri, yabancı yatırımcıların risk algısını artırarak sermaye girişlerini olumsuz etkileyebilir. Bu nedenle, kur dalgalanmalarını kontrol altına alacak etkin para ve maliye politikalarının uygulanması gerekmektedir.

Anahtar Kelimeler: Döviz Kuru Oynaklığı, Enflasyon, Ekonomik Büyüme, Faiz Oranı, Dış Ticaret

Abstract: Exchange rate volatility is an important factor that directly affects macroeconomic stability. This study examines the effects of exchange rate volatility on inflation, interest rates, foreign trade and economic growth. Especially in developing countries, exchange rate volatility increases economic imbalances, disrupts price stability and undermines investor confidence. Exchange rate fluctuations increase cost-push inflation in highly import-dependent economies and affect central banks' interest rate policies. Exchange rate volatility leads to changes in interest rates, necessitating market stabilization interventions. Moreover, exchange rate volatility may adversely affect foreign trade and weaken the competitiveness of exporting firms. Excessive exchange rate volatility complicates the sustainability of trade. In terms of economic growth, exchange rate volatility is directly related to financial stability. Sudden exchange rate movements may adversely affect capital inflows by increasing the risk perception of foreign investors. Therefore, effective monetary and fiscal policies should be implemented to control exchange rate fluctuations.

Key Words: Exchange Rate Volatility, Inflation, Economic Growth, Interest Rate, Foreign Trade

1. GİRİŞ

Döviz kuru hareketleri, ulusal ve uluslararası ekonomik dengeleri şekillendiren temel unsurlardan biri olup, özellikle makroekonomik istikrar açısından önemli etkilere sahiptir. 1973 yılında Bretton-Woods sisteminin sona ermesiyle birlikte dalgalı döviz kuru rejimine geçiş, finansal piyasalarda belirsizliği artırmış ve döviz kuru oynaklığını küresel ekonomik sistemin kalıcı bir özelliği haline getirmiştir. Döviz kuru dalgalanmaları, özellikle enflasyon, faiz oranları, ticaret dengesi ve ekonomik büyüme gibi temel makroekonomik değişkenler üzerinde belirleyici bir rol oynamakta ve bu değişkenlerin dinamiklerini doğrudan etkilemektedir.

Bu çalışma, döviz kuru oynaklığının makroekonomik göstergeler üzerindeki etkisini incelemeyi amaçlamakta ve farklı ekonomik yapıya sahip ülkelerde bu etkinin nasıl değiştiğini analiz etmektedir. Araştırmada, gelişmiş ve gelişmekte olan ülkeler bağlamında döviz kuru dalgalanmalarının enflasyon, faiz oranları, dış ticaret ve ekonomik büyüme üzerindeki etkileri karşılaştırmalı bir yaklaşımla ele alınmaktadır. Farklı döviz kuru politikalarının oynaklığın olumsuz etkilerini hafifletmedeki etkinliği değerlendirilmektedir.

Bu araştırmanın bulguları, küresel finans piyasalarındaki belirsizliklerin ekonomi politikaları üzerindeki yansımalarına ışık tutarak, politika yapıcılar için önemli çıkarımlar sunmaktadır. Döviz kuru oynaklığının ekonomik istikrar üzerindeki etkilerinin derinlemesine incelenmesi, döviz kuru risklerinin etkin yönetimine yönelik stratejilerin geliştirilmesine katkı sağlamaktadır.

[1] Bu çalışma Bilecik Şeyh Edebali Üniversitesi, Lisansüstü Eğitim Enstitüsünde İktisat Anabilim Dalında Doç. Dr. Eda ÖZEN danışmanlığında, Tezli Yüksek Lisans yapan Rıdvan YENİ tarafından çalışılan "Döviz Kuru Oynaklığının Bazı Makroekonomik Değişkenler Üzerindeki Etkisi" adlı tezden türetilmiştir.

2. DÖVİZ VE DÖVİZ KURU KAVRAMI, DÖVİZ KURU REJİMLERİ, DÖVİZ KURU ARAÇLARI VE DÖVİZ KURUNU ETKİLEYEN FAKTÖRLER

Döviz, iki ülke arasındaki finansal işlemler için kullanılan yöntemleri ifade ederken, kambiyo kuru ülkeye ait olan paranın diğerininkiyle değiştirilebildiği orandır. Kur, mal ve hizmetlerin sınır ötesi değişimini, ülkeler arasında fon transferini ve farklı para birimlerindeki malların fiyatlarının karşılaştırılmasını sağlayarak uluslararası ticaretin kolaylaştırılmasında önemli bir rol oynamaktadır (Abdoh vd., 2016).

Döviz dengesi, döviz talep ve arzının kesiştiği noktada oluşur. Döviz arzı, ihracatçılar gibi döviz getiren aktörlerle artarken, döviz talebi ise ithalatçılar gibi döviz talep eden aktörlerle belirlenir. Serbest piyasalarda, döviz kuru, arz ve talebin miktarına göre belirlenir ve buna denge döviz kuru denir.

Kur türleri ikiye ayrılır ve bunlar nominal ve reel döviz kurudur. Nominal kur, belirli bir miktardaki dövizi satın alabilmek için ödenmesi gereken ulusal para tutarıdır. Ulusal paranın yabancı paralar türünden değeri ya da ülkelerin paralarının fiyatlarının oranı olarak da tanımlanabilir (Özkan, 2003).

Kur rejimleri, tam sabit kur ile tam esnek kurların yer aldığı iki uç arasında çeşitlilik gösterir (Çağlar, 2003: 63).

Sabit kur rejimi, bir ülkenin para biriminin belirli bir dövize veya para sepetine sabitlendiği parasal bir sistemdir. Merkez bankası, kur dalgalanmalarını önlemek için döviz piyasasına müdahale eder ve yerli paranın değerini sabit tutmaya çalışır (Seyidoğlu, 2003: 361). Bu sistem, uluslararası ticaret ve yatırımda istikrar sağlarken enflasyon kontrolüne de katkıda bulunur. Sabit kur sisteminde merkez bankası, döviz kurunu önceden belirlenmiş seviyede tutmak için rezervlerinden döviz alım-satımı yaparak müdahalede bulunur (Kubar ve Çoban, 2021: 193).

Esnek bir döviz kuru sistemi hem reel sektörden hem de dış kaynaklardan gelen beklenmedik değişimlere karşı dayanıklıdır. Söz konusu rejimde para politikası harici bir etkene bağlı olmadan saptanabilir. (Yanar, 2008: 258). Esnek döviz kuru sistemi, şoklara karşı dayanıklıdır ve merkez bankasına etkili para politikası yapma imkânı sunar. Ancak, sürekli dalgalanmalara bağlı istikrarsızlık yaratabilir ve ticaret ile yatırımı teşvik etmeyebilir. Dalgalı döviz kurları, fiyat ve gelirlerde ek riskler getirerek finansal riskleri artırabilir ve spekülasyona yol açabilir (İyibozkurt, 1995: 303).

Alternatif kur rejimleri ne tam olarak sabit kur rejimine giren ne de esnek kur rejimine giren kur sistemlerini ifade etmektedir. Para Kurulunun temel özelliği, para miktarını otomatik bir düzene göre ayarlayarak isteğe bağlı para politikalarını devre dışı bırakmasıdır. Bu öngörülebilirlik, ekonomik birimlerin gelecekteki döviz kurlarını yüksek bir güvenle tahmin etmelerini sağlar (Karagöz, 2009). Denetimli dalgalanma, devletin para otoritesinin önceden belirlenmiş temel makroekonomik göstergelere dayanarak döviz piyasasına müdahale ettiği bir sistemdir. Sabit döviz kuru sisteminin aksine, merkez bankası belirli bir kuru korumayı taahhüt etmez, bu da ona ekonomik koşullara yanıt verme esnekliği sağlar. Bu sistem aynı zamanda "kirli dalgalanma" olarak da adlandırılır çünkü düzenlenmemiş müdahaleler yerel ekonomi için olumlu sonuçlar doğururken diğer ekonomileri potansiyel olarak olumsuz etkileyebilir (Uzunoğlu, 2007: 13). Yatay Bir Bant İçinde Tutulan Dalgalanma yani Avrupa Para Sistemi'nde uygulanan sabit döviz kuru sistemi, merkez bankasının döviz kurunu belirli bir merkezi kur etrafında %1'lik bir bant içinde sabit tutmaya çalışmasını öngörür. Bu sistem, döviz kuru dalgalanmalarını kontrol altına almayı ve dış şoklardan kaynaklanan belirsizliği azaltmayı amaçlar. Ancak, merkez bankasının güvenilirliği kritik bir rol oynarken, sistem spekülatif ataklara karşı savunmasız olabilir (Taban, 2004: 132-133). Yönlendirilmiş sabit parite döviz kuru sisteminde, merkezi bir kur vardır ve piyasa döviz kurlarının bu merkezi kur etrafında hafifçe dalgalanmasına izin verilir. Bu sistem aynı zamanda döviz kurlarının önceden duyurulmasına ve genel fiyat düzeyi gibi seçilmiş ekonomik göstergelere dayalı ayarlamalara izin verir (Uzunoğlu, 2007: 14). Bretton Woods Sistemi olarak da bilinen ayarlanabilir sabit döviz kuru rejiminde merkezi döviz kuru kalıcı olarak sabitlenmez, belirsiz süreler için belirlenir. Bu merkezi döviz kuru aşırı değerlenmeyi önlemeye yardımcı olur. Ancak, ayarlama dönemlerinin öngörülemezliği ve değişikliklerin sıklığı piyasalarda belirsizlik yaratabilir. Dolarizasyon, bir ülkenin yerel para birimini tamamen değiştirerek yabancı bir para birimini yasal ödeme aracı olarak kabul etmesidir (Mumcu Akan, 2010: 108-115). Bu süreç, yerel para biriminin işlevlerini kısmen veya tamamen yabancı para birimine devretmesiyle gerçekleşir. Tam dolarizasyonda, ülke parasal bağımsızlığını ve senyoraj gelirlerini kaybeder, ancak parasal ataklara karşı daha dirençli olabilir (Uzunoğlu, 2007: 13; İnan, 2002: 39).

Döviz kuru politikası araçları devalüasyonu ve revalüasyonu içermektedir. Revalüasyon sabit kur rejiminin uygulandığı ülkelerde görülür. Ülke parasının yabancı para birimleri karşısında değerinin yükseltilmesi anlamına gelir. Uygulamada devalüasyon çok fazla görülürken revalüasyon çok sık görülen bir uygulama değildir. Revalüasyon ithalatı ulusal para cinsinden daha ucuz, ihracatı ise yabancı para cinsinden daha maliyetli hale getirir. Bu da daha yüksek döviz harcamalarına ve daha düşük döviz kazançlarına yol açarak dış fazlayı azaltır. Revalüasyona giden ülkeler rekabet gücü yüksek ve sağlam bir ekonomiye sahip olmalıdır (Seyidoğlu, 2002). Döviz

kurlarının sabitlendiği ya da sabit seviyelerde tutulduğu sistemlerde, döviz kurundaki herhangi bir değişiklik hükümet tarafından yapılmaktadır. Hükümet döviz kurunu artırmaya veya ulusal paranın yabancı paralar karşısındaki değerini düşürmeye karar verdiğinde, bu eylem devalüasyon (devaluation) olarak bilinir (Seyidoğlu, 1993: 209). Devalüasyon uygulaması sadece sabit kur rejimi uygulayan ülkelerde mümkündür. Esnek kur rejiminde ise bunun adı ulusal paranın değer kaybetmesi olarak ifade edilir.

Döviz kurunu etkileyen çok sayıda etken vardır, ancak en önemlileri siyasi, iktisadi ve beşeri etmenlerdir. Siyasi etmenler, seçimler ve beraberinde getirdikleri siyasi belirsizlik her ülkede görülebilir ve ulusal para birimini önemli ölçüde etkileyebilir. Cumhurbaşkanlığı ve parlamento seçimleri, ülkenin siyasi istikrarsızlık ve artan belirsizlik yaşayacağından korkan yabancı yatırımcılar arasında genellikle endişeye neden olur. Sonuç olarak, bu yatırımcılar ulusal para birimindeki yatırımlarını azaltabilir, dövize olan talebi artırarak kurda dengesizliğe sebep olabilir (Frear ve Edmonds, 2011: 12).

Döviz kurunu etkileyen iktisadi etmenler ülkenin iktisadi perspektifindeki gelişmelerle alakalıdır. Bu başlık altında, iktisadi faktörlerden; enflasyon, faiz, ödemeler dengesi, ekonomik büyüme, para arzı gibi sebepler bu başlık altında incelenmiştir.

Klasik ekonomi teorisi, genel fiyat seviyesi yükseldiğinde -yani yurtiçinde üretilen malların fiyatları arttığında- yerli ürünlerin yabancı mallara kıyasla daha pahalı hale geldiğini öne sürer. Bu durum tipik olarak ihracatın azalmasına ve ithalatın artmasına yol açar. Sürekli yüksek enflasyon yaşayan ülkelerde insanlar tasarruflarının daha büyük bir kısmını yabancı para cinsinden tutma eğiliminde olurlar ve bu da yabancı varlıklara olan talebi artırır. Sonuç olarak, yabancı paraya olan bu artan talep yerli paranın değer kaybetmesine yol açar (Gül ve Ekinci, 2006: 93).

Kur ve faiz oranları arasındaki ilişki üç ana yaklaşımla açıklanabilir: Birinci yaklaşım, yüksek faiz oranları, yabancı sermaye girişini artırarak yerli paranın değerini yükseltir. İkinci yaklaşım, artan faiz oranları, borç yükünü artırarak finansal kurumların firmalara para akışını yavaşlatır ve ekonomik beklentileri olumsuz etkiler. Üçüncü yaklaşım, yüksek faiz oranları, kamu borçlanma maliyetlerini artırarak enflasyon ve risk algısını yükseltir, bu da yerli paranın değer kaybetmesine yol açar (Şentürk ve Dücan, 2014: 68; Karakış, 2019: 18-19; Şit ve Karadağ, 2019: 153).

Ödemeler dengesi, döviz kurlarının belirlenmesinde çok önemli bir faktördür. Bir ülke ihraç ettiğinden daha fazla ithalat yaptığında, para birimi değer kaybetme eğilimine girerek o para birimine olan talebi azaltır. Ödemeler dengesindeki bir açık, yerli paraya olan talebin azalmasına yol açarak döviz kurlarının yükselmesine neden olur (Ayhan, 2016: 14).

Döviz kurlarını etkileyen faktörlerden biri de insan davranışıdır. Piyasa katılımcıları iki tür davranış biçimi sergileme eğilimindedir: olumlu ve olumsuz. Bu davranışlar öncelikle gelecekle ilgili belirsizlikleri azaltma ihtiyacından kaynaklanır. Makroekonomik göstergelerle ilgili olarak yetkililer ve hükümetler tarafından yapılan açıklamalar, halkın bu tür açıklamalara olan güvenini büyük ölçüde etkiler. Ayrıca, bir ülkenin piyasalarında geçmişte yaşanan ekonomik olaylar da insan davranışlarını önemli ölçüde şekillendirebilmektedir (Mustafayev, 2021: 7).

3. DÖVİZ KURU OYNAKLIĞININ TANIMI, SEBEPLERİ VE SONUÇLARI

Volatilite yani oynaklık, değişken değerlerinin kısa bir süre içinde belirli bir ortalama etrafında dalgalanmasını ifade eder (Akay ve Nargeleçekenler, 2006: 5). Daha basitçe ifade etmek gerekirse, oynaklık bir değişkenin ortalamaya göre ani yükseliş ve düşüşlerini kapsar. Kaçınılmaz bir risk göstergesidir ve getirilerin standart sapması veya varyansı olarak tanımlanabilir (Albayrak, 2012: 58). Zaman dilimine, tekniğe ve amaca bağlı olarak gün içi, günlük, haftalık veya aylık fiyat değişimlerine bağlı olabilen finansal piyasa oynaklığı, genellikle bir serinin varyansı olarak ifade edilir. Bu bağlantılar, belirli bir dönem boyunca döviz kuru seviyelerindeki değişimlerin gözlemlenmesine olanak tanır ve ortalamaya göre artış ve azalışlar döviz kuru oynaklığını oluşturur (Ünal, 2009: 5).

Esnek döviz kuru sisteminde, kur piyasa arz ve talebine göre belirlenir ve makroekonomik değişkenler ile beklenti temelli faktörlerden etkilenir (Hakkio ve Engels, 1993: 49). Yüksek enflasyon ve faiz oranları döviz kuru dalgalanmalarına yol açabilir, sermaye girişleri ulusal paranın değer kazanmasına neden olurken ani çıkışlar kriz riskini artırabilir (Seyidoğlu, 2013: 434; Özdemir, 2014: 28). Faiz oranlarındaki değişimler ve beklentiler, yatırımcı davranışlarını etkileyerek döviz kuru oynaklığını artırır (Çağlar, 2003: 83; Walter, 2002: 83-85). Ödemeler dengesi sapmaları ve ekonomik büyüme de döviz kuru hareketlerinde belirleyici olup, büyümenin niteliğine bağlı olarak ulusal para değer kazanabilir veya kaybedebilir (Albayrak, 2012: 17; Singhateh, 2016: 15). Ayrıca, yumuşak güç unsurları da döviz kuru oynaklığı üzerinde dolaylı etkilere sahiptir (Kılıçarslan, 2018: 205; Cevik, 2015: 4).

Kurdaki oynaklıklar birçok iktisadi göstergeyi etkilemektedir. Tipik olarak, artan döviz kuru oynaklığı, ilişkili belirsizlikler ve riskler sebebiyle negatif etkilere sahiptir (Hançer, 2019: 25). Yüksek döviz kuru dalgalanması, firmaların yatırım kararlarını ve fiyatlandırma stratejilerini etkileyebilir, sermaye akışlarını zorlaştırarak ülkeye sermaye girişlerini geçici olarak azaltabilir. Dalgalanmanın devamı, ulusal para biriminin değer kaybetmesine ve döviz krizlerine yol açabilir. Ayrıca, artan oynaklık spekülatif saldırıları tetikleyerek merkez bankasının para politikalarını zayıflatabilir (Ayhan, 2016: 21).

4. DÖVİZ KURU OYNAKLIĞININ BAZI MAKROEKONOMİK DEĞİŞKENLER ÜZERİNDEKİ ETKİSİ

4.1. Döviz Kuru Oynaklığının Enflasyon Üzerindeki Etkisi

Döviz kurları ve enflasyon arasındaki bağlantıyı açıklayan ilk kişi olan Dornbusch (1987); döviz kurlarındaki dalgalanmaların ekonomilerdeki genel fiyat seviyesi üzerinde önemli bir etkiye sahip olabileceğini ve döviz kurlarındaki bu değişimler ithal malların ve üretimin maliyetlerini etkileyerek döviz kurları ile enflasyon arasında yakın bir bağlantıya yol açtığını ifade etmiştir. Söz konusu ilişkinin özellikle gelişmekte olan ekonomilerde çok önemli olduğunu belirtmiştir (Dornbusch, 1976). Döviz kurlarının enflasyon üzerindeki etkisi özellikle gelişmekte olan ülkelerde önemlidir. Bu ülkelerde döviz kurlarındaki dalgalanmalar fiyat seviyelerini güçlü bir şekilde etkilemektedir. Gelişmekte olan ekonomilerde üretim büyük ölçüde ithalata dayandığından, döviz kurlarındaki değişimler ithal ara ve sermaye mallarının maliyetlerini ve enflasyon beklentilerini etkilemektedir (Gül ve Ekinci, 2006: 92; Özçiçek, 2010: 314).

4.2. Döviz Kuru Oynaklığının Ekonomik Büyüme Üzerindeki Etkisi

Ekonomik büyüme çeşitli makroekonomik ve mikroekonomik faktörlerden etkilenmektedir. Bir ülkede döviz kuru oynaklığındaki artış üretimi, yatırımı, sermaye akışını, enflasyonu, faiz oranlarını ve dış ticareti olumsuz etkileyerek ekonomik büyümeyi engeller. Güçlü finansal sistemlere sahip gelişmiş ülkelerde döviz kuru oynaklığının etkileri asgari düzeyde ve önemsizdir. Ancak, zayıf finansal sistemlere sahip az gelişmiş veya gelişmekte olan ülkelerde ekonomik şoklar daha büyük bir tehdit oluşturmaktadır. Sonuç olarak, döviz kuru oynaklığı büyümenin önünde önemli bir engel haline gelir (Aghion, Bacchetta, Ranciere ve Rogoff, 2006: 511). Döviz kuru iki ana kanaldan ekonomik büyümeyi pozitif yönde etkileyebilir. Öncelikle, istikrarlı bir döviz kuru, kur riskini azaltarak daha düşük faiz oranlarına yol açar ve bu da yatırımı teşvik ederek büyümeyi destekler. İkinci olarak, döviz kuru uluslararası ticarete bağlıdır ve uluslararası işlem maliyetlerini düşürerek ekonomik büyümeyi artırır (Dornbush, 2001:5). Ekonomi politikalarının amacı refahı artırmak ve büyümeyi teşvik etmektir. Döviz kuru sistemlerinin avantajları konusunda tartışmalar sürmektedir. Sabit döviz kuru savunucuları, belirsizliği azaltıp yatırımları teşvik ettiğini öne sürerken, dalgalı kuru savunanlar dış şoklara karşı koruyarak daha istikrarlı büyüme sağladığını belirtmektedir (Özçiçek, 2007: 75-81).

4.3. Döviz Kuru Oynaklığının Dış Ticaret Üzerindeki Etkisi

Döviz kurları, bir ülkenin dış ticaret performansını önemli ölçüde şekillendirir. Döviz kuru yükseldiğinde, yerli para değer kaybeder ve bu durum, ihraç edilen malların daha ucuz hale gelmesini sağlar, bu da ihracatı artırırken ithalatı azaltır. Daha zayıf bir yerli para, dış ticarette rekabet gücünü artırır. Ayrıca, sermaye akımları, döviz arzını etkileyerek döviz kurlarını önemli ölçüde etkiler. Yüksek faiz oranları ve getiri arayışı, sermayenin yurda girişine yol açarak döviz kurunu etkileyebilir (Kılıçarslan, 2016: 37-39). Döviz kuru dalgalanmaları, ticaret üzerinde hem doğrudan hem de dolaylı etkiler yaratır. Doğrudan etkiler, küresel ticaretle ilişkili maliyetleri ve belirsizlikleri artırarak uluslararası işlemleri kısıtlayabilir. Dolaylı olarak ise, üreticiler ve tüccarlar, riskten korunma stratejilerini benimsemek için üretim ve yatırım kararlarını değiştirebilir. Uzun vadede, döviz kuru dalgalanmaları sadece ekonomik aktörlerin kararlarını değil, aynı zamanda hükümetlerin ekonomi politikalarını da etkileyebilir. Bu dalgalanmanın artışı, ticaret ve yatırım akışlarını olumsuz etkileyebilir, çünkü artan belirsizlik, uluslararası işlemleri riskli hale getirebilir (IMF, 1984: 3; Gotur, 1985: 475).

4.4. Döviz Kuru Oynaklığının Faiz Oranına Etkisi

Faiz oranları ve döviz kurları, makroekonomik sağlığın önemli göstergeleridir ve sürdürülebilir büyüme ile ekonomik istikrarı destekler. Bu göstergeler, yatırım tercihlerini ve tüketici harcamalarını etkileyerek ekonomik dengelerin korunmasında kritik rol oynar. Politika yapıcılar, bu göstergeleri yakından izlemeli ve ekonomik zorluklardan kaçınmak için dengeleri sağlamalıdır (Sever ve Mızrak, 2007: 266). Kısa vadede faiz oranları ile döviz kurları arasında güçlü bir bağlantı vardır. Mundell-Fleming modeline göre, dalgalı kur sisteminde yurtiçi faiz oranları küresel oranlardan yüksekse sermaye girişi artar, bu da döviz kurunun düşmesine neden olur. Tersine, küresel faiz oranları daha yüksekse sermaye çıkışı yaşanır ve döviz kuru yükselir (Uysal, Mucuk ve Alptekin, 2008: 49).

Döviz kurları ve faiz oranları genellikle ters yönlü hareket etse de, beklentilere bağlı olarak aynı yönde de değişebilir. TL faiz oranlarının artması, döviz talebini azaltarak kurun düşmesine yol açabilir; ancak beklentiler aksi yönde ise döviz kuru yükselebilir. Yüksek faiz oranları ithalat maliyetlerini düşürerek üretimi ve ihracatı artırabilir, ancak bu etkinin sürdürülebilirliği enflasyon kontrolüne bağlıdır (Bal, 2012: 3).

5. LİTERATÜR TARAMASI

5.1. Döviz Kuru Oynaklığının Enflasyona Etkisi Üzerine Yapılan Çalışmalar

Duman (2021), BRICS-T ülkelerinde tüketici fiyat endeksi, faiz oranı ve net ihracatın döviz kurunu nasıl etkilediğini incelediği bir çalışmada, 2010-2019 dönemi verilerini analiz etmiştir. Çalışma, tüketici fiyat endeksindeki yükselişlerin Rusya ve Güney Afrika'da kuru yükseltirken, Brezilya ve Türkiye'de düşürdüğünü göstermiştir. Ayrıca, yüksek faiz oranlarının döviz kurunu yükselttiği ve tüm ülkelerde net ihracatı azalttığı bulunmuştur. Düşük enflasyonun ekonomik istikrar için önemli olduğu vurgulanmıştır.

Öner (2018), "Döviz Kuru ve Enflasyon Arasındaki Nedensellik İlişkisi: Türkiye Örneği" başlıklı çalışmasında, 2007-2017 döneminde döviz kuru-enflasyon ilişkisini araştırmıştır. Augmented Dickey-Fuller birim kök testi ve Granger nedensellik analizi uygulamıştır. Analiz, ÜFE enflasyonundan TÜFE enflasyonuna doğru tek yönlü bir nedensellik olduğunu, nominal döviz kuru ve ÜFE enflasyonunun diğer değişkenlerden etkilenmediğini göstermiştir.

Dereli (2018), "Türkiye'de Döviz Kuru ve Enflasyon Arasındaki İlişkinin Analizi (2005-2017)" adlı çalışmasında, 2005-2017 yılları arasında enflasyon ve kur arasındaki ilişkiyi analiz etmek için VAR yöntemini kullanmıştır. Granger nedensellik testi, bu iki değişken arasında çift yönlü bir nedensellik olduğunu göstermiştir. Ayrıca, etki tepki analizi her iki değişkenin de bir birimlik şoklara duyarlı olduğunu ortaya koymuştur. Çalışma, döviz kurunun enflasyon üzerinde önemli bir geçişkenlik etkisine sahip olduğu ve enflasyonun temel belirleyicilerinden biri olduğu sonucuna varmıştır.

Ergin (2015), "Döviz Kuru ve Enflasyon Arasındaki Geçiş Etkisi: Türkiye Örneği" adlı çalışmasında, Vektör Otoregresyon (VAR) analizi ve aylık veriler kullanarak 2005-2014 yılları arasında Türkiye'de döviz kurları ve enflasyon arasındaki bağlantıyı analiz etmiştir. Sonuçlar, döviz kurunun enflasyon üzerinde ilk dönemlerde güçlü bir geçişkenlik etkisine sahip olduğunu ve bu etkinin zaman içinde zayıfladığını göstermiştir.

Gül ve Ekinci (2006) "Türkiye'de Enflasyon ve Döviz Kuru Arasındaki Nedensellik İlişkisi: 1984-2003"ü araştırmışlardır. Aylık verileri kullanarak nominal döviz kuru ve enflasyon arasındaki nedenselliği anlamak için birim kök ve eşbütünleşme testleri uygulamışlardır. Analizleri, döviz kuru ile enflasyon arasında uzun vadeli bir ilişki olduğunu ve döviz kurundan enflasyona doğru tek yönlü bir nedenselliğin varlığını ortaya koymuştur.

Bu konuda yapılan çalışmalar incelendiğinde kesin bir yargıya varmak mümkün değildir. Sonuçlar detaylı tarandığında; döviz kuru oynaklığının bağımsız değişken olarak seçildiği senaryoda bağımlı değişken olan enflasyon üzerinde etkisinin olduğu, fakat tersi senaryoda enflasyonun döviz kuru üzerinde etkisinin olmadığı araştırmacılar arasında yaygın kanı olmuştur.

5.2. Döviz Kuru Oynaklığının Ekonomik Büyüme Oranına Etkisi Üzerine Yapılan Çalışmalar

Literatürde döviz kuru rejimlerinin ekonomik büyüme üzerindeki etkisine dair iki zıt görüş bulunmaktadır. İlk görüş, döviz kuru oynaklığının büyümeye zarar verdiğini ve parasal birliklerin bu oynaklığı azaltarak ekonomik büyümeyi desteklediğini savunur. İkinci görüş ise, esnek döviz kuru rejimine sahip ülkelerin daha hızlı büyüdüğünü ve ticaret hadleri şoklarının katı rejimlerde daha şiddetli olduğunu öne sürer (Bagella vd., 2006: 1150-1151). Tarawalie (2010) Sierra Leone'de döviz kurları ve ekonomik büyüme arasındaki bağlantıyı 1996-2006 yılları arasındaki çeyreklik verileri Granger nedensellik testi ile analiz ederek araştırmıştır. Çalışma, enflasyondan arındırılmış döviz kuru ile ekonomik büyüme arasında pozitif bir bağ bulmuştur.

Bristy 2014 yılında yayınladığı makalesinde, Bangladeş'in finansal gelişmişlik düzeyinin 1980-2010 döneminde kur oynaklığı ve ekonomik büyüme arasındaki bağı etkileyip etkilemediğini araştırmıştır. Çalışmada analiz için sıradan en küçük kareler yöntemi kullanılmıştır. Bulgular, Bangladeş'in zayıf finansal piyasasının kur oynaklığının negatif etkisini artırdığını ve ekonomiyi benzer şekilde olumsuz yönde etkilediğini ortaya koymuştur.

Ramasamy ve Abar (2015), ABD, Avustralya ve Almanya'da makroekonomik değişkenlerin döviz kurları üzerindeki etkisini bir regresyon modeli içinde Bootstrapping tekniğini uygulayarak araştırmıştır. Bütçe açığı ve istihdam dışında, çoğu makroekonomik göstergenin döviz kurlarını önemli ölçüde etkilediğini keşfetmişlerdir. Ancak, bu değişkenlerin birçoğu döviz kurları ile geleneksel ekonomi teorisinin önerdiğinin tersi ilişkiler göstermektedir.

Literatürde, döviz kuru rejimlerinin ekonomik büyüme üzerindeki etkisi konusunda iki karşıt görüş bulunmaktadır. Bir görüş, sabit döviz kuru rejimlerinin ekonomik büyümeyi teşvik ettiğini, diğer görüş ise esnek döviz kuru rejimlerinin piyasaların kendini dengelemesine ve dış şoklara daha esnek tepki vermesine olanak tanıdığını savunur. Bu iki yaklaşım, hangi rejimin daha olumlu etkiler yarattığı konusunda tartışmalara yol açmıştır.

5.3. Döviz Kuru Oynaklığının Dış Ticarete Etkisi Üzerine Yapılan Çalışmalar

Ethier (1973), döviz kuru belirsizliğinin ithalatçı firmaların davranışına etkisini incelediği teorik çalışmasında, eğer firma gelecekteki döviz gelirini biliyorsa, döviz kuru belirsizliğinin sadece vadeli kuru etkileyeceğini ve dış ticareti etkilemeyeceğini savunmuştur. Ancak, gelecekteki gelir belirsizse, döviz kuru oynaklığı dış ticaretin azalmasına yol açacaktır. Bu olumsuz etki, firmanın daha spekülatif hale gelmesiyle azalır.

Bahmani-Oskooee ve Durmaz (2015), 1990-2012 yılları arasında 61 sektörde Türk lirası oynaklığının Türkiye'nin ithalat ve ihracatı üzerindeki etkilerini inceledikleri çalışmalarında, döviz kuru oynaklığının kısa vadede 39 sektörde ithalatı, 23 sektörde ise ihracatı önemli ölçüde etkilediğini bulmuşlardır. Uzun vadede ise, kısa vadede etkisi gözlemlenen sektörlerin yaklaşık yarısında etki devam etmektedir. Sevim ve Doğan (2016), döviz kuru oynaklığının Türkiye'nin Almanya, Fransa, İtalya, İngiltere ve ABD'ye olan ihracatını nasıl etkilediğini ARDL sınır testi yaklaşımını kullanarak Ocak 2002 ile Kasım 2014 arasındaki verileri analiz ederek araştırmıştır. Elde ettikleri bulgular, döviz kurları ile ihracat arasında ne kısa vadede ne de uzun vadede anlamlı bir ilişki olmadığını ortaya koymaktadır.

Çoğu akademik çalışmada, döviz kuru oynaklığının dış ticaret hacmini azalttığı kabul edilse de, bu ilişkinin kesin yönü ve büyüklüğü konusunda fikir birliği yoktur. Oynaklık, ticaret seviyelerini düşürse de, genel etkinin küçük olduğu bulunmuştur. Bu karmaşıklık, riskten kaçınan firmaların bile riskli faaliyetlerden kaçınmaması, riskten korunma tekniklerinin düşük maliyetle yönetim sağlaması ve döviz kuru oynaklığının karlı fırsatlar yaratabilmesi gibi faktörlerden kaynaklanmaktadır. Ayrıca, bir firma birden fazla ülkeye ihracat yaptığında, ticaret daha düşük döviz kuru riski taşıyan ülkelere kayabilir (Côté, 1994: 1-7).

5.4. Döviz Kuru Oynaklığının Faiz Oranına Etkisi Üzerine Yapılan Çalışmalar

Ramasamy ve Abar (2015) çalışmasında, dokuz makroekonomik değişkenin döviz kuru üzerindeki etkilerini inceledikleri, enflasyon, faiz oranları ve ödemeler dengesinin döviz kurunu olumsuz etkilediğini bulmuşlardır. Chowdhury (2012) ise, Avustralya üzerinde yaptığı çalışmada ticaret dengesi, kamu harcamaları ve net dış borç artışlarının döviz kurunu yükselttiğini, ancak faiz oranları, ekonomik açıklık ve teknolojik etkinlikteki artışların döviz kurunun değer kaybetmesine yol açtığını tespit etmiştir. Sever ve Mızırak (2005) enflasyon, faiz oranları ve döviz kurları arasındaki etkileşimi araştırmış ve bu değişkenlerin geçmiş değerlerinin sadece birbirlerini değil kendilerini de etkilediğini bulmuştur. Döviz kurlarının diğer değişkenlere kıyasla daha fazla dışsal güdümlü olduğunu ve enflasyon ve faiz oranlarının döviz kurlarındaki değişikliklere daha güçlü tepki verdiğini keşfetmişlerdir.

Gül ve diğerleri (2007), Türkiye'de döviz kurları ile faiz oranları arasındaki nedensel ilişkiyi inceledikleri çalışmalarında, 1984-2006 yılları arasındaki verileri Granger nedensellik testi ile analiz etmiştir. Çalışma, döviz kurları ile faiz oranları arasında uzun dönemli bir ilişki bulamazken, döviz kurlarından faiz oranlarına doğru tek yönlü bir nedensellik tespit etmiştir. Bulgular, döviz kurlarındaki dalgalanmaların faiz oranlarını etkileyerek ekonomik istikrarsızlık yaratabileceğini göstermektedir.

Bu konuda yapılan çalışmaların geneli incelendiğinde döviz kuru oynaklığının faiz oranları üzerinde etkisi olduğu sonucuna varılmaktadır. Bu etkinin mekanizması, ekonomik koşullara, piyasa yapısına ve ülkelerin para politikalarına bağlı olarak değişiklik gösterebilir.

6. SONUÇ

Bu çalışma, döviz kuru oynaklığının ülkelerin makroekonomik değişkenleri üzerindeki etkilerini incelemeyi amaçlamıştır. Yapılan analizler, döviz kuru dalgalanmalarının özellikle dış ticaret, ekonomik büyüme, enflasyon ve faiz oranları gibi önemli ekonomik göstergeler üzerinde anlamlı etkiler yarattığını göstermektedir. Döviz kuru oynaklığının ülkelerin ekonomisindeki sektörel etkileri de dikkate alındığında, özellikle ihracat ve ithalat seviyeleri üzerinde önemli değişiklikler gözlemlenmiştir. Çalışmanın bulguları, döviz kuru dalgalanmalarının kısa vadede ticaret hacmini önemli ölçüde etkileyebileceğini, ancak uzun vadede bu etkinin daha sınırlı olabileceğini ortaya koymuştur. Türkiye'nin döviz kuru sistemi ve faiz oranları arasındaki nedensel ilişkiyi analiz eden önceki çalışmalardan farklı olarak, bu çalışmada döviz kuru oynaklığının faiz oranları üzerindeki etkileri ve bu etkilerin ekonomik istikrar üzerindeki potansiyel tehlikeleri vurgulanmıştır. Ayrıca, döviz kuru dalgalanmalarının sektörel

farklılıklar göstererek, bazı sektörlerde olumsuz etkiler yaratırken, diğerlerinde fırsatlar sunduğu tespit edilmiştir. Sonuç olarak, döviz kuru dalgalanmalarının ülkelerin ekonomisinde istikrarsızlığa yol açabileceği ve ekonomi politikalarının bu oynaklığı minimize etmek için daha dikkatli bir şekilde şekillendirilmesi gerektiği söylenebilir. Bu bağlamda, döviz kuru stabilizasyonu ve faiz oranı yönetimi konularında yapılacak politika reformları, ülkelerin ekonomik istikrarını güçlendirebilir ve dış ticaretin sürdürülebilir büyümesini sağlayabilir.

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A Bibliometric Analysis of The Importance of Electricity Use in Bitcoin Production

PhD Student, Sevgi Eşiyok[1] **Assoc. Prof. Dr. Mert Demircioğlu[2]**

[1] Cukurova University / Institute of Social Science, sevgiesiyok@gmail.com, ORCID: 0000-0003-0208-6242

[2] Cukurova University / Business Administration, mdemircioglu@cu.edu.tr, ORCID: 0000-0002-2287-2067

Abstract: Bitcoin has grown to become one of the most popular cryptocurrencies, since its initial introduction in 2008. As a result of this evolution, Bitcoin's production volume has grown significantly in recent years. With this increase, the amount of energy consumed by Bitcoin has now exceeded the amount of energy consumed by many countries, including Thailand, Poland and Egypt. Because of this circumstance, it is crucial to consider how effectively energy is used during the Bitcoin production process. The high electrical energy consumption and potential environmental effects of Bitcoin mining operations have alarmed many nations worldwide. Today, concepts such as sustainability and conscious use of resources are among the biggest challenges facing humanity. In this context, Bitcoin's sustainability depends on many environmental, economic, social and ideological factors due to the energy resources it consumes.

The effectiveness of the energy used in the creation of Bitcoin prompts a lot of scholarly investigation. This study includes a bibliometric analysis of the connection between energy use and Bitcoin via Voswiever, which has become more significant in recent years. Using this method, articles retrieved from the WOS (Web of Science) database undergo citation-documents analysis, Coauthorship-countries analysis, cooccurring-author keywords analysis, and citation-countries analysis. Monrat, Vranken, and Jiang were the most referenced authors in the Citation-Documents analysis of studies assessing the connection between energy use and Bitcoin cryptocurrency. 27 nations were included in the study and categorized into 6 clusters for the Coauthorship-nations analysis. England and the People's Republic of China had the strongest global connections. The Cooccurence-author keyword analysis contained 21 phrases, and the most significant concepts were found to be "Blockchain" and "Bitcoin." The link between the terms "Bitcoin" and "energy consumption" and the countries that are part of 166 articles in the Web of Science database was analyzed for 28 countries.

Key Words: Crypto Money, Bitcoin, Bibliometric Analysis, Energy Consumption.

1.Introduction

Along with new technological opportunities, traditional economic and social activity forms and balances are evolving. This development is also changing the traditional ways and payment systems in which commercial exchanges take place. With these changes, cryptocurrencies and digital currencies that mimic the functions of money have emerged in recent years. Unlike traditional currencies, cryptocurrencies are not tied to national borders or central banks.

Bitcoin is one of the most widely used cryptocurrencies. Bitcoin was developed by a person named Satoshi Nakamoto in 2009. It is shaped virtually and exists only in the digital world. Bitcoin is created using data mining processes. Miners use sophisticated computers to solve the complex mathematics of finding a new bitcoin block in their work, and if the miner finds it, he is rewarded with some bitcoin. At this stage, a high amount of electricity is spent on computers. Bitcoin emerged in 2009 to provide an exchange medium without a central authority and supported by a physical commodity or government (Electric Power Research Institute, 2018). Bitcoin has been a trending topic since 2014 and has become a new transaction option in the internet world. In addition to the benefits it provides in commercial terms, Bitcoin mining consumes a lot of electricity and makes long-term energy planning difficult. According to the Bitcoin Electricity Consumption Index data published by Cambridge University, Bitcoin surpassed 167 countries in electricity consumption with 154.9 billion kWh consumed in 2023. From its emergence to the present day, the number of cryptocurrencies traded on the exchange has exceeded 2500 (Huynh et al., 2022:80). Bitcoin is the first successful application of blockchain technology that can serve as the primary global money transfer network (Sapra and Shaikh, 2023:1828). Bitcoin is considered a major milestone in new financial technology. However, regardless of the significant points achieved by the world's most popular cryptocurrency, many concerns have been raised about the heavy hardware and power consumption requirements of Bitcoin mining and its resulting impact on our environment. The negative effects of Bitcoin mining stages on the environment cause many discussions among experts. Mining processes place enormous demands on the energy system. Since most of today's energy needs are met from fossil resources, increasing mining processes increase carbon emissions, which closely affect global warming (Amaka, 2020:19-20).
The increasing demand for Bitcoin and the rising market trend is leading to more miners using faster and more powerful computers to enable transactions to take place (Sarkodie et al., 2022:1). The rising levels of Bitcoin

energy consumption and the fact that this consumption will continue to increase bring with it many negativities. The fact that approximately 80% of the world's energy consumption is dependent on fossil fuels also brings about serious environmental problems. It is predicted that the increasing energy consumption of Bitcoin will greatly affect the finite fossil reserves. Bitcoin mining, which is spreading in today's world countries where electricity is provided by burning coal, causes the already low air quality in these regions to deteriorate even more. The increased energy use of Bitcoin mining and the accompanying carbon emissions may endanger global sustainability practices (Yousaf et. al., 2024: 435).

Rising Bitcoin prices make mining highly profitable and attractive, which leads to more electricity consumption and larger carbon footprints (Ghosh and Bouri, 2022:1-2). The electricity consumed to obtain Bitcoin also causes serious greenhouse gas emissions while being produced. There are joint efforts worldwide to reduce global greenhouse gas emissions under the Paris Agreement. Under the Paris Agreement, which took place in December 2015, 196 countries approved a global plan to reduce climate change in the coming years and recommended limiting global warming to below 2 degrees Celsius. Recently, concerns have begun to grow about the energy consumption required for Bitcoin mining. The high computing power required by the Bitcoin network initially included the use of CPUs and GPUs (2009-2011), FPGAs (2011-2013), and later reached ASICs (since 2013). Currently, the Cambridge Bitcoin Electricity Consumption Index (CBECI) by the University of Cambridge and the Bitcoin Energy Consumption Index (BECI) by Digiconomist have been developed to estimate the electricity consumption of the Bitcoin network. Although both indices track the electricity consumed by cryptocurrencies and their environmental impacts, it cannot be said that a definitive tool has been discovered to measure energy consumption.

These discussions about Bitcoin mining have focused on identifying its characteristics, the benefits and disadvantages of its use, and its long-term viability as a viable alternative to traditional cryptocurrencies. The amount of electricity used by the technology used to mine and trade Bitcoin and the financial and environmental consequences are important research topics (Badea & Mungiu-Pupazan, 2021:48096-48097). The exponential growth of cryptocurrency markets has attracted the attention not only of investors around the world, but also of regulators in countries, international media outlets, and academics working in a wide range of research fields (Omrane et al., 2023:2). In this study, a bibliometric analysis was conducted to examine the relationship between Bitcoin and energy consumption for the period 2013-2025. In the study, citation-documents analysis, Coauthorship-countries analysis, Cooccurunce-author keywords analysis and Citation-countries analysis were performed for 166 English articles obtained from the WOS database using the keywords “Bitcoin” and “energy consumption”. Voswiever software was used for analysis.

2.Methodology and data

2.1. Methodology

In this study, a bibliometric analysis was conducted via Voswiever to examine the relationship between Bitcoin cryptocurrency and energy consumption. Under this approach, we conduct the following analyses: (1) Citation-documents analysis, (2) Coauthorship-countries analysis, (3) Cooccurunce-author keywords analysis, (4) Citation-countries analysis.

2.2. Data Selection

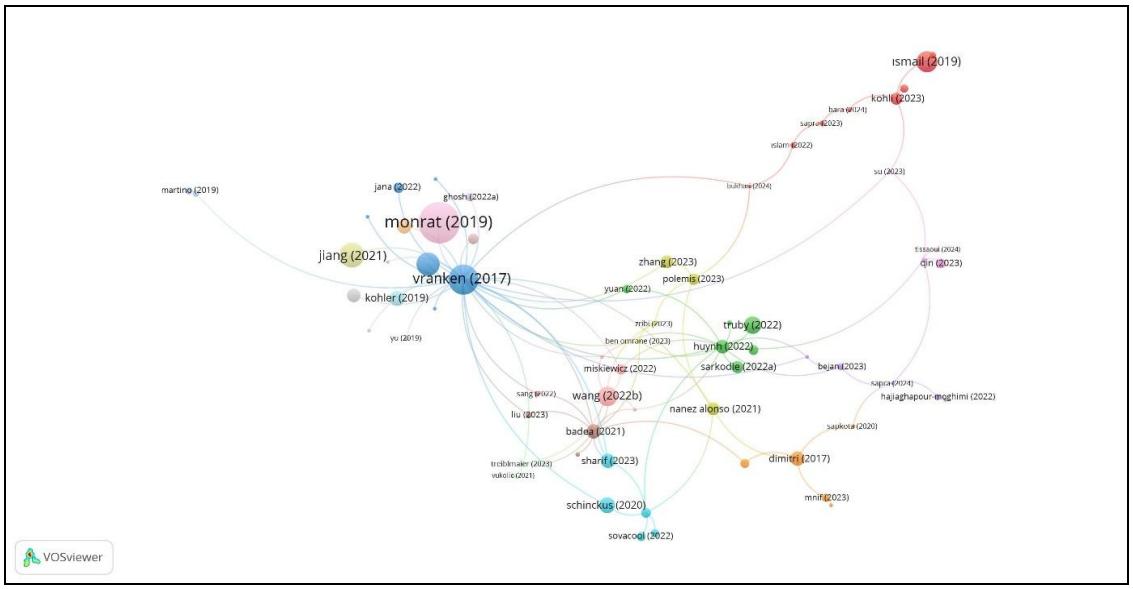
The WOS database was chosen because it provides a list of high-quality peer-reviewed articles and is widely used in previous literature. The keywords “Bitcoin” and “energy consumption” were used to search the database. The research covers the period 2013-2025. Only publications in the article type and in English language were included in the analysis. 166 publications were found for the search of “Bitcoin” and “energy consumption” in the database.

3.Findings

3.1. Citation-Documents Analysis

The Citation-Documents network map of the studies evaluating the relationship between Bitcoin cryptocurrency and energy consumption is shown in Figure 1. When selecting the data on the visual, documents with a citation count of one and above were selected and 66 documents were included in the study. The documents are divided into 22 clusters on the map. When the sizes of the clusters are examined, Monrat, Vranken and Jiang are the most cited authors in their groups. The map generally shows that the authors under each group have a close relationship with each other and are close to each other in their groups.

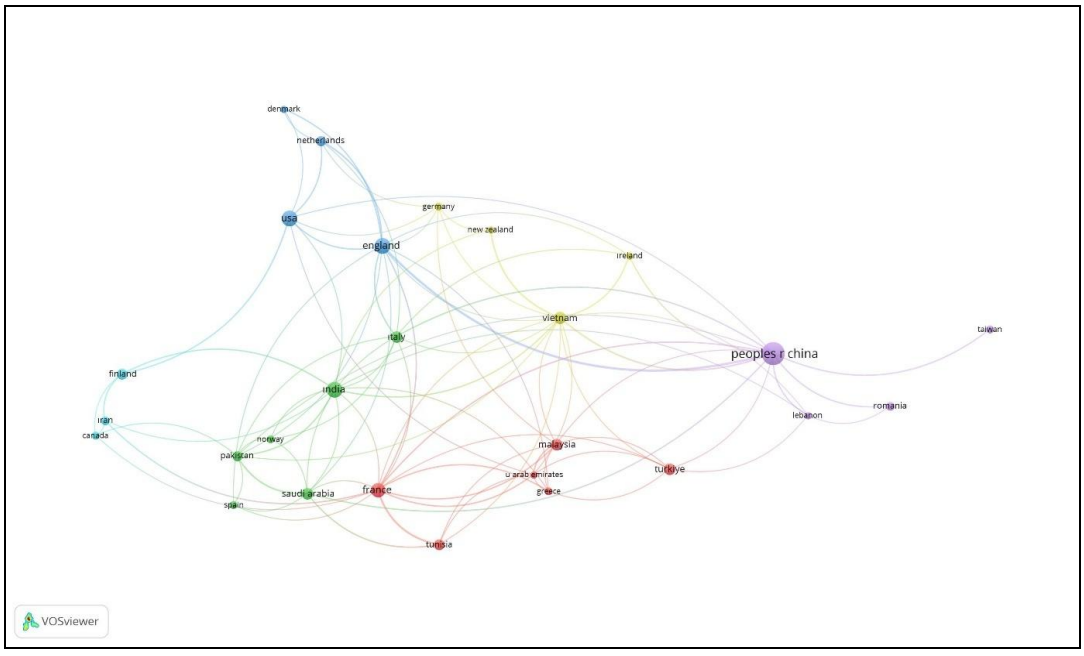
Fig 1. Citation-Documents Analysis of Studies Examining the Energy Consumption Relationship of Bitcoin



3.2. Coauthorship-Countries Analysis

Figure 2 shows the Coauthorship-Countries analysis of the studies evaluating the relationship between Bitcoin currency and energy consumption. 27 countries were included in the analysis and the countries were divided into 6 clusters. The countries with the most connections to other countries were Peoples r China and England. Türkiye was in the cluster that included countries such as France, Greece, Malaysia, Tunisia and Arab Emirates.

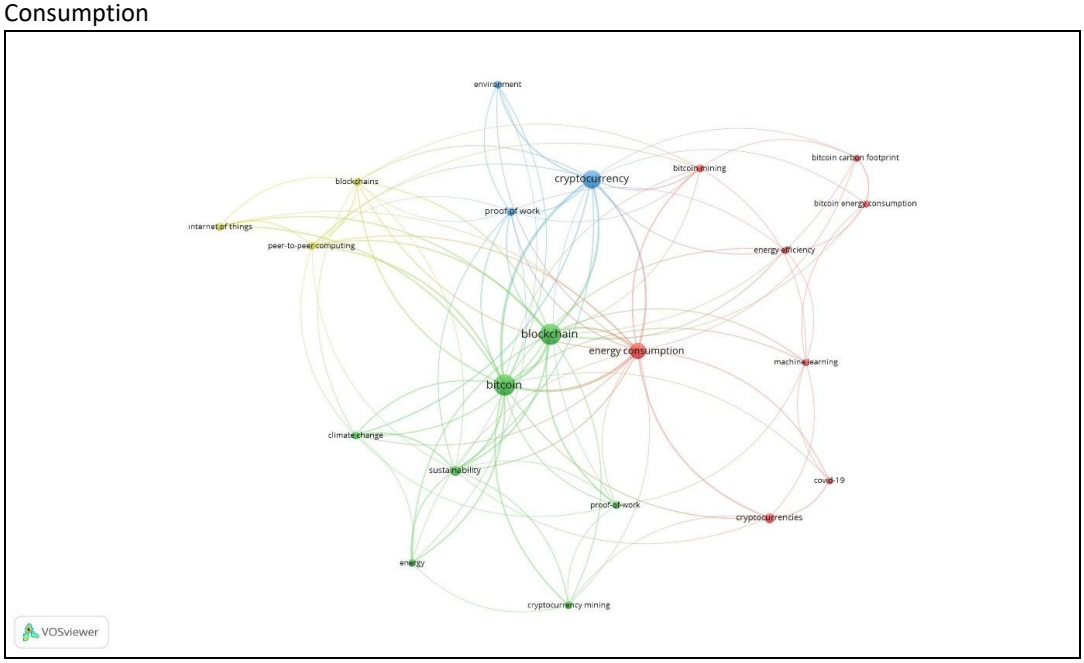
Fig 2. Coauthorship-Countries Analysis of Studies Examining the Energy Consumption Relationship of Bitcoin



3.3. Cooccurrence-Author Keywords Analysis

The relationship between words in data mining for the words included in the studies evaluating Bitcoin and energy consumption is shown in Figure 3. While selecting the data on the visual, documents with a minimum repetition number of a keyword of five and above were selected and 21 terms were included in the study. “Blockchain” and “Bitcoin” are the most important concepts and are clustered closely together.

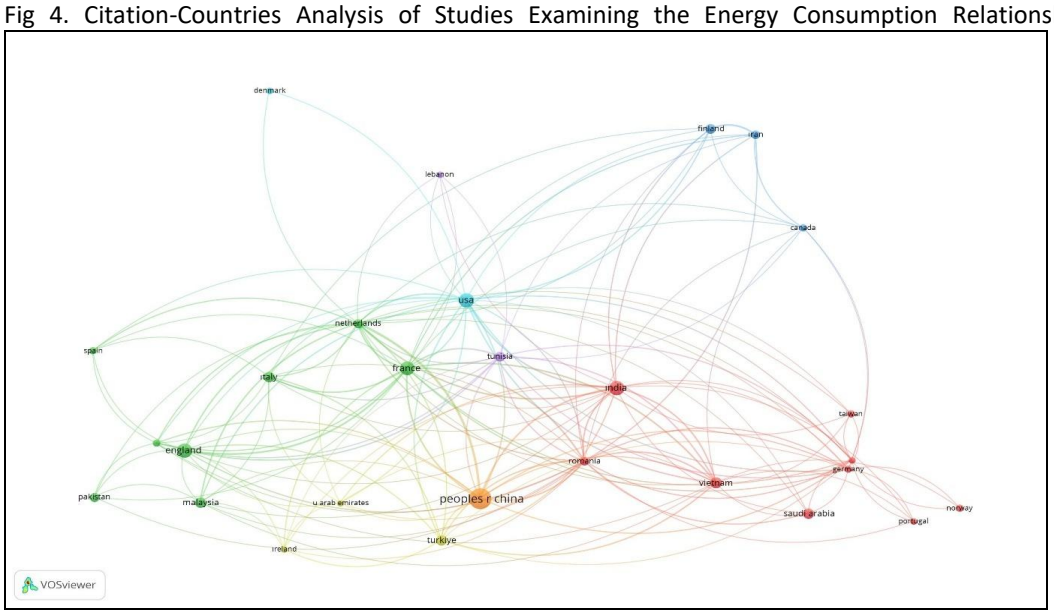
Fig 3. Cooccurrence-Author Keywords Analysis of Studies Examining the Relationship Between Bitcoin and Energy Consumption



3.4. Citation-Countries Analysis

English-language articles evaluating the relationship between Bitcoin cryptocurrency and energy consumption were included in the analysis. The network map of the relationship between the words “Bitcoin” and “energy consumption” and countries belonging to 166 articles in the Web of Science database is shown in Figure 4. When selecting the data on the visual, documents with a citation count of one and above were selected and 28 countries were included in the study. The countries are divided into 7 clusters in the figure. Among the articles examining the relationship between Bitcoin and energy consumption, the country with the highest number of citations is Peoples r China, while the USA is in the center among the publications evaluating the relationship between Bitcoin and energy consumption with its citations and collaborations and is also in close relation with Denmark. In this analysis, Türkiye is in the same cluster with Ireland and the Arab Emirates.

Fig 4. Citation-Countries Analysis of Studies Examining the Energy Consumption Relationship of Bitcoin



4. Conclusion

With the increase in the number of investors in the market in recent years, the annual electricity consumption of Bitcoin transactions has increased significantly. As cryptocurrency markets develop, they also bring with them some important problems due to the energy they consume. Especially with the economic slowdown during the pandemic period, many investors who do not want their money to lose value have started to see

cryptocurrencies as a safer area. Increases in investments are also gradually increasing the electricity consumption caused by cryptocurrency mining. According to the values published by Cambridge University, the amount of electricity consumed by Bitcoin mining, one of the most popular cryptocurrencies, has exceeded the electricity consumption of many countries.

Today, concepts such as sustainability and conscious use of resources are among the greatest challenges facing humanity. In this context, the increasing interest in various cryptocurrencies has led to discussions in academia, ranging from problems related to the sustainability of the technology used to extract cryptocurrencies (Badea & Mungiu-Pupazan, 2021: 48096-48097).

In this study, a bibliometric analysis was conducted examining the relationship between Bitcoin and energy consumption for the period 2013-2025. Under this approach, Citation-documents analysis, Coauthorship-countries analysis, Cooccurunce-author keywords analysis and Citation-countries analysis were performed with the Voswiever software. In the Citation-Documents analysis of the studies evaluating the relationship between Bitcoin cryptocurrency and energy consumption, documents with a citation count of one and above were included in the study. 66 documents were included in the analysis and the documents were divided into 22 clusters. It was seen that the most cited authors according to the size of the clusters were Monrat, Vranken and Jiang. In the analysis, it was seen that the authors under each group were in close relationship with each other and that their groups were in close relationship with each other. In the Coauthorship-Countries analysis of the studies evaluating the relationship between Bitcoin cryptocurrency and energy consumption, 27 countries were included in the study and the countries were divided into 6 clusters. The countries with the most connections to other countries were Peoples r China and England. Türkiye was included in the cluster that included countries such as France, Greece, Malaysia, Tunisia and Arab Emirates. When selecting data for the analysis in which the relationship between words in data mining was evaluated for the words included in the studies evaluating the Bitcoin cryptocurrency and energy consumption, documents with a minimum number of occurrences of a keyword of five and above were selected. The analysis included 21 terms and found that “Blockchain” and “Bitcoin” were the most important concepts. While selecting the data in the relationship analysis between the words “Bitcoin” and “energy consumption” and 166 articles in the Web of Science database, documents with a citation count of one and above were selected and 28 countries were included in the study. The countries were divided into 7 clusters in the analysis. Among the articles examining the relationship between Bitcoin and energy consumption, the country with the highest number of citations was Peoples r China, while the USA is in the center among the publications evaluating the relationship between Bitcoin and energy consumption with its citations and Collaborations and is also in close relation with Denmark. In this analysis, Türkiye is in the same cluster with Ireland and the Arab Emirates.

Cryptocurrencies and the energy sources they use are becoming increasingly popular and an increasingly important issue due to the environmental concerns they create. In this sense, it is thought that the study will shed light on and guide future studies.

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Asset Revaluation and Conditional Conservatism: Evidence from European Listed Companies

Slavko Šodan[1] **Ivana Perica[2]** **Tina Vuko[3]**

[1] University of Split, Faculty of Economics, Business and Tourism, ssodan@efst.hr, https://orcid.org/0000-0002-5043-6801:

[2] University of Split, Faculty of Economics, Business and Tourism, iperica@efst.hr, https://orcid.org/0000-0001-8395-5096:

[3] University of Split, Faculty of Economics, Business and Tourism, tina.vuko@efst.hr, https://orcid.org/0000-0002-7030-2130:

Abstract: In the context of conservative earnings, losses are recognized more promptly than gains. The principle of accounting prudence requires that gains should only be recognized when they are reasonably certain, whereas losses should be recognized when they are reasonably possible. This implies that no gains should be anticipated, but all potential losses should be considered. Consequently, losses are recognized more quickly within earnings than to gains, leading to an asymmetric recognition of gains and losses under conservative accounting practices. This results in the undervaluation of book values of assets relative to their actual values, thereby creating a gap between book values and market values of assets. Revaluation can be perceived as a mechanism to counteract the effects of accounting conservatism and to align book values more closely with market values. Therefore, we posit that the choice of revaluation policy can serve as an indicator of a manager's preference towards accounting conservatism. Our empirical analysis, conducted on a large sample of European listed companies over the period 2013-2023 using Basu's (1997) asymmetric timeliness model, provides evidence that firms engaging in revaluation exhibit significantly lower levels of conditional conservatism.

Keywords: Asset revaluation, Conditional conservatism, Asymmetric timeliness, Financial reporting quality.

1. INTRODUCTION

The use of fair value for the subsequent measurement of assets and liabilities has generated considerable debate in both academic and professional circles. Specifically, gains and losses arising from changes in fair value due to subsequent measurement can significantly affect the amount and characteristics of the reported financial results of the reporting entity. The mandatory use of fair value for subsequent measurement is primarily limited to derivative financial instruments, financial assets and liabilities held for trading, financial assets available for sale, and agricultural produce harvested from biological assets at the point of harvest. Additionally, the International accounting standards prefer the use of fair value for the subsequent measurement of investment properties and biological assets (Cairns, 2006, p.16). For most other assets, reporting entities are required or may choose to use the historical cost model or revaluation model (fair value measurement) for subsequent measurement of assets and liabilities.

We propose that the choice of accounting policy related to subsequent measurement of assets may serve as an indicator of a manager's tendency towards accounting conservatism. Namely, the principle of accounting prudence means recognizing gains only when certain and losses when possible. This leads to quicker recognition of losses than gains, causing asset book values to be undervalued compared to market values. Revaluation helps counteract this by aligning book values with market values. Therefore, we hypothesize that firms choosing the revaluation model for subsequent measurement will exhibit lower levels of accounting conservatism.

Despite the extensive previous research on accounting conservatism, there are only a few studies that have examined its relation with financial reporting quality (e.g. Danbolt and Rees, 2008; Goncharov and Hodgson, 2011). These studies are typically focused on comparing the level of accounting conservatism between net income and comprehensive income, as comprehensive income also includes fair value gains/losses from the revaluation model. In contrast to the previous studies, we aim to find differences in the conditional conservatism of net income between companies choosing the historical cost model or revaluation model.

The findings, based on a large sample of European listed companies from 2013 to 2023, indicate that firms opting for the revaluation model exhibit significantly lower levels of conditional conservatism.

The remainder of the paper is organized as follows: Sections 2 and 3 discuss subsequent measurement in financial reporting and accounting conservatism. Section 4 provides a literature review. Section 5 outlines the research

design and describes the sample. Section 6 presents the results of the empirical analysis, and the final section concludes the paper.

2. VALUE MEASUREMENT IN FINANCIAL REPORTING

Measurement represents the process of determining monetary amounts at which financial statement elements are recognized. Measuring something implies the existence of a series of objects and a specific connection between these objects, and then numbers are assigned to objects to determine the mutual relationship of the observed objects based on the connection. Thus, measurement is the assignment of numerical values based on a specific relationship between objects (Christensen and Demski, 2003, p.7). All measurements in accounting are expressed in monetary units, so this is referred to as value measurement. The Framework for the Preparation and Presentation of Financial Statements (paragraph 99) defines measurement as the process of determining the monetary amounts at which the elements of financial statements should be recognized and stated in the balance sheet and income statement.

In the current financial reporting model, there are various bases for measuring value: historical cost, current cost, fair value, realizable value, and value in use (present value). It is impossible to determine which of these concepts for measurement is the most accurate and appropriate for measuring asset value in all situations. Namely, accounting information is used by different users for different purposes, so the value of information determined on one measurement basis may be appropriate and useful for one purpose, but inappropriate for decision-making by other users for other purposes. Therefore, it is possible that, for example, information may be useful for assessing the value of a company, but at the same time not useful in fulfilling the function of monitoring managers. For instance, information about a decrease in the market value of real estate owned by a company may be useful to investors in analyzing the company's value, but the same information may incorrectly reflect that managers are unsuccessful in managing the company because the decrease in market value of assets is not necessarily related to the effort invested by managers. Accordingly, the same information is useful in the context of valuation but not useful in the context of contracting or monitoring managers. In this context, the Institute of Chartered Accountants in England and Wales (ICAEW) in its 2006 report (ICAEW, 2006, p.14) illustratively emphasizes that to someone's question "What is the company's annual profit?" it is most appropriate to respond with a counter-question "Why are you interested in that?".

Moreover, measurement in financial reporting is specific because business events are recorded using double-entry bookkeeping, so it is impossible to measure one item without simultaneously measuring the counterpart. For example, attempts by international accounting boards (IASB and FASB) to measure balance sheet items as accurately as possible at current market values may simultaneously result in income statement items losing their significance. Ronen (2008, p.184) theoretically analyzes two financial reporting models. The first model is based on the principle of realized transactions and historical cost. The greatest importance in this reporting model is placed on the income statement, which summarizes the effects of all transactions between the business entity and internal and external markets in a given time period, and the added value resulting from recorded transactions is accounting net income. By recording transactions and calculating future cash inflows and outflows, asset and liability items appear in the balance sheet, the measurement of which is only a "byproduct" of applying the principle of realized transactions and matching revenues and expenses. Such measures of asset and liability items deviate significantly from current market values of assets and liabilities, and Ronen (2008, p.184) calls them "funny" asset measures. The second reporting model is based on the application of the fair value concept and is primarily oriented towards measuring the value of assets and liabilities in the balance sheet, while the income statement only shows the change in the value of assets and liabilities during the period. In this way, the income statement loses its informative importance. Thus, according to this model, accounting net income is only a "byproduct" of measuring balance sheet items at fair value, and net income has no informational value about future net income or the value of the business entity. Namely, assuming that market values move according to the principle of random walk, price changes in one period are not related to future prices or price changes, so accounting net income loses its importance. Ronen (2008, p.184) concludes that the model oriented towards balance sheet accuracy and the application of fair value produces "funny" measures of income and expenses in the income statement.

The following sections explain in more detail the two most important bases for measurement in accounting: historical cost and fair value.

2.1. Historical cost measurement

The historical cost of an asset item represents the amount of money or cash equivalents paid for its acquisition at the time of acquisition, and liabilities are recorded at the amount of receipts received in exchange for the obligation, or under certain circumstances at the amounts of money or cash equivalents expected to be paid to fulfill the obligation in the normal course of business (Framework for the Preparation and Presentation of Financial Statements, paragraph 100). Applying historical cost accounting does not recognize gains from increases in asset value above historical cost until the gain is realized (e.g., the asset is sold). Unrealized gains are neither included in income statement items nor contained in balance sheet items. The recognition of gains is to some extent under the control of management, who can decide to realize the gain from the increase in assets and thus recognize the gain in the financial statements (ICAEW, 2006, p.22). Furthermore, according to the historical cost concept, many intangible asset items are not recognized because it is not certain that they will generate future cash inflows, so they cannot qualify as assets. In addition, some financial asset and financial liability items are not recognized because they have no historical cost, i.e., the historical cost is zero monetary units.

In the context of measuring accounting net income, the goal of historical cost accounting is to match incurred costs with revenues at the time of realization (ICAEW, 2006, p.23). Thus, the historical cost of acquiring long-term tangible assets is written off over the useful life of the asset to match the cost of using the asset with the revenues from using the asset. It is generally considered that historical cost information is quite reliable because it is formed based on prices from actual, realized transactions. However, although to a significantly lesser extent compared to other measurement bases, there are areas in the context of applying historical cost that involve the use of subjective estimation. Examples of such areas are depreciation of long-term assets (determining the useful life of assets), the cost of internally generated assets, etc.

Furthermore, measuring at historical cost does not recognize unrealized gains from increases in asset value, so measurement at historical cost is more conservative than other accounting measurement bases. Conservative amounts significantly underestimate net asset values and financial performance and, as such, are not particularly significant to investors for assessing the value of the business entity. However, there are a number of other users of accounting information for whom conservatively expressed accounting information could be relevant for decision-making, especially from the perspective of monitoring manager performance. Namely, the interests of creditors and lenders are better protected if accounting profit is more conservatively expressed because this limits excessive cash payments to owners through dividends and excessive payments to managers through variable compensations (more in Ahmed et al., 2002; Watts, 2003; Ball and Shivakumar, 2005; Gassen, 2008; Zhang, 2008; Kothari et al., 2009). Additionally, from the perspective of paying income tax, accounting measurement based on the principle of actual transaction realization and historical cost is also preferred because otherwise recognizing unrealized gains from increases in asset value may lead to the reporting entity not having enough liquid assets to pay higher income tax.

2.2. Fair value measurement

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (IFRS 13, paragraph 9). It is a market-based measure, and when market prices for identical assets or liabilities are not visible, fair value is determined using another valuation method, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs. Fair value is an exit market price, and prices from current market transactions using the market approach should be given the highest importance when measuring fair value. However, fair value measurement also includes the use of other measurement bases if market prices from an active market are not available. For instance, cost approach techniques for determining fair value are based on the current replacement cost or the amount that would be required to replace the service capacity of an asset at present (IFRS 13). Income approach techniques for measuring fair value primarily involve discounting expected cash flows to present value. According to this concept, gains and losses are recognized as they occur, regardless of whether the transaction has been realized or not. An increase in the market price of an asset is recognized as an unrealized gain from an increase in fair value, even if the asset has not been sold and the gain has not been realized.

If fair value is measured according to prices from an active market, such a measure is reliable, objective, and easily verifiable. However, room for subjective judgment arises when measuring fair value based on unobservable inputs.

As with previous accounting measurement bases, fair value information is relevant for decision-making by certain groups of information users while not useful to other groups in the decision-making process. The CFA Institute (2005) emphasizes that investors make decisions about buying, selling, or holding investments based on fair value and expected future changes in fair value. Therefore, financial statements prepared on a fair value basis are more useful in investment valuation compared to other measurement bases.

Creditors and lenders are also interested in market or liquidation value to secure their placements. However, although most research to date agrees that the introduction of fair value should increase the informative level of financial reporting and usefulness in assessing the value of business entities, the usefulness of such information for fulfilling the function of monitoring managers' work is questionable. Gains or losses from changes in the fair value of long-term assets not held for trading do not necessarily reflect the effort and performance of managers but may be the result of exogenous market movements.

Furthermore, since fair values are linked to market price movements, fair values introduce additional market volatility into financial statements that would not otherwise be shown using other measurement bases.

3. ACCOUNTING CONSERVATISM

The asymmetry in accounting recognition of gains and losses is a measure of earnings quality that stems from the understanding that earnings should represent economic profit or reflect changes in the market value of a company's net assets. Conservative earnings present losses more promptly than gains. This method of reporting gains and losses is associated with conservative accounting systems and the application of the prudence principle. This principle dictates that gains should be recognized only when reasonably certain, while losses should be recognized when reasonably possible, meaning no gains should be anticipated, but all losses should be considered.

Recent studies (e.g. Ball and Shivakumar, 2005) distinguish between conditional conservatism, where bad news is more timely recorded in earnings compared to good news, and unconditional conservatism, which ex-ante defines an accounting policy of lower book values of assets (or higher book values of liabilities) in earlier periods of the asset or liability lifecycle. Losses are recognized faster within earnings compared to gains, or in other words, conservative accounting leads to asymmetric recognition of gains and losses. This results in the undervaluation of book values of assets compared to actual values, creating hidden profitability potentials, known as "cookie-jar reserves".

Contrary to conservative accounting is aggressive accounting, which leads to the overvaluation of a company's net asset value. Between these two extremes is neutral, unbiased accounting that symmetrically or equally quickly and timely recognizes both gains and losses.

One research stream considers earnings that symmetrically recognize gains and losses to be of higher quality (e.g., Kieso et al., 2010) because conservative earnings reduce the usefulness of information for decision-making by masking the true financial performance of the company. However, not all authors agree with this view. Ball and Shivakumar (2005) argue that conservative earnings are also high quality and that there is user demand for such information. Managers prefer to publish information about positive net income, so accounting principles should force them to disclose losses as well. In recent times, the principle of prudence or conservatism is increasingly being abandoned, and the concept of fair value is being introduced for valuing assets and liabilities. This valuation concept should recognize both gains and losses from value changes at the moment these changes occur.

The asymmetry of gain and loss recognition (conditional conservatism) is most commonly measured by reverse regression between earnings and stock returns (Basu, 1997):

$$E_{i,t} = \alpha_0 + \alpha_1 * D_{i,t} + \beta_0 * Ret_{i,t} + \beta_1 * D_{i,t} * Ret_{i,t} + \varepsilon_{i,t}; \quad (1)$$

Where:

$E_{i,t}$ – net income per share in period *t* divided by the price per share at the beginning of the year *t*,

$Ret_{i,t}$ – stock return in period from 9 months before fiscal year-end *t* to three months after year-end *t*,

$D_{i,t}$ – binary variable that equals 1 if $Ret_{i,t} < 0$, or 0 if $Ret_{i,t} > 0$.

A higher value of the estimated parameter β_1 indicates greater asymmetric recognition of losses (i.e., a higher level of conditional conservatism).

4. LITERATURE REVIEW

The goal of financial reporting is not only to provide information necessary for accurate valuation of the reporting entity, or for estimating its expected cash flows, but also to enable efficient management oversight. Given the evident conflict of interest between managers and owners, published earnings can be considered a measure of management performance monitoring. Although a large number of authors have concluded at a conceptual or analytical level that the application of fair value accounting would reduce the level of conservatism in published financial performance, there are only a few empirical studies that have examined their relationship.

Danbolt and Rees (2008) compared the characteristics of fair value accounting and historical cost accounting on a sample of British companies investing in real estate and long-term investments. Using Basu's (1997) model of conditional conservatism, they proved the existence of conditional conservatism in earnings measured at historical cost, while earnings measured at fair value were not conservatively stated. Goncharov and Hodgson (2011) analyzed how fair value changes presented through other comprehensive income affect the timeliness of gain and loss recognition. Based on a sample of listed companies in 16 Western European countries, they concluded that net income is reported conservatively as it recognizes bad economic news more timely than good news. However, comprehensive income shows opposite characteristics, recognizing good news more timely than bad news.

5. SAMPLE AND RESEARCH DESIGN

In order to test whether is the choice of the revaluation model related to the lower level of conditional conservatism, we use a large sample of EU listed companies in the period 2013-2023 and adopt a standard Basu's (1997) asymmetric timeliness model for measuring the conditional conservatism (eq.1). We proxy the revaluation policy choice by analyzing whether company has reported non-zero value of revaluation reserves or not. Company-year observations with non-zero value of revaluation reserves imply that these companies have chosen a revaluation model for subsequent measurement of some type of their assets. Consequently, based on the rationale, we have partitioned our total sample into a subsample of companies that have chosen a revaluation model and a subsample of companies that have chosen a historical cost model for subsequent measurement and performed a Basu's (1997) asymmetric timeliness regression for both subsamples.

We used Orbis Europe Database to gather all the necessary data for the research. Our sample is composed of publicly listed European companies that apply IFRS standards in the period 2013-2023. The total sample consists of 46,200 company/year observations from 27 European countries. The distribution of observations by countries is presented in Table 1.

Table 1: Sample structure by country

Country	Frequency	Percent
AT	540	1.17
BE	1,272	2.75
BG	2,748	5.95
CY	1,512	3.27
CZ	180	0.39
DE	4,296	9.30
DK	1,464	3.17
EE	324	0.70
ES	3,060	6.62
FI	1,752	3.79
FR	4,980	10.78
GR	1,728	3.74
HR	864	1.87
HU	540	1.17
IE	684	1.48

IT	4,752	10.29
LT	144	0.31
LU	732	1.58
LV	72	0.16
MT	744	1.61
NL	1,644	3.56
PL	4,368	9.45
PT	468	1.01
RO	1,080	2.34
SE	5,976	12.94
SI	204	0.44
SK	72	0.16
Total	46,200	100.00

Source: Authors' own work.

6. RESULTS

In the first part of empirical analysis, we present descriptive statistics (Table 2) for the total sample (Table 2, Panel C), as well as for companies-revaluers (Table 2, Panel B) and companies-non revaluers (Table 2, Panel A).

All variables are winsorized at 1% and 99%. Variable E represents net income per share in period t divided by the price per share at the beginning of the year t; Size is natural logarithm of total assets in year t; ROA is net income in year t divided by total assets in year t-1; Solvency is equity in year t divided by total assets in year t; SaleG is sales in year t divided sales in t-1, and Ret is stock return in period from 9 months before fiscal year-end t to 3 months after year-end t).

Table 2: Descriptive statistics

Variable	N	Mean	SD	p25	Median	p75
Panel A: Descriptive statistics for non-revaluers						
E	21,920	-0.142	13.484	-0.017	0.045	0.095
Size	29,196	18.920	2.586	17.221	18.812	20.629
ROA	25,956	0.098	21.664	-0.016	0.030	0.073
Solvency	29,193	0.339	3.792	0.310	0.459	0.640
SaleG	24,178	4.915	272.650	0.959	1.064	1.207
Ret	25,145	0.314	36.541	-0.214	0.049	0.349
Panel B: Descriptive statistics for revaluers						
E	3,188	0.083	6.491	-0.006	0.057	0.125
Size	4,181	18.634	2.402	17.021	18.306	20.018
ROA	3,753	0.028	0.450	-0.004	0.026	0.063
Solvency	4,181	0.49	0.509	0.357	0.514	0.705
SaleG	3,567	14.538	790.743	0.933	1.047	1.177
Ret	3,311	0.078	1.558	-0.153	0.071	0.347
Panel C: Descriptive statistics for total sample						
E	25,108	-0.113	12.810	-0.015	0.047	0.098
Size	33,377	18.884	2.565	17.187	18.746	20.573
ROA	29,709	0.090	20.250	-0.014	0.030	0.071
Solvency	33,374	0.358	3.551	0.314	0.467	0.650
SaleG	27,745	6.152	380.997	0.956	1.062	1.202
Ret	28,456	0.287	34.354	-0.207	0.052	0.348

Source: Authors' own work.

In order to test whether differences in financial characteristics between revaluers and non-revaluers are statistically significant, we perform the Student t-test for independent samples (Table 2). Results from Table 2 indicate that revaluers are significantly smaller companies and they have a higher level of solvency (lower level of financial leverage) than non-revaluers.

Table 3: Differences in financial characteristics

Variable	N (non-rev.)	N (Rev.)	Mean (non-rev.)	Mean (Rev.)	dif	St Err	t value	p value
E	21,920	3,188	-0.142	0.083	-0.225	0.243	-0.90	0.355
ROA	25,956	3,753	0.099	0.028	0.071	0.353	0.20	0.843
Solvency	29,193	4,181	0.339	0.490	-0.151	0.059	-2.55	0.010
SaleG	24,178	3,567	4.915	14.538	-9.623	6.833	-1.40	0.159
Size	29,196	4,181	18.921	18.634	0.287	0.043	6.75	0.000
Ret	25,145	3,311	0.314	0.078	0.237	0.635	0.35	0.710

Source: Authors' own work.

Finally, to test our main hypothesis that the choice of the revaluation model is related to the lower level of conditional conservatism, we estimate standard Basu's (1997) asymmetric timeliness model for measuring the conditional conservatism (eq.1). Estimated results are presented in Table 4.

Table 4: Conditional conservatism regression analysis

Variables	(1) E Revaluers	(2) E Non-revaluers	(3) E Full sample
D	2.313***	0.046	0.037
	(0.784)	(0.109)	(0.095)
Ret	5.391***	0.002	0.002
	(1.737)	(0.002)	(0.002)
D#Ret	**-4.698*** **	**1.326*** **	**1.324*** **
	(1.743)	**(0.066)**	**(0.065)**
Constant	-2.076***	-0.245	-0.180
	(0.733)	(0.464)	(0.407)
Observations	2,997	21,325	24,322
Year fixed effect	Yes	Yes	Yes
R-squared	0.690	0.781	0.755

Notes: Cluster-robust standard errors at the firm level are in parentheses
**** p<.01, ** p<.05, * p<.1*
Source: Authors' own work.

Given that a higher value of the estimated coefficient of interactive variable *D#Ret* indicates a higher level of conditional conservatism, the results suggest that companies' decision to revaluate their assets is negatively related to the level of conditional conservatism, as we predicted. Therefore, we show that the choice of accounting policy related to the subsequent measurement of assets may serve as an indicator of a manager's tendency towards accounting conservatism.

7. CONCLUSION

This study examines the relationship between asset revaluation policy and conditional conservatism in financial reporting among European listed companies from 2013 to 2023. Our findings provide empirical evidence supporting the hypothesis that companies choosing the revaluation model for subsequent asset measurement exhibit significantly lower levels of conditional conservatism compared to those using the historical cost model.

These findings contribute to the ongoing debate on the impact of fair value accounting on financial reporting quality. They suggest that the choice of revaluation as an accounting policy may indeed serve as an indicator of management's preference towards less conservative accounting practices. This has important implications for users of financial statements, particularly investors and creditors, who rely on the conservatism principle as a mechanism for protecting their interests.

Our study also adds to the limited body of empirical research examining the relationship between fair value accounting and conservatism. While previous studies have largely focused on comparing net income and comprehensive income, our approach provides new insights by directly comparing conservatism levels between companies based on their chosen measurement model.

However, it is important to note that while revaluation may lead to less conservative reporting, it may also provide more current and relevant information about asset values. Also, our research is subject to several limitations that may limit the generalizability of the findings. The study uses the presence of non-zero revaluation reserves as a proxy for companies choosing the revaluation model. This may not capture all instances of revaluation or may oversimplify the complex decision-making process involved in choosing accounting policies. Further, there may be other important factors influencing both the choice of revaluation and the level of conservatism that are not accounted for in the model. Finally, the use of stock returns in the Basu (1997) model assumes market efficiency, which may not hold equally across all European markets included in the study.

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Examining The Psychological Factors Influencing The Decision Of Electric Car Buyers

Sonja Szél[1]

1 Sonja Szél, galgoczisonja@gmail.com, 0009-0009-8247-021X

Abstract: There are numerous studies and data on how the sales of electric vehicles, their technical innovation and how they have transformed people's perceptions of environmental awareness. However, the psychological aspects of consumer behaviour and decision-making remain a relatively underexplored field. The aim of this research is to identify the psychological factors that influence the intention to purchase electric cars, with a particular focus on the roles of self-image, loyalty, consumer identity, and symbolic consumption. Consumers' product usage habits are closely linked to their self-image, which can be further reinforced by owning an electric vehicle. According to the theory of symbolic consumption, some consumers use electric cars to express their social status, environmental attitudes, or commitment to innovation. The results of my online pilot survey indicate that economic considerations are the primary factor driving decisions to purchase electric cars, while environmental consciousness plays a less significant role. A significant proportion of respondents rejected the notion of electric cars as status symbols; however, in many cases, ownership contributed to the expression of personal identity. The research also highlighted that social norms and openness to technological innovation have a considerable impact on consumer decisions. It can be concluded that purchasing an electric car is not merely an environmental or economic decision but also has psychological and social dimensions. Self-image and symbolic consumption play a key role in shaping consumer behaviour, while loyalty and attitudes may determine the long-term adoption of electric vehicles. Based on these findings, future research directions include conducting qualitative in-depth interviews and a new online survey targeting consumer groups that reject or hold critical attitudes toward electric vehicle usage.

Keywords: electric car industry, loyalty, self-image, consumer identity, symbolic consumption

1. INTRODUCTION

Nowadays, an increasing number of automotive manufacturers are transitioning to the production of electric vehicles. While this shift does not necessarily encompass their entire model lineup, it has already been reflected in the introduction of certain models. This trend is driven by several factors, including the reduction of harmful emissions, the elimination of noise pollution, and lower maintenance costs. Despite the increasing proportion of electric vehicles—by 2023, out of the 2,583,456 registered cars in Hungary, 41,212 were electric (KSH[1])—the willingness to purchase them is not as straightforward. This is supported by a 2022 survey, which found that out of 109 respondents, only 4 intended to purchase an electric vehicle within the next 1–3 years (Német & Kovács, 2022). This contradiction raises the question of whether distinctive consumer patterns can be identified among electric vehicle buyers. Numerous studies (Pradeep et al., 2021; Shalender & Sharma, 2021; Ferguson et al., 2018) have examined consumers' willingness and motivation to purchase electric vehicles. However, relatively few discussions have explored the more detailed dimensions of self-image and loyalty. According to a 2023 study, research on the explanatory power of factors influencing the intention to purchase electric vehicles remains insufficient (Zhengxia He et al., 2023). Currently, many users adopt and utilize electric vehicles not only to meet practical needs—such as mobility—but also to maintain and enhance their self-image through the symbolic significance of these cars (Sovacool & Axsen, 2018).

The aim of my research is to examine how self-image, symbolic consumption and loyalty influence the decision to purchase electric vehicles and to identify patterns and consumer segments among the studied subjects.

2. LITERATUE REVIEW

2.1. Loyalty

There are numerous definitions of loyalty in the academic literature. Most perspectives agree that loyalty represents a form of commitment and dedication.

2.1.1. Behavioural Loyalty

Behavioural loyalty focuses on consumer actions—what they do and how they behave. Loyalty is generally defined as repeated purchases or the relative volume of purchases from the same brand (Tellis, 1988). A notable

[1] https://www.ksh.hu/stadat_files/sza/hu/sza0025.html

definition by Newman and Werbel (1973) describes loyal customers as those who repurchase the brand, consider only that specific brand, and do not seek additional information about alternatives.

2.1.2. Attitudinal Loyalty

These definitions, however, struggle with the limitation of only capturing consumer actions without addressing the psychological meaning of loyalty or satisfaction (Oliver, 1999). Dick and Basu (1994) also highlighted this issue, arguing that behavioural loyalty alone cannot explain the underlying motivations and, therefore, fails to account for the development and evolution of loyalty. Emotional or psychological attachment and commitment are essential aspects of loyalty (Mowen & Minor, 2001; Evans et al., 2006).

Loyalty can manifest in various ways, creating an emotional bond between the brand and the consumer. This relationship often goes beyond the functional value of products and relies on the symbolic meanings conveyed by the brand. In the electric car industry, symbolic consumption plays a key role, as it represents not just a means of transportation but also a statement of identity.

2.2. Symbolic consumption

According to Rekettye and Hetesi (2017), the core idea of symbolic consumption is that we are what we own, as we perceive our material possessions as an extended part of our personality.

Törőcsik (2016) approaches symbolic consumption and loyalty as interconnected concepts. The essence of goal-oriented purchasing is acquiring a desired product or brand, with the chosen item serving as a means of self-expression for the individual. Therefore, it can be said that one characteristic type of goal-oriented purchasing is strong brand loyalty.

2.2.1. Symbolic consumption in the automotive industry

Products are often used to express personal identity and image (Jacob et al., 2020). Several studies have shown that people express their identity through luxury brands and various consumer goods (Charles et al., 2009). Steg (2005) argues that cars possess symbolic attributes. Consumers consider the symbolic meaning of vehicles as a key decision-making factor when purchasing electric cars (Heffner et al., 2007; Jansson et al., 2017; Li et al., 2017).

The symbolic meaning of transportation can indicate consumers' social status, particularly in the case of cars (Ashmore et al., 2018). According to Zhao and Zhao (2020), owning and using a car can be associated with a sense of pride. When considering the introduction of electric cars, research has demonstrated that they provide consumers with social status and prestige, as they represent a new type of "high-tech" vehicle (Anable et al., 2011).

When consumers recognize that electric cars can express their social status, it encourages their preference for such vehicles. Rong et al. (2021) found that status symbolism, environmental symbolism, and innovation symbolism have a significant and direct impact on consumers' intention to adopt electric cars. This suggests that the more consumers acknowledge the symbolic meaning of electric vehicles, the stronger their intention to accept them. This finding aligns with the conclusions of Heffner and colleagues (2007), who determined that the symbolic significance of hybrid electric vehicles influenced the purchasing intentions of 25 American families.

2.3. Self-image

One of the most important concepts in my research is self-image and the theories associated with it. The notion of self-image emerged as early as the 1950s, with Levy (1959) proposing that every product carries a symbolic meaning, and consumers determine during the purchasing process how well this meaning aligns with their self-perception. According to Levy, the alignment is ideal when it corresponds to how the consumer sees themselves.

A key theory to introduce is the self-congruity theory, attributed to Sirgy (1982). The author suggests that consumer decisions are influenced by how well a product's image aligns with their self-image. Simply put, individuals tend to choose brands whose image matches their self-perception and enhances their self-esteem. The essence of the self-congruity theory is that "individuals express their self-image through the symbolic content of products and their associated brand images" (Prónay, 2011, p. 7). But what exactly is self-image?

An individual's self-image consists of the beliefs they hold about themselves and their characteristics, as well as how they evaluate these beliefs (Hofmeister, 2017). People can form multiple types of self-images, as illustrated in Figure 1.

Figure 1: Various Types of Self-Concept

Actual self	how a person actually perceives himself.
Ideal self	how a person would like to perceive himself.
Social self	how a person thinks others perceive him.
Idel social self	how a person would like others to perceive him.
Expected self	an image of self somewhere in between the actual and ideal self.
Situational self	a person's self-image in a specific situation.

Source: Own editing based on Mowen (1993, p. 229)

It is important to note that a connection exists between symbolic consumption and self-image; however, not all products or brands are suitable for expressing an individual's self-image. To serve this function, a product or brand must be visible to others and not universally accessible. If a product is available to everyone, it loses its symbolic meaning and, consequently, its influence on consumer self-image (Hofmeister, 2017).

Prónay (2011) distinguished between the concepts of self-concept and self-presentation. Self-concept refers to an individual's internal self-image, which consists of identity (actual self-image) and self-image as perceived by society (social self-image). Identity answers the question **"Who am I?"**, while self-image answers **"Who do others think I am?"**. Self-presentation, on the other hand, is the process by which consumers communicate their desired image to their surroundings. They aim to achieve their desired self-image, which includes both their ideal self-image and ideal social self-image.

3. METHOD AND RESULTS

After a brief review of the literature, it has become justified to examine the relationship between loyalty, self-image, and symbolic consumption in the context of electric vehicle purchases. So far, the scientific community has not explored this topic in depth, and I have found only a limited number of studies that analyze related consumer patterns and groups**.**

3.1. Research aims and methodology

The primary objective of my pilot study was to measure response willingness and assess the extent to which my desired target group would be accessible in this form for future research. Additionally, I considered it particularly important to examine the extent to which the statements formulated in the literature can be validated in the Hungarian context**.**

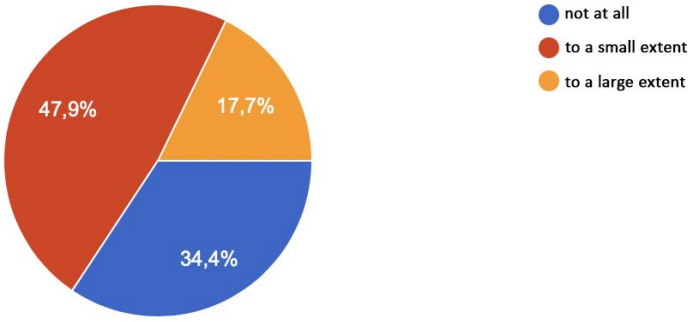
In my research, I applied a quantitative approach using an online survey. I chose this method because it provides a fast and efficient way to reach a broad range of respondents, especially in my field, where the target audience is typically active on digital platforms.

I created a 10-question survey using Google Forms and shared it in various electric car-related Facebook groups. These groups include both individuals who already own an electric vehicle and those who are considering purchasing one. I did not include questions about gender or age group in the survey, as my initial aim was to examine the topic from a broader perspective. I plan to narrow the focus in future research. Although my survey received only 96 responses, I believe that these results can serve as an excellent starting point for future research.

3.2. Results

Based on the research results, 65.6% of respondents (Figure 2) believe that owning an electric car contributes to the expression of their personal identity. This confirms that purchasing an electric vehicle is not only a functional decision but also holds symbolic significance.

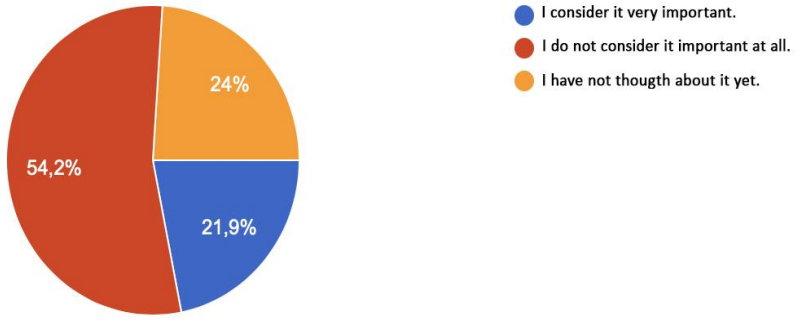
Figure 2: Excerpt from the questionnaire analysis



Source: Own editing based on my pilot research

13.5% of respondents indicated (Figure 3) that their purchasing decision was influenced by social opinions or pressures, suggesting that community expectations may play a role in consumer decision-making.

Figure 3: Excerpt from the questionnaire analysis



Source: Own editing based on my pilot research

Additionally, 21.9% of participants consider it important that others know they drive an electric car, which implies that status communication and emphasizing an environmentally conscious image may also be important factors for electric vehicle owners.

The research also received critical opinions regarding the interpretation of electric cars as status symbols. Some respondents believe that electric vehicles cannot be considered status symbols and, in fact, receive more negative judgment than positive (“Because of EVs, we get much more contempt and ridicule than positive recognition”). Others think that they can only be status symbols within certain social groups (“It might be a status symbol, but only among poor working-class people”) or only if they belong to luxury brands (“It would be a status symbol if someone bought a Tesla, BMW, Mercedes, or Porsche”).

These findings suggest that the status of electric cars is not clearly defined in society, and different perceptions have emerged. While some consumers see them as symbols of prestige and environmental consciousness, others argue that electric vehicles lack the exclusivity needed to be considered true status symbols.

4. CONCLUSION

The research results indicate that the status of electric vehicles is a socially divisive issue. While some consumers perceive electric cars as prestigious and environmentally conscious choices, others argue that they do not possess the characteristics of traditional status symbols. According to respondents, the status value may depend on the brand, price category, and social context. Electric vehicles associated with luxury brands are more easily considered status symbols, whereas more affordable models receive a less clear societal perception.

In my future research, I intend to apply a mixed-method approach. My goal is to conduct in-depth interviews, focus group discussions, and additional online surveys. To expand my findings, I plan to include individuals who reject or do not use electric cars, as I am curious about their perceptions of my target group.

Overall, the symbolic meaning of electric cars is not uniform, and social perception significantly influences it. Future research should further explore the factors that may strengthen or weaken the acceptance of electric vehicles as status symbols.

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Assessing Regional Agricultural Trends in Turkiye: Insights from LISA and BILISA Methods

Asst. Prof. Sureyya Temelli[1]

[1] Trakya University, F.E.A.S., Department of Econometrics, E-mail: sureyyadal@trakya.edu.tr. ORCID: 0000-0001-5340-3186

Abstract: Agriculture has long been a cornerstone of Turkiye's economy, with crops ranging from cereals, fruits, and vegetables to industrial crops, such as cotton and tobacco. The patterns of crop production are not only a reflection of environmental conditions but also of historical development, infrastructure, regional policies, and technological advancements. The objective of this study is to examine the development of Turkiye's agricultural sector across its provinces from 2017 to 2021 using both economic and agricultural indicators. To achieve this objective, the spatial pattern of the provinces is considered using the LISA and BILISA methods. A notable result of the study is that the agricultural exports of Konya province, which had agricultural exports above the average of Turkiye in 2017 and was also in a relationship with provinces with high agricultural exports, were below the average of Turkiye in 2021, while maintaining its relationship with provinces with high export values. Another important result from the BILISA map on agricultural exports is that Osmaniye province experienced a relative decline in agricultural exports in 2021 compared to 2017, while neighboring provinces had higher agricultural exports. The insights gained from this comprehensive spatial analysis will contribute valuable knowledge to policymakers, agricultural planners, and researchers by facilitating more targeted and effective strategies for regional development and agricultural policy formulation in Turkiye.

Key Words: Agriculture, LISA analysis, BILISA analysis

1. INTRODUCTION

Agriculture plays a crucial role in Turkiye's economy, particularly at the provincial level. Many Turkish provinces rely heavily on agricultural activities as a primary source of income and employment. The sector contributes significantly to local economies by providing jobs, generating revenue, and supporting related industries. Each province often specializes in specific crops or livestock, depending on its climate, soil conditions, and traditional practices. This specialization leads to the development of local expertise and infrastructure, further strengthening the agricultural sector's importance. It also contributes to food security at both local and national levels. The sector's economic impact extends beyond direct production, supporting agribusiness, food processing industries, and rural tourism. Despite challenges such as climate change and urbanization, agriculture remains a vital component of many Turkish provinces' economic structures, driving local development and contributing to the overall national economy.

While agricultural sector significantly impacts Turkiye's provincial economies, the extent of this impact varies across regions, with some provinces more heavily dependent on agricultural activities than others, leading to differences in economic diversification, migration patterns, and overall economic resilience. The impact of agriculture varies considerably between regions, reflecting differences in climate, soil quality, water availability, and historical agricultural practices. This regional variation leads to disparities in how provinces depend on agriculture for their economic well-being. To achieve this objective, The Local Indicators of Spatial Association (LISA) and Bivariate Local Indicators of Spatial Association (BILISA) techniques were employed to analyze the agricultural indicators of the provinces, providing a comprehensive spatial perspective on agricultural patterns and relationships. LISA allows for the identification of local spatial clusters and outliers, highlighting areas where agricultural indicators exhibit significant spatial autocorrelation. This technique helps pinpoint regions with similar or dissimilar agricultural characteristics compared to their neighboring areas, offering insights into the spatial distribution of agricultural activities and performance across the provinces.

Bivariate Local Indicators of Spatial Association (BILISA) is an advanced analytical tool that builds upon the foundation of Local Indicators of Spatial Association (LISA). This extension allows researchers to delve deeper into the spatial dynamics of agricultural indicators over time, providing a more comprehensive understanding of how these indicators evolve and interact across different geographical areas. By incorporating a temporal dimension, BILISA enables the identification of spatial patterns and shifts in relationships between regions or units that may not be apparent through traditional spatial analysis methods.

BILISA's application in agricultural research offers valuable insights into the complex interplay between various factors affecting crop production, land use changes, and rural development. This method can reveal clusters of

similar or dissimilar trends, highlighting areas where agricultural indicators are improving or declining in tandem with neighboring regions. Additionally, BILISA can uncover spatial outliers, where a particular area's agricultural performance diverges significantly from its surroundings over time. Such information is crucial for policymakers and researchers in developing targeted interventions, allocating resources efficiently, and understanding the broader implications of agricultural changes on regional and national scales.

A comparative analysis of agricultural economic indicators across Turkiye's 81 provinces, examining their clustering or divergence over two separate time frames, has not yet been undertaken. This study will fill this gap and investigate the spatial characteristics of agricultural exports, agricultural imports, the number of agricultural enterprises, the crop production value and the share of agriculture in gross domestic product in Turkiye's 81 provinces for 2017 and 2021.

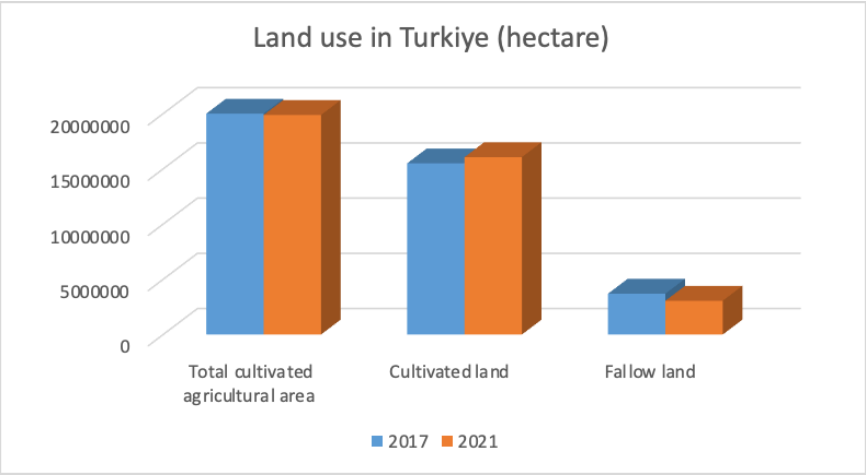
The study is organized into five sections. The initial section outlines the research objectives. Following this, agriculture sector's role in Turkiye's economy is provided. The third part details the exploratory spatial data analysis as an econometric method employed. Subsequently, the findings of the investigation are presented. The final section offers an analysis of the research and its results.

2. AGRICULTURE OF TURKIYE

Turkiye's agricultural sector has undergone a significant transformation since the 1980s. With the implementation of neo-liberal policies, the role of the state in the agricultural sector has diminished and the influence of transnational corporations has increased. In cooperation with institutions such as the World Bank, the EU and the World Trade Organization, the Turkish state has prepared the conditions for multinational agricultural corporations to control Turkish agriculture. This process led to the impoverishment of small and medium-sized farmers and their abandonment of agriculture (Aydin, 2010:155)

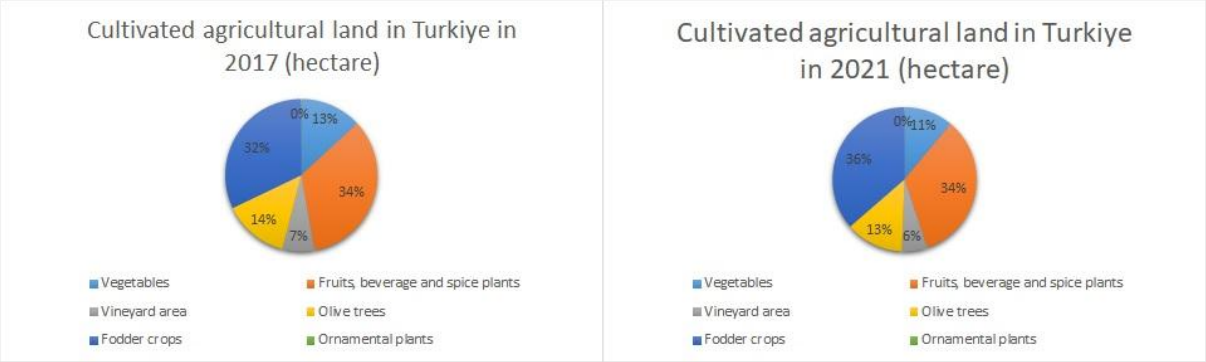
The negative change in agricultural areas in Turkiye is considerable. The expansion of urban areas, where service and industrial areas have developed, has led to the widespread use of the areas around these cities for non-agricultural purposes. In this case, productive agricultural areas cannot be utilized properly (Bayar, 2018:199). Figure 1 shows a comparison of agricultural land use in Turkiye between 2017 and 2021. Data was obtained from Turkish Statistical Institute (TUIK) regional statistics. In 2021, total agricultural area decreased compared to 2017. However, while the amount of cultivated agricultural area increased in 2021, the area left fallow decreased. The decrease in fallow land and increase in cultivated area could be attributed to agricultural intensification, which is a common trend in developing countries (M & M, 2019:9). This shift might be driven by population growth, increased food demand, and economic pressures to maximize land productivity. Interestingly, this trend contradicts the recommendations for sustainable land management practices. Studies have shown that maintaining fallow periods is crucial for soil health, nutrient restoration, and biodiversity conservation (Metzger, 2003:7; Tarjuelo et al., 2020:645-646). The reduction in fallow land could potentially lead to soil degradation and loss of ecosystem services in the long term.

Figure 1: Comparison of Land Use in Turkiye



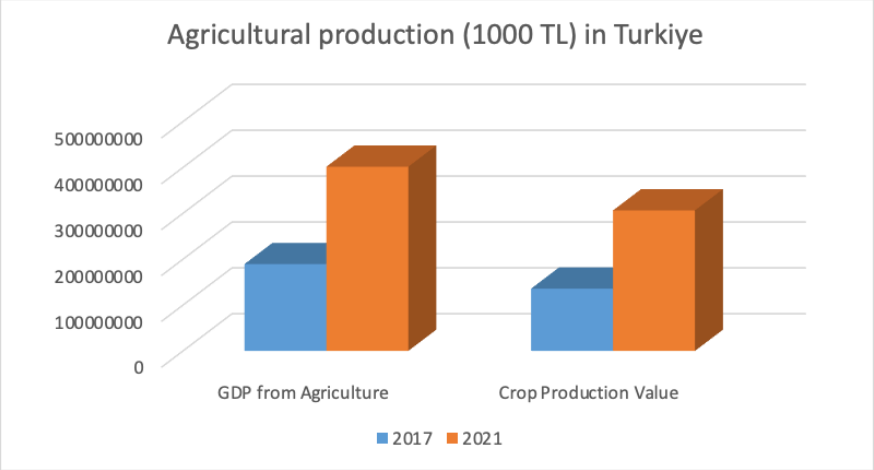
The comparison of agricultural area in Turkiye in terms of planted content for the period 2017-2021 is shown in Figure 2. TUIK regional statistics indicate that fodder crop production in Turkiye saw a 4% increase in 2021, while the areas allocated for vegetables, olive groves, and vineyards experienced a reduction.

Figure 2: The Comparison of Agricultural Area in Turkiye in Terms of Planted Content



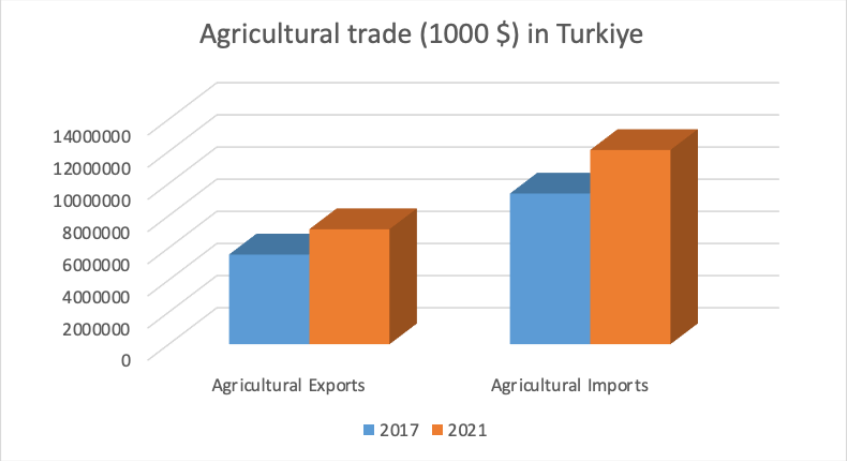
For 2017 and 2021, gross domestic product from agriculture and crop production value in Turkiye are shown in Figure 3. In 2021, both gross domestic product from agriculture and crop production value increased compared to 2017. The increase could be attributed to a combination of factors, including government economic programs, improved agricultural practices, and potentially favorable weather conditions. To fully understand the reasons behind this growth, more specific data and analysis for Turkiye's agricultural sector during that period would be necessary.

Figure 2: Agricultural Production in Turkiye



Bayar (2018) stated that Turkiye imports most of the agricultural products it can produce. Agricultural trade in Turkiye is analyzed in Figure 4 using TUIK regional statistics. In Turkiye in 2021, agricultural imports are 1.69 times higher than agricultural exports. Moreover, agricultural imports increased by 28.88% compared to 2017.

Figure 3: Agricultural Trade in Turkiye



The agricultural sector in Turkiye has undergone significant changes in recent years, characterized by shifts in land use, production patterns, and trade dynamics. Despite a decrease in overall agricultural land area, Turkiye

has managed to increase its agricultural production through improved farming techniques, technological advancements, and more efficient resource utilization. This intensification of agriculture has allowed for higher yields and greater output from a smaller land base. However, the reduction in agricultural land raises concerns about long-term sustainability and food security, particularly in the face of growing population demands and environmental challenge. Conducting a study on the agricultural sector in Turkiye using exploratory spatial analysis is crucial to understand the agricultural productivity across different regions of the country. This approach can identify clusters of high-performing areas, and highlight potential areas for improvement, ultimately informing targeted policies and interventions to enhance the sector's efficiency and sustainability.

3. EXPLORATORY DATA ANALYSIS (ESDA)

Exploratory Spatial Data Analysis (ESDA) is used to examine whether there is spatial clustering or diffusion among agricultural exports, agricultural imports, the number of agricultural enterprises, the crop production value and the share of agriculture in gross domestic product. ESDA is defined as a set of techniques used to describe and visualize spatial distributions, to discover spatial clusters and outliers, and to illustrate different spatial practices and spatial instabilities (Anselin, 1999:258). ESDA analysis also includes univariate and bivariate local indicators of spatial association, which are used to determine spatial autocorrelation with the Moran's I test statistic based on neighborhood relationships and to detect significant clustering or diffusion relationships in a region. In ESDA applications, a spatial weight matrix (W) is used to express the spatial structure of the neighborhood relations of the variables in the model, and the spatial weight matrix is added exogenously to the model and weights the locations according to their neighborhood relations to each other (Zeren, 2010:22). The queen weight matrix, which assumes that locations share a common edge or corner, is used in the analysis. Each element of the weight matrix is denoted by wij. Here, i and j denote different provinces of Turkiye. Then, in order to determine spatial autocorrelations, LISA analyses are performed. Developed by Anselin(1995), the global indicator of spatial association is calculated by using Moran's I statistic which is shown in equation 1.

$$I = \frac{\sum_i \sum_j w_{ij} z_i z_j}{\sum_i z_i^2} \quad \text{(Eq.1)}$$

Then, the local indicator of spatial association (LISA) serves as a method for detecting local clusters and identifying spatial outliers within a specific area by using local Moran's I statistic. Local Moran's I statistic investigates the relationship between the variable expressed in terms of its means $(z_i = x_i - \bar{x})$ and its spatial lag, is calculated by Equation 2.

$$I_i = \frac{\sum_j w_{ij} z_i z_j}{\sum_i z_i^2} \quad \text{(Eq.2)}$$

Bivariate Local Indicators of Spatial Association (BILISA) which is an extension of univariate local Moran's statistic explores the tendency of two distinct variables to cluster spatially (Brooks, 2019:176). The Bivariate Moran's I statistic quantifies the association between a variable's value in one province and lagged the neighboring provinces' values of a different variable. This statistical approach is particularly useful for examining the same variable across two separate time periods, allowing researchers to detect spatial-temporal patterns and relationships. The study utilizes bivariate Moran's I to analyze agricultural indicators for the periods of 2017 and 2021. This method allows researchers to assess spatial autocorrelation between two variables, providing insights into how agricultural factors are distributed and interconnected across space. By comparing data from these two specific years, the study aims to identify any changes or trends in spatial patterns over time. Bivariate Moran's I statistic is shown in Equation 3.

$$I_T = \frac{\sum_i (\sum_j w_{ij} z_{j,2017} z_{i,2021})}{\sum_i z_{i,2021}^2} \quad \text{(Eq.3)}$$

ESDA analysis offer powerful tools for analyzing spatial relationships between different variables or the same variable across time periods. By applying these methods to agricultural indicators in 2017 and 2021, this study aims to uncover spatial-temporal patterns and changes in agricultural factors across provinces. This approach not only allows for the identification of spatial clustering but also provides valuable insights into the interconnectedness of agricultural variables over time, potentially revealing important trends and relationships that can inform policy decisions and future research in the field of agricultural geography.

4. EMPIRICAL FINDINGS

The spatial clustering and diffusion of agricultural indicators across 81 provinces in Turkiye were examined utilizing Exploratory Spatial Data Analysis (ESDA) techniques, incorporating the temporal dimension. All analyses were performed in GeoDA software. Agricultural indicators used in the study are the share of agriculture in gross domestic product (1000 TL), crop production value (1000 TL), agricultural exports (1000 USD), agricultural imports (1000 USD), and the number of agricultural enterprises. In the analyses, the global Moran's I statistic was initially calculated and presented in Table 1. Furthermore, all calculated statistical values were permuted 999 times, tested for significance, and presented in Table 1.

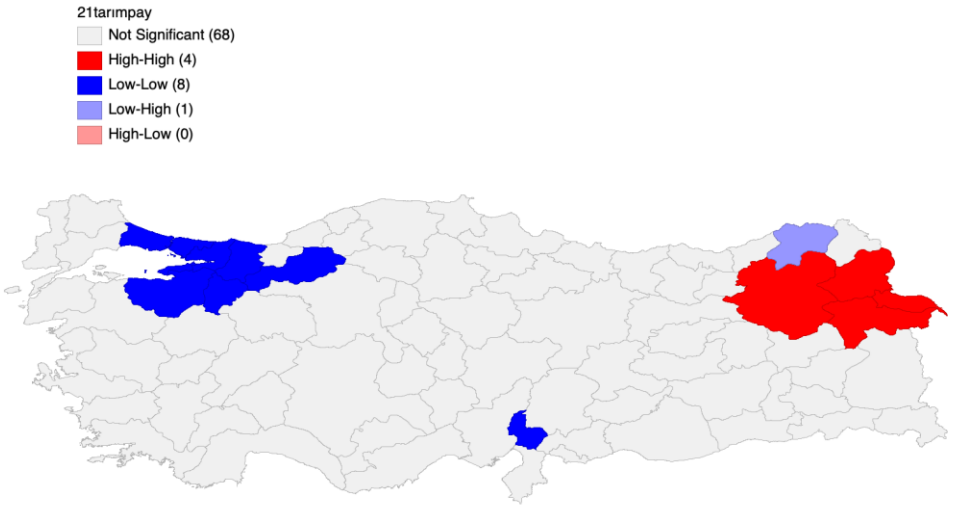
Table 1: Global Moran's I values

Year	Agricultural Indicator	Univariate Moran's I	Years	Bivariate Moran's I
2017	the share of agriculture in gross domestic product	0.333***	2021-2017	0.319***
2021		0.304***		
2017	crop production value	0.423***	2021-2017	0.383***
2021		0.364***		
2017	agricultural exports	0.106*	2021-2017	0.103*
2021		0.102*		
2017	agricultural imports	0.009	2021-2017	0.018
2021		0.027		
2017	the number of agricultural enterprises	0.296***	2021-2017	0.294**
2021		0.306***		

***indicates significance at the 1% level; **indicates significance at the 5% level; *indicates significance at the 10% level.

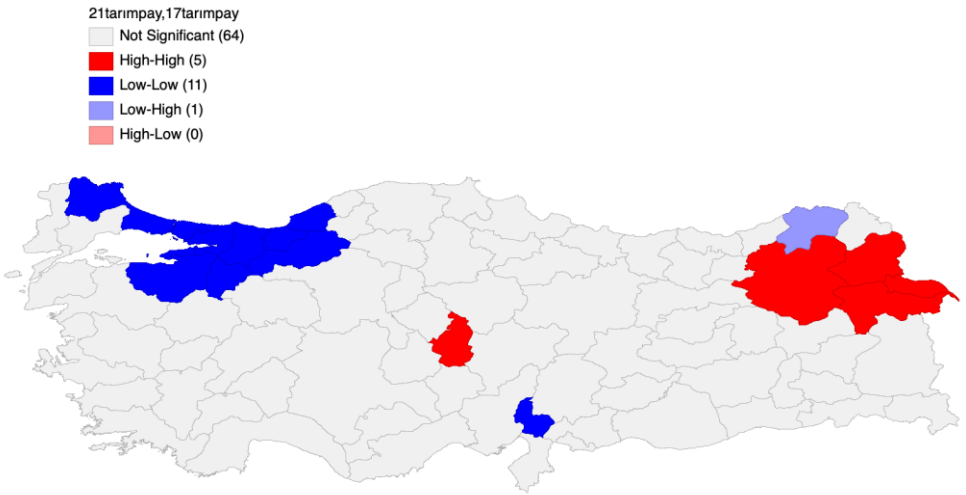
According to the results of Global Moran's I values, while there exists a spatial autocorrelation relationship in the share of agriculture in gross domestic product (GDP), crop production value, agricultural exports, and the number of agricultural enterprises at the provincial level in Turkiye, no spatial autocorrelation relationship is observed in agricultural imports. The observed spatial autocorrelation in various agricultural indicators points to potential regional clustering of agricultural activities. Consequently, LISA analysis was conducted to identify significant clustering relationships and spatial diffusion regarding agricultural activities at the provincial scale. Figure 4 shows the LISA cluster map for share of agriculture in GDP in 2021.

Figure 4: LISA Cluster Map for Share of Agriculture in GDP in 2021



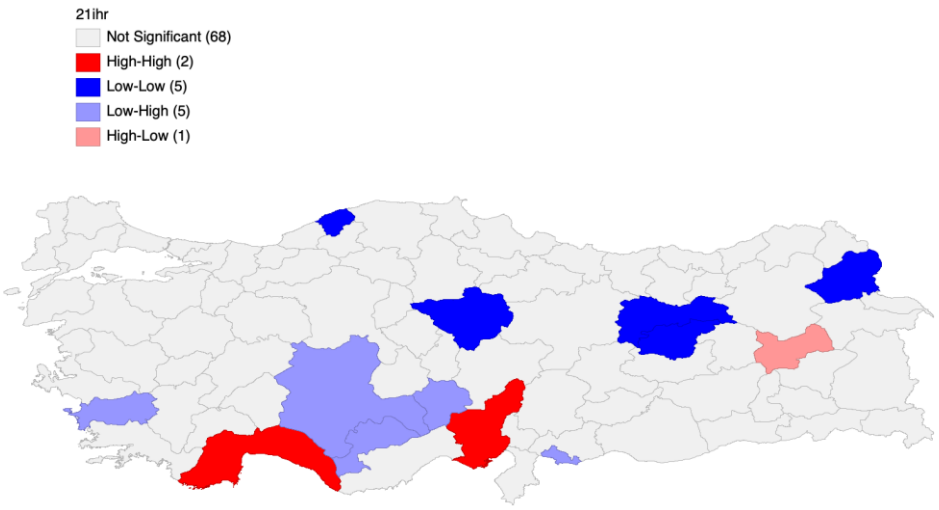
On the map, Erzurum, Ağrı, Kars and Iğdır, shown in red, are clustered with high observation values. Bursa, Bilecik, Bolu, Kocaeli, Sakarya, Istanbul and Osmaniye in blue are clustered with low observation values. The share of agriculture in GDP of Artvin province, which is located in the Low-High (LH) region, is below the Turkiye average; however, this province is related to provinces with high share of agriculture in GDP. Like with univariate Moran's I, the bivariate value for 2021/2017 is significant, indicating that the spatial pattern of province share of agriculture in GDP levels in 2021 positively correlates with the regional structure of province share of agriculture in GDP levels in 2017. In this study, Bivariate LISA identifies Artvin province had relative decrease in the share of Agriculture in GDP compared to 2017 (Figure 5).

Figure 5: BILISA Cluster Map for Share of Agriculture in GDP in 2021/2017



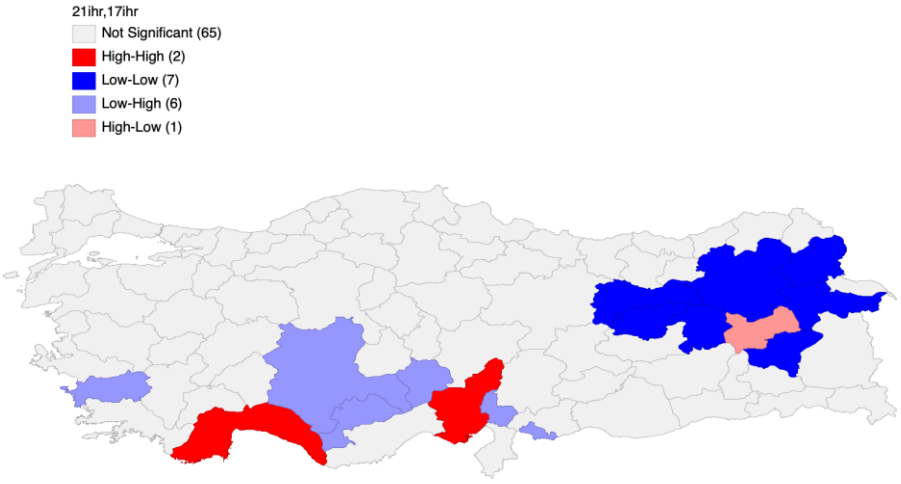
The LISA cluster map for agricultural exports in 2021 is presented in Figure 6. Based on 2021 data, In Yozgat, Bartın, Erzincan, Tunceli and Kars, agricultural exports are lower than the Turkiye average and are in a relationship with provinces with low agricultural exports. The opposite situation exists in Antalya and Adana. On the other hand, in Antalya and Adana, agricultural exports are high and are related to provinces with high agricultural exports. In addition, agricultural exports in Konya, Karaman, Niğde, Kilis and Aydın provinces are below the average of Turkiye and are in a relationship with provinces with high agricultural exports. In contrast, agricultural exports in Muş are above Turkiye's average in 2021, but the province is neighboring provinces with low agricultural exports.

Figure 6: LISA Cluster Map for Agricultural Exports in 2021



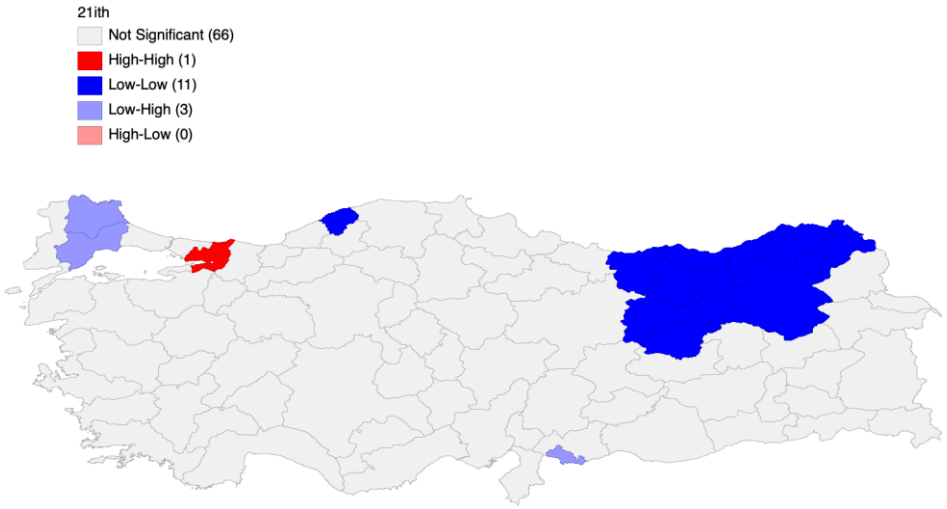
The spatial outlier in the space-time cluster map presented in Figure 7. The agricultural exports in Muş province had increased compared to 2017. Another important result from the BILISA map on agricultural exports is that Osmaniye province experienced a relative decline in agricultural exports in 2021 compared to 2017, while neighboring provinces had higher agricultural exports. The study revealed an interesting finding regarding Konya province's agricultural exports. In 2017, Konya's exports exceeded Turkiye's national average and showed connections with other high-exporting provinces. However, by 2021, Konya's agricultural exports had fallen below the country's average, despite maintaining its relationships with provinces that had high export values.

Figure 7: BILISA Cluster Map for Agricultural Exports in 2021/2017



The global univariate and bivariate Moran's I statistics for the agricultural import variable were not found to be statistically significant. Consequently, as shown in Figure 8, the majority of the calculated local statistics were determined to be insignificant.

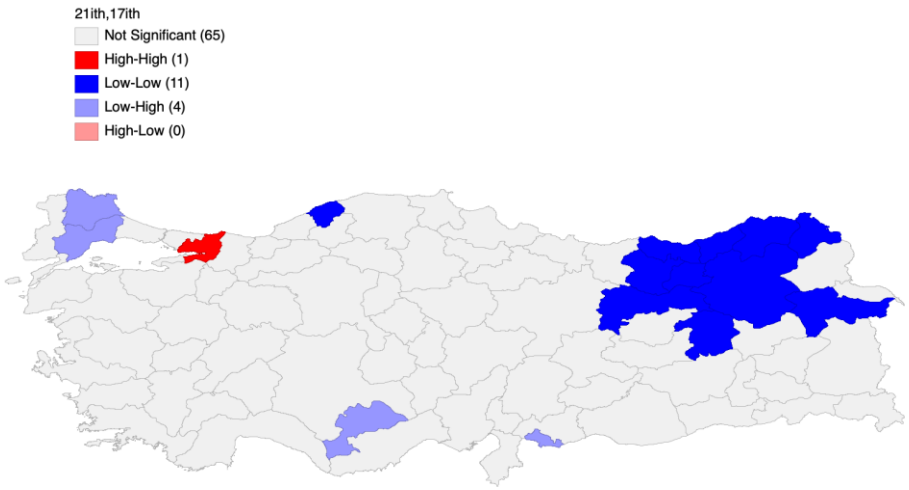
Figure 8: LISA Cluste Map for Agricultural Imports in 2021



The provinces of Giresun, Trabzon, Gümüşhane, Rize, Artvin, Ardahan, Erzurum, Erzincan, and Tunceli not only fall below the Turkish average in terms of agricultural imports, but they also share borders with other regions that have similarly low levels of agricultural imports.

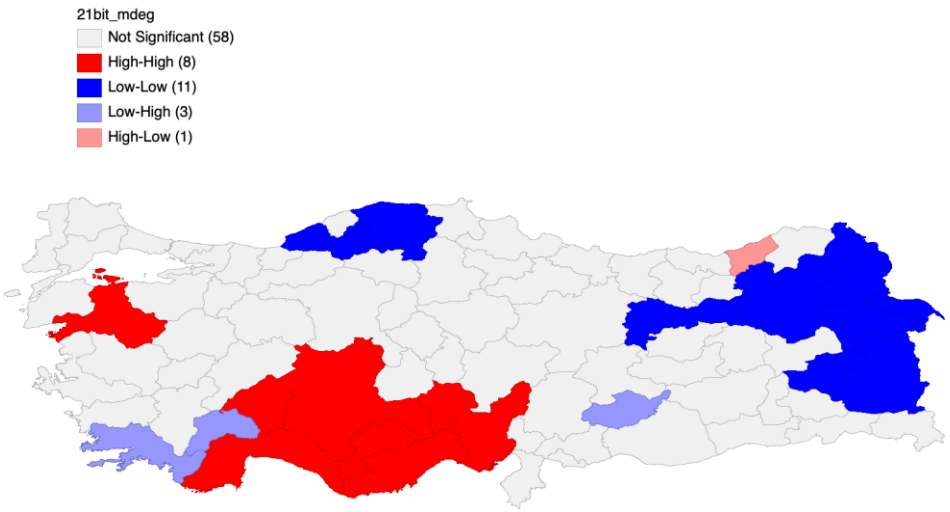
The bivariate method offers a notable benefit in its capacity to identify spatial outliers, including patterns of High-Low and Low-High clusters. According to the BILISA map, Karaman, Kilis, Tekirdağ and Kırklareli provinces experienced a relative decrease in agricultural imports in 2021 compared to 2017 (Figure 9). However, this province is neighboring provinces with high agricultural imports.

Figure 9: BILISA Cluster Map for Agricultural Imports in 2021/17



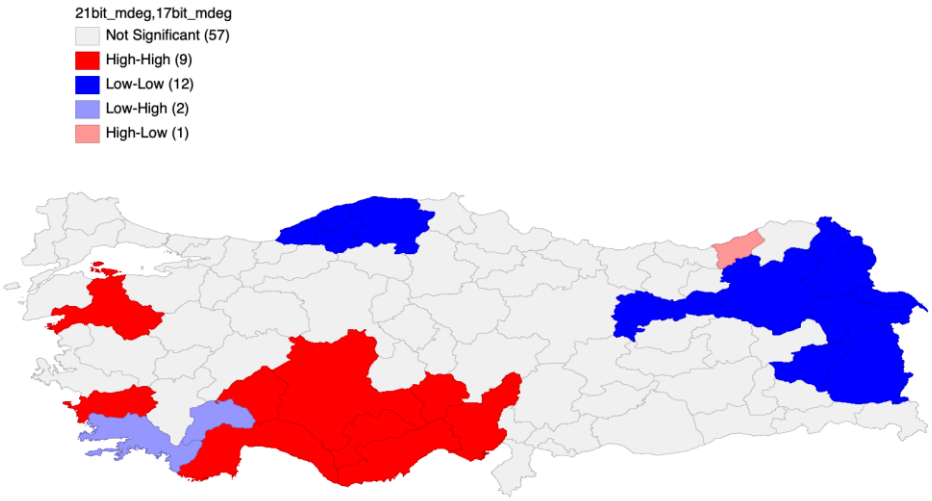
An examination of the LISA map depicting crop production value in 2021 reveals distinct regional patterns (Figure 10). The Eastern provinces are concentrated in the Low-Low (LL) category, while Mediterranean provinces cluster in the High-High (HH) group. Notably, Burdur and Muğla stand out from their neighboring areas, with crop production values falling below the national average. Conversely, Rize presents an opposite scenario, where its crop production value exceeds Turkiye's average, despite being surrounded by provinces with low production levels.

Figure 10: LISA Cluster Map for Crop Production Value in 2021



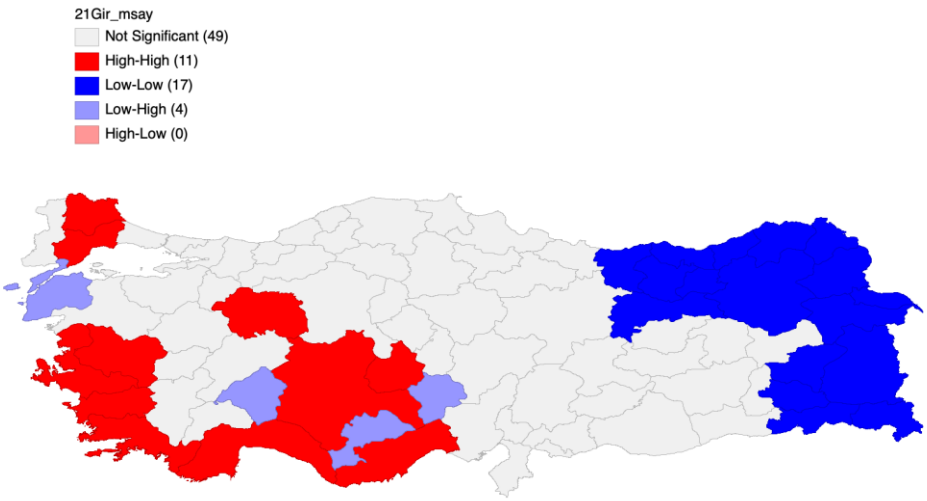
BILISA cluster map for crop production value in 2021/17 was given in Figure 11. In Muğla province, there was a relative decline in crop production value compared to 2017, while neighboring areas experienced high crop production values. Similarly, the crop production value in Burdur decreased compared to 2017. However, the crop production value in Rize increased compared to 2017.

Figure 11: BILISA Cluster Map for Crop Production Value in 2021/17



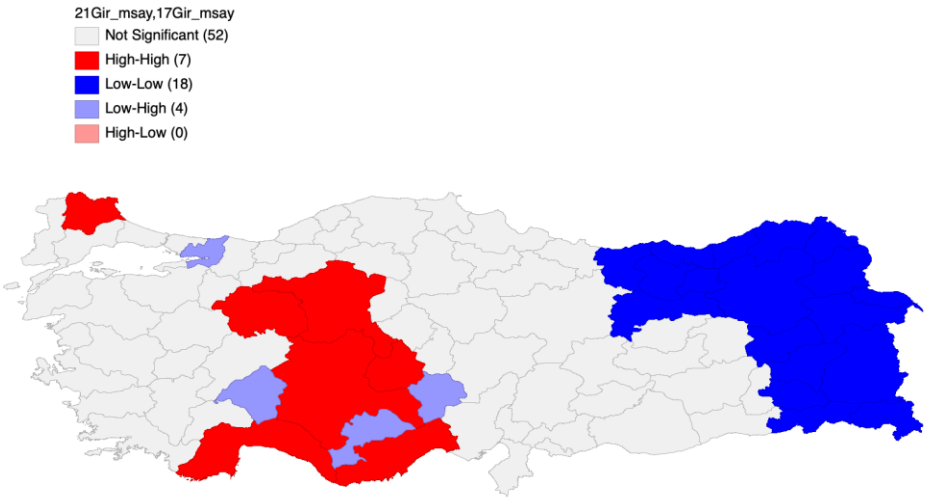
Based on the LISA map in Figure 12, the number of agricultural enterprises in 2021 is above the Turkiye average in Izmir, Manisa, Aydın, Muğla, Antalya, Mersin, Konya, Aksaray, Eskişehir, Tekirdağ and Kırklareli provinces, while these provinces are also associated with provinces with a high number of agricultural enterprises. Karaman, Isparta, Niğde and Çanakkale provinces are spatial outliers and are in the LH region. This means that in 2021, the number of agricultural enterprises is low in these provinces, while it is high in their neighbors. In Erzincan, Giresun, Gümüşhane, Trabzon, Rize, Artvin, Ardahan, Erzurum, Erzurum, Kars, Ağrı, Iğdır, Bitlis, Van, Siirti Şırnak and Hakkari provinces, the number of agricultural enterprises is below the Turkiye average and these provinces are in a relationship with provinces with low agricultural enterprise numbers.

Figure 12: LISA Cluster Map for the Number of Agricultural Entreprises in 2021



The number of agricultural enterprises decreased in Kocaeli, Karaman, Niğde and Isparta compared to 2017, while these provinces are neighboring provinces with a high number of agricultural enterprises (Figure 13).

Figure 13: BILISA Cluster Map for the Number of Agricultural Entreprises in 2021/17



The univariate and bivariate local spatial analysis of agricultural economic indicators across Turkiye's provinces has revealed significant spatial patterns and relationships. The results demonstrate varying degrees of spatial autocorrelation and clustering for different indicators, highlighting the complex nature of agricultural economics in the region. Hotspots of high agricultural productivity and economic performance were identified in certain provinces, while others exhibited low-value clusters. The bivariate analysis uncovered interesting spatial associations between pairs of indicators, shedding light on potential synergies or trade-offs in agricultural development. These findings provide valuable insights for policymakers and researchers, enabling them to target interventions and allocate resources more effectively to address regional disparities and promote sustainable agricultural growth. Further research could explore the underlying factors driving these spatial patterns and investigate temporal changes in the spatial relationships of agricultural indicators across Turkiye's provinces.

5. CONCLUSION

Turkiye's agricultural sector plays a significant role in the country's economy. Turkey's agricultural sector significantly contributes to the country's economy through GDP, employment, and exports. The sector benefits from diverse crop production due to varied climate and topography. It remains a major employer, especially in rural areas, and is a key exporter of fruits, vegetables, and nuts. While facing challenges like climate change and land fragmentation, the sector is advancing through technological adoption, government support, and increased focus on value chain development and organic farming.

Turkiye's agricultural trade imbalance is likely a result of complex factors including trade agreements, ICT development, and domestic production capabilities. To address this issue, Turkiye may need to focus on improving its agricultural productivity, expanding its export markets, and negotiating more favorable trade agreements, particularly with the EU, to boost its agricultural exports and reduce its reliance on imports.

Simultaneously, Turkiye's agricultural trade landscape has evolved, with a notable increase in both imports and exports. The rise in imports suggests a growing domestic demand for certain agricultural products that cannot be fully met by local production, or a shift towards more specialized or high-value crops for export. This trend towards increased agricultural trade, particularly the growth in imports, indicates a complex interplay between domestic production capabilities, changing consumer preferences, and global market forces. While this shift may offer economic opportunities, it also highlights the need for careful policy considerations to balance domestic food security, rural livelihoods, and international trade relationships in Turkiye's agricultural sector.

This study provides a comprehensive spatial analysis of Turkiye's agricultural sector from 2017 to 2021, utilizing LISA and BILISA methods to examine various agricultural indicators across 81 provinces. The findings reveal significant spatial patterns and relationships in agricultural activities, highlighting regional disparities and clusters of high and low performance.

Key results include the identification of spatial autocorrelation in the share of agriculture in GDP, crop production value, agricultural exports, and the number of agricultural enterprises. Notable changes were observed in specific provinces, such as Konya's shift from above-average agricultural exports in 2017 to below-average in 2021, despite maintaining relationships with high-exporting neighbors. The study also identified spatial outliers, such as Kocaeli, Karaman, Niğde and Isparta’s relative decrease in the number of agricultural enterprises in 2021 compared to 2017.

The observed spatial patterns and temporal changes provide valuable insights for policymakers and researchers, enabling more targeted strategies for regional development and agricultural policy formulation.

These findings underscore the importance of considering spatial relationships in agricultural planning and policy implementation. Future research could further explore the underlying factors driving these spatial patterns and investigate temporal changes in the spatial relationships of agricultural indicators across Turkiye's provinces by taking into account climate of each provinces. This would contribute to a more nuanced understanding of the sector's dynamics and support the development of sustainable agricultural practices tailored to regional specificities.

In conclusion, this spatial analysis of Turkiye's agricultural sector offers a robust foundation for informed decision-making in agricultural policy and regional development strategies, paving the way for more efficient resource allocation and targeted interventions to address regional disparities and promote sustainable growth in the agricultural sector.

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Individual and Group Forms Of Learning A Foreign Language

[1]Apachița Svetlana, magistru, asist.univ

[1]Academia de Studii Economice, Republica Moldova, Chișinău, tibuleac.svetlana@gmail.com, orchid id:0000-0002-1373-2716

Abstract: Teachers and learners have a goal to learn English and use it in natural settings. Group work is a teaching strategy at all levels of education and is a common feature of high education. The effective use of group work in the language class can provide a valuable learning experience to students and give them the opportunity to experience the language. The article identifies the efficiency of individual and group work teaching strategies of the students to develop the speaking skills of a foreign language. The article aims to identify the effect of individual and group work of students' value participation in academic communication.

Keywords: Individual and group work, teaching strategy, learning technique.

CZU: 378.147.111:811

Introduction

There are three types of teaching methods pointed out through all different curricula which can distinguish: individual work, group work and class work. In this article some individual and group work aspects in learning a foreign language are distinguished. The most popular forms of any foreign language learning are group and individual forms according to methodology based on curriculum with support from Cambridge University focusing on critical thinking and Content and Language Integrative Learning. Practice shows that both methods are effective, their effectiveness depends on the purpose for learning a foreign language. Communication with people is one of the essential human needs, for this reason, a group lesson is natural. While learning in a group, it is possible to achieve two goals: to learn English and overcome the fear of communicating in a foreign language.The importance of this work is determined by the fact that the choice of methods and foreign language teaching techniques affects the language proficiency . The importance of considering the methods and techniques in foreign languages teaching is proved by developing the attributes like creativity, critical thinking, and problem solving. In this context every teacher should identify the teaching methods to teach students to communicate their thoughts while being creative and reflective in their academic process.

Cohen (1994) claims that when "students work together in a small group then everyone -can participate in a task that has been clearly assigned", while Chiriac considers the group work as "a way to learn how to think for yourself, as well as developing the students' argumentative abilities and critical thinking within students' collaboration which leads to higher productivity and greater results".[2,35] Thus group work methods give the opportunity to better develop student's learning skills and abilities and help students to gain more knowledge.

And Douglas Fuchs (2010) emphasizes that group work covers a multiplicity of techniques in which two or more students are assigned a task that involves collaboration and self initiated language. It implies small group work, that is, students in groups of perhaps six or fewer".[3,301] In other words, we think that collaboration is the powerful mechanism to make students work together for achieving common goals. Collaborating in a group, a person has to think not only about his/her own interest, but also for the welfare of those who work with him/her. For many years school education was based on the principles of individualism and competition, Of course, the ability to work independently and achieve the goals is very important. But we are called to prepare children for life in the adult world, where today the ability to cooperate together, making decisions and solving tasks acquires a big role.

The distinction between group work and individual work

Group work and individual work have similarities and differences.

Individual learning lets students work at their own pace, which has positives and negatives. Additionally, individual learning requires students to manage their time, which some students may not handle well. Teachers should spend time teaching learning skills if necessary and should always provide structure with individual learning. As Jeremy Harmer comments "teaching collaborative learning takes planning, maybe more in the

secondary setting".[4,2001] Teachers have to explain expectations and assign different roles for each group member. Teachers also monitor students so they stay on task. Students may work faster than they do individually because they have more help. They could work slower, however, if the group does not function well or if some members need extra explanations.

Role of Homework in Collaborative Learning

According to scholars' considerations, David W. Johnson, & Roger T. Johnson, teachers typically assign different types of homework for individual and collaborative groups. It is easier for teachers to assign homework to individuals because the students only depend on themselves to fulfill the assignment. Since only one person is working, the assignments are reasonable. So, students can individually ask for help and students cannot copy from a group member. In collaborative learning, students depend on others for help, which is a great benefit, unless they take advantage of that.[6, 301]

In collaborative learning, homework consists of larger assignments. Too often collaborative groups do not work fairly, and one or two students do the work. Collaborating outside the classroom is also a struggle, as students may not be able to meet.Even though group work is regarded in whole as a useful students' learning tool, practice shows that students work at different speeds, i.e. some students may dominate the group while the rest could deviate from the discussion topic. In this context the use of grading assignments might be considered.

Grading

Cohen E.G. points out several thoughts that "grading assignment from individual learning is normally straightforward. Students should know how teachers grade and what is expected of an assignment. Teachers feel normally comfortable evaluating individual work".[1, 35] It is obvious that collaborative projects may cause difficulties when grading. Some students may have not worked equally, the project may be only partially complete or only part may be done correctly. Some teachers are comfortable allowing group members to evaluate each other in grading. It is worth noting another difference from individual grading is the time invested. Teachers give more explanations for collaborative work than individual, since collaborative work often raises more questions among different people.

Advantages and disadvantages of group work

According to Hammar Chiriac (2008) "group work has some advantages and disadvantages: group works are an ideal situation, theoretically. If everyone follows the rules, they can be beneficial for all involved".[2,33] Students study well in a group because they are obliged to put all their efforts from the developmental perspective and also from the motivational perspective. They must read the material before getting together, so a group work becomes a deadline to complete revising for a given amount of material. When students get together, they share ideas and get rid of problems that would be too difficult for an individual to solve alone. When one student explains a concept to another, he reinforces the concept for himself. If he had been studying alone, he may not have considered the gaps in his knowledge. Studying is useless if the knowledge gained can't be reproduced when required. A group work is efficient intellectually but also emotionally, as students encourage each other to study.

We think that group work only works if everyone does their part. In other words, if only the entire group members work together then they could contribute to the acquisition of new knowledge and stimulate learning to promote academic performance. D. Johnsons (1992) comments regarding the advantages and disadvantages of group work as "the advantages of having a group work is that all members are able to share their experiences, share workloads, and you can all test each other. In my own experiences, group work gives motivation to study. Most of the members in my group work are very open in sharing what they know".[6,256]

Having analyzed the group work from different methodologists and scientists' point of view, it is realized that this form of learning brings positive results only in combination with conventional methods. We must not forget that group work is not entertainment during school hours; it is a full form of work in the classroom, next, the proper use of which leads to the achievement of certain academic and educational purposes. Finally, the teacher has to do everything possible for the students to understand that above all they learn to work together and improve their level of English knowledge.

Thus, summarizing the students' different attitudes to the research period, we can state that the advantages of using a group work method is that many students can prepare themselves for class discussion, examinations or class presentations. Students can identify their weak points and learn new ideas to work and study effectively in a friendly and conÞdent environment.

Based on our own experience, group work gives a great motivation to learners to study. It also helps them to learn new ideas, deÞne new ways, appropriate methods as well as to cut out their gaps. Sometimes, it could lead to time waste, if they sit with their group mates and play like chatting or talking. In this context, if someone wants to cover this subject and another person wants to cover another one, then this could create a problem which will distract them from studies.

This paper has examined how individual and group forms of learning of the English language can help to promote collaborative learning among teachers and university students. Students acknowledged what effective collaboration means and how relevant it is for their learning. Thus, students admitted improving their communicative skills and problem solving and teamwork skills. In Particular, students mentioned that they learned to talk, to listen and value peers' opinions along with acquiring specific knowledge in English, new vocabulary in particular.

Conclusion

To summarise the above mentioned, we have come to the following conclusions. All the advantages and disadvantages of methods, group work and individual work, their notions and background which are the crucial aspects of foreign language learning and teaching are effective. The distinction between group work and individual work are identified with advantages and disadvantages in both these ways. None of individuals can think the same way. This is the key factor in the group work and individual work methods. It is advantageous because differences in people's ways of thinking give way to many new solutions to the same issue.

Finally, this paper has come to the conclusion that both group work and individual work as pedagogical tools are able to encourage and facilitate students' collaborative and active learning along with individual ones in the English language learning.

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An Analysis of the Use of Mechatronic Systems in Logistics Distribution Centers

[1] Dr. Tulay ADAS **[2]Dr. Aydin GULLU**

[1] Trakya University Ipsala Vocational School Logistics Program, tulayadas@trakya.edu.tr, 0002-8992-7237

[2] Trakya University Ipsala Vocational School Mechatronics Program, aydingullu@trakya.edu.tr, 0002-2769-2153

Abstracts: In logistics distribution centers, storage and shipment processes have significantly evolved over the years with technological advancements. The development of mechatronic systems and the integration of robotic applications have minimized human intervention in product transportation and storage, thereby increasing speed and functionality. This study examines academic research conducted over the past decade on robotic applications in distribution centers and evaluates them through bibliometric analysis. A systematic review was conducted using the Web of Science database, analyzing publication trends, the number of studies, and the countries in which these studies were published. Additionally, the study discusses mechatronic systems used in distribution centers in parallel with technological advancements and their impact on the logistics sector. By exploring the relationship between mechatronics as a discipline and its academic and practical applications in logistics, this research highlights the efficiency, speed, cost savings, and real-time data tracking benefits provided by mechatronic systems in distribution centers. The findings of this study contribute to a better understanding of the role of mechatronics in logistics and offer insights into future developments in the field.

Keywords: Logistics, Mechatronics, Warehouse, Robotics, Supply Chain

1. INTRODUCTION

The integration of mechatronic systems within logistic distribution centers marks a significant advancement in optimizing operational efficiency and enhancing service delivery. Mechatronic systems, which synergistically combine mechanical engineering, electronics, computer science, and control engineering, have become indispensable in modern logistics operations, particularly through the implementation of automated and intelligent technologies.

One of the major benefits of deploying mechatronic systems is the reduction of human error and an increase in processing speed. Robotics, particularly collaborative robots (cobots), are increasingly utilized for tasks such as picking, packing, and sorting within distribution centers. Borboni et al. emphasize that the integration of artificial intelligence (AI) and robotics correlates with a significant improvement in logistics operations, resulting in expedited processes and personalization in packing and shipping tasks (Borboni et al., 2023). Furthermore, the application of robotic logistics systems has been shown to enhance safety for workers and improve overall customer satisfaction by facilitating faster deliveries and higher operational accuracy, as supported by Arunkumar et al. (2023).

In addition to robotics, the incorporation of intelligent automation such as drones represents a transformative trend within logistic distribution centers. Drones play a crucial role in inventory management and delivery services, offering real-time tracking capabilities and reducing the time required for stock replenishment. Rejeb et al. highlight the growing inclination towards drone technology as an innovative solution for supply chain management challenges (Rejeb et al., 2021). This technological adoption not only contributes to efficiency but also aligns with the wider push towards sustainability in logistics practices as companies strive to reduce their carbon footprints.

Mechatronic systems also facilitate enhanced data management and operational oversight through the utilization of big data analytics and machine learning, which optimize logistics operations by improving demand forecasting and resource allocation. Yan et al. articulate how big data technologies enhance operational efficiency, service quality, and the overall informatization of logistics processes, which is vital for meeting contemporary market demands (Yan et al., 2019). Moreover, by employing machine learning algorithms, logistics companies can achieve more precise and flexible management of their supply chains, thereby garnering significant competitive advantages (Guoqiang, 2023).

The future of logistics is being shaped significantly by the adoption of Industry 4.0 principles, where smart systems and cyber-physical systems redefine operational methodologies. The findings of U. et al. suggest that these advanced systems contribute to effective communication within logistics networks and enable the integration of automated solutions that contribute to a seamless operational ecosystem (U et al., 2019). Such

integration is vital for managing the complexities of modern supply chains, which require agile responses to shifting customer demands and market conditions.

The logistics sector is undergoing a significant transformation due to the increasing volume of global trade and the diversification of customer expectations. To ensure efficient, fast, and cost-effective logistics operations, companies are widely implementing mechatronic systems in logistics distribution centers. Mechatronic systems are automation technologies that integrate mechanical, electronic, information, and control engineering. These systems optimize processes such as goods reception, storage, sorting, packaging, and shipment without the need for human intervention.

In this study, the distribution of scientific publications on logistics and mechatronics was first examined using the bibliometric analysis method. Author, country, keyword and source analyses were performed on the publications obtained because of the search in the Web of Science (WOS) database, and the basic trends in the field were visualized. Bibliometric analysis stands out as an effective method in understanding scientific productivity, collaborations and the development of subject headings in a particular field (Donthu et al., 2021). In the next section of the study, the main mechatronic systems used in logistics distribution centers are examined, and their advantages and operational effects are detailed.

2. BIBLIOMETRIC ANALYSIS

In this section of the study, scientific studies on logistics and mechatronics were scanned. The scan was performed on 03.03.2025 in the Web of Science (WOS) database and using the keyword combination "((TS=(warehouse) OR TS=(distribution center) OR TS=(logistics) OR TS=(supply chain)) AND (TS=(mechatronics) OR TS=(robotics) OR TS=(mobile robot)))". As a result of the scan covering the last 10 years (between 2015-2025) and in the fields of topics (keyword, abstract, title), 2,706 articles were reached. 2,272 of these articles are SCI-E, 363 ESCI, 186 SSCI and 67 CPCI-S indexed.

When the interdisciplinary distribution of the studies is examined, most studies were conducted in the categories of "Surgery (552), Urology Nephrology (407), Engineering Electrical Electronic (256), Robotics (256)". When examined on a subcategory basis, it is seen that the subjects of "Supply Chain & Logistics (249), Robotics (249) Pelvic & Renal Disorders (239), Automation & Control Systems (209)" stand out. When analyzed on a country basis, the countries with the most research were determined as USA (958) and Peoples R China (524), respectively.

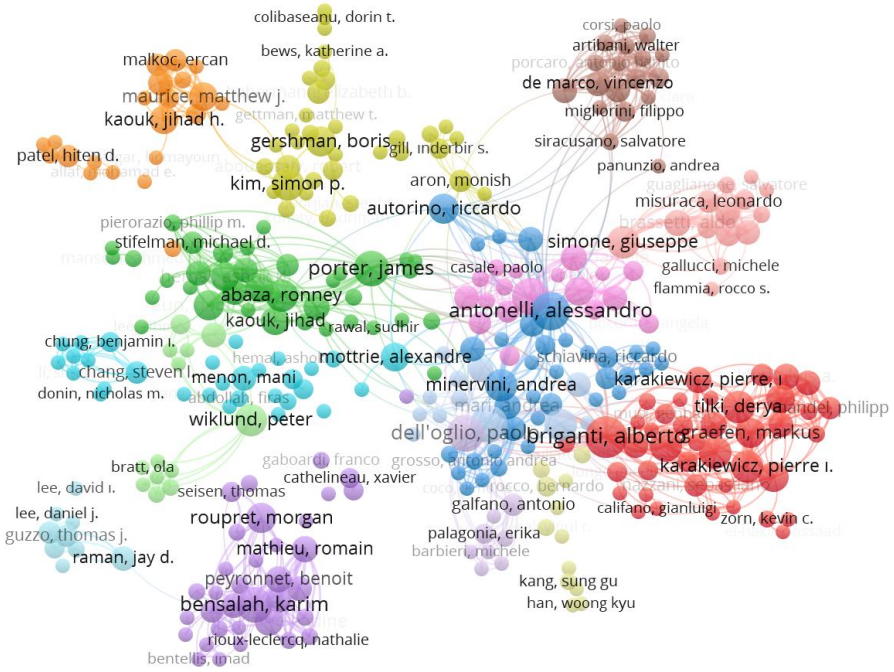
Within the scope of this analysis, a bibliometric evaluation was made using quantitative data on the literature and the findings were visualized. The studies were evaluated within the framework of author, country, keyword and source analyses.

2.1. Co-authorship / authors analysis

In the co-authorship analysis, the network structure shown in Figure 1 was obtained with the examination made based on author unit. This analysis helps to identify the most influential researchers in the field and shows the distribution of scientific collaborations.

Figure 1 shows that the author who has done the most work in the co-authorship network is Alberto Briganti. He is one of the most active names in the field with 17 publications, and his total link strength is calculated as 168. This shows that Briganti has developed strong academic collaborations with other researchers. Alessandro Antonelli is in second place, and his central position in the academic network is noteworthy. This analysis is important in terms of showing the influence of certain researchers in the field of logistics and mechatronics in the global scientific network.

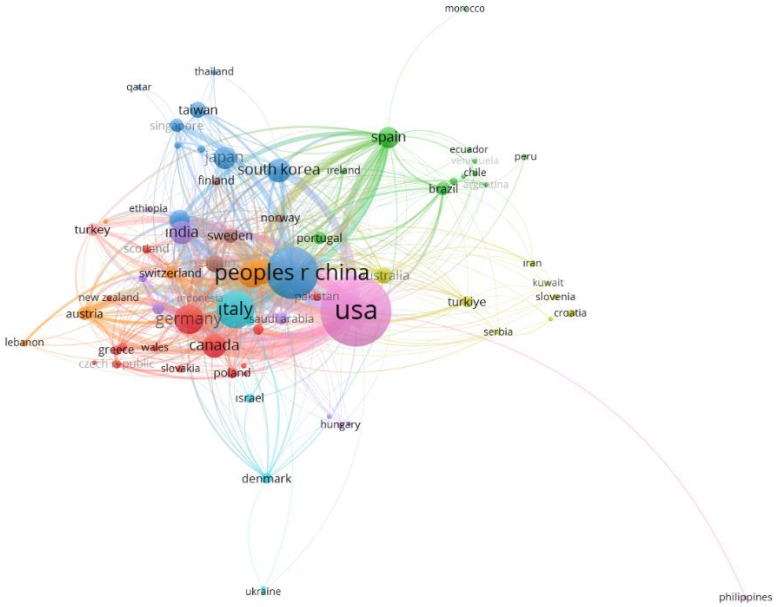
Figure 1: Co-authorship / authors analysis



2.2. Co-authorship / countries analysis

The graph in Figure 2 was created with the examination carried out on a country basis in the co-authorship analysis. This analysis reveals the intensity of academic collaborations between countries.

Figure 2: Co-authorship / countries analysis

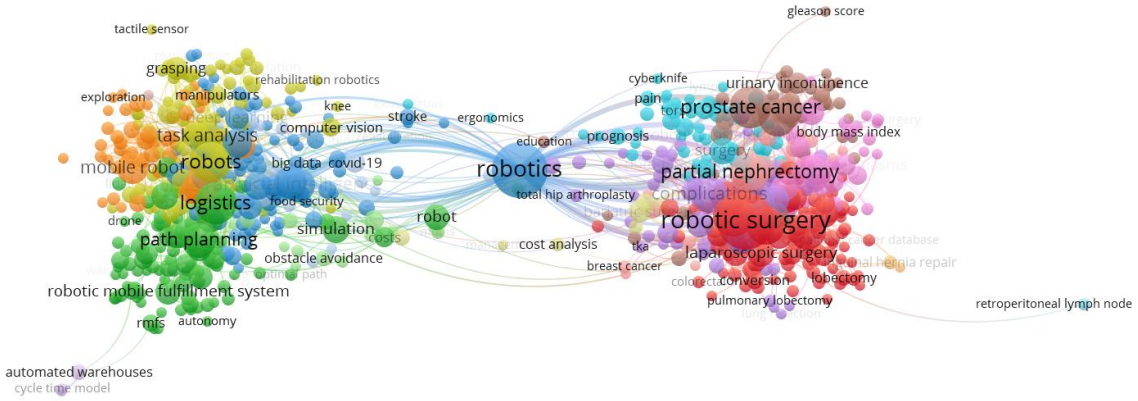


According to Figure 2, the most effective countries in terms of total connection power are determined as USA, Italy, England, Germany, France and Peoples R China. In terms of research output, the most joint work was done by USA, Peoples R China, Italy, Germany and England. USA's clear leadership can be explained by the strong academic networks, industry-supported research and extensive funding opportunities in the country. China's increasing scientific productivity in recent years is directly related to government-supported R&D policies and international collaborations.

2.3. Co-occurrence / author keywords analysis

In the keyword analysis, the prominence of certain concepts was examined. The graph in Figure 3 helps to determine the most popular topics in the field of logistics and mechatronics.

Figure 3: Co-occurrence / author keywords analysis

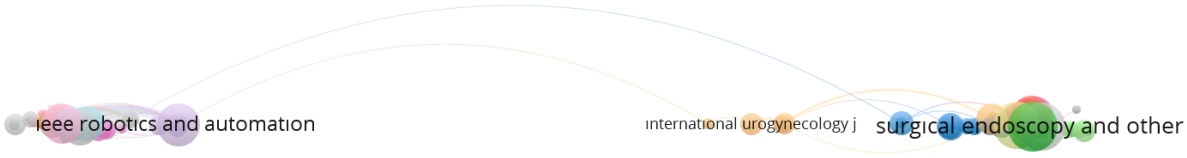


As shown in Figure 3, the keywords with the highest total link strength were identified as “robotics, robotic surgery, robots and logistics”, respectively. This indicates the increasing importance of robotic technologies in the field of logistics and mechatronics. When the connections between the keywords are examined, it is seen that these four main concepts have a strong relationship with each other. In addition, it can be said that topics such as robotic surgery and the use of robots in logistics systems are becoming increasingly important.

2.4. Citation / sources analysis

Source analysis helps to identify the most cited journals and publication sources in literature. The graph presented in Figure 4 shows the most used sources and their impact levels.

Figure 4: Citation / sources analysis



According to Figure 4, the most studied sources are “Surgical Endoscopy and Other Techniques” and “IEEE Robotics and Automation Letters”. The sources with the highest impact in terms of citation power are “European Journal of Operational Research, International Journal of Production Research, Transportation Research Part E-Logistics and Transportation Review and Transportation Science”. These findings show that studies focusing on operational research and robotics applications have an important place at the intersection of logistics and mechatronics research.

In general, the bibliometric analysis showed that research in the field of logistics and mechatronics has an interdisciplinary structure. In particular, the role of robotics in medical and logistics systems is increasing, and academic collaborations are concentrated between certain countries and researchers. This analysis provides important clues about which areas potentially require more work for future research.

3. MECHATRONIC SYSTEMS USED IN LOGISTICS DISTRIBUTION CENTERS

Mechatronic systems are increasingly being adopted in logistics and supply chain management. With the emergence of Industry 4.0, the concept of smart logistics has gained prominence, leading to the widespread implementation of robotic automation systems, artificial intelligence-supported analytics, and Internet of Things (IoT)-based solutions. Studies have demonstrated that technologies such as automated guided vehicles (AGVs),

autonomous mobile robots (AMRs), and automated storage and retrieval systems (AS/RS) significantly accelerate logistics operations and reduce error rates (Minashkina & Happonen, 2018; Zhou & Mao, 2010).

Figure 5: Logistics Distribution Centers

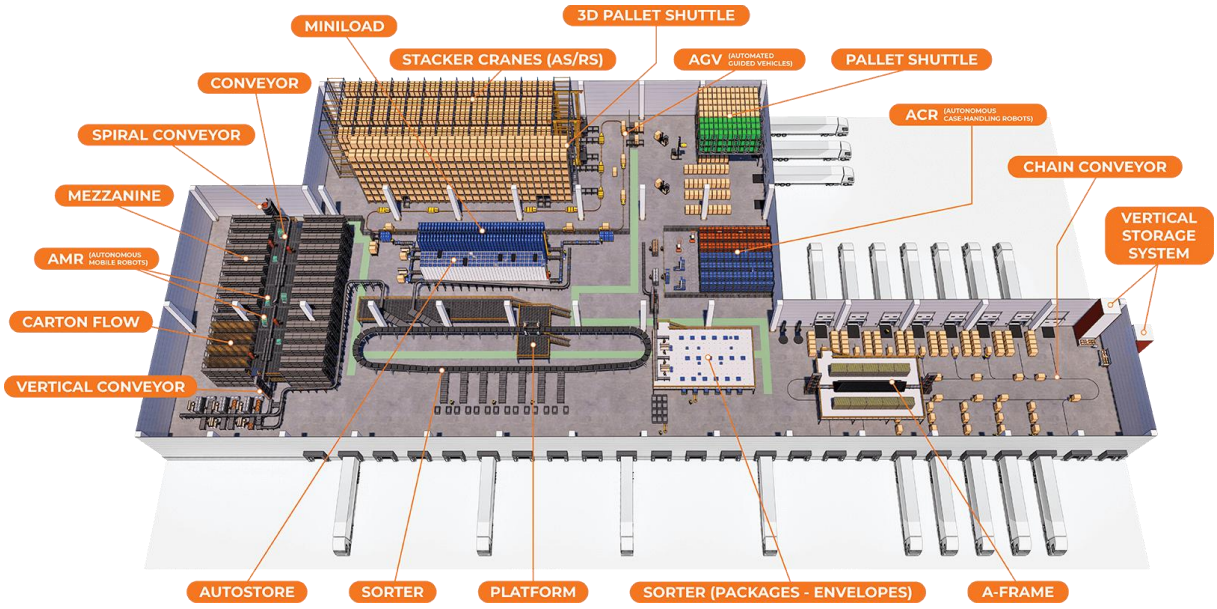


Figure 5 illustrates a fully automated logistics storage and distribution center (Eurofit, 2025). Products entering this facility are assigned specific addresses and stored accordingly. The storage process, including product transportation, is carried out in a fully automated manner without human intervention. When a product needs to be dispatched, it is retrieved from its storage location and processed for shipment without manual handling. Various mechanical structures have been developed to facilitate these processes. Some of these structures, which are also utilized in different fields, include mobile robots, Cartesian storage systems, conveyor belts, and robotic arms. These systems, which can operate independently, also communicate with each other and function synchronously. To achieve this, specialized software is required. The developed software manages both the logistics processes and the mechatronic systems in the field. As a result, a logistics distribution center equipped with mechatronic systems has been established. The following section will discuss some of the key mechatronic systems used in logistics distribution centers.

3.1. Automated Guided Vehicles (AGVs) and Autonomous Mobile Robots (AMRs)

Automated Guided Vehicles (AGVs) and Autonomous Mobile Robots (AMRs) are systems that automate product transportation processes in logistics operations. While AGVs move along fixed routes using magnetic strips or laser-guided systems, AMRs can move flexibly and dynamically by evaluating environmental factors with advanced sensors and artificial intelligence algorithms. AGVs are unmanned electric vehicles that transport materials from one point to another. They require a pre-programmed software system to operate along fixed routes that require infrastructure. Although AGVs are a form of automation, they are not intelligent machines (Zhang et al., 2023).

AMRs, which are more advanced versions of AGVs, use sensing and navigation algorithms to transport materials from one point to another without being limited to a specific route. Through mechanical and software integration, both vehicles enable unmanned transportation of products in logistics distribution centers.

3.2. Robotic Picking and Packaging Systems

Industrial robotic arms, integrated with image processing technologies, sort, package, and palletize stored products. Compared to manual operations, robotic systems operate faster, with higher accuracy and efficiency.

These systems are widely used, particularly in the e-commerce and fast-moving consumer goods (FMCG) sectors (Tripathi et al., 2020).

3.3. Automated Storage and Retrieval Systems (AS/RS)

AS/RS are vertically moving rack systems designed to maximize storage space efficiency. These systems retrieve, store, and recall products without human intervention. By facilitating inventory management, AS/RS systems accelerate logistics processes by increasing warehouse capacity. They provide a vertical storage method that allows more products to be stored in less space(Lee et al., 1996).

AS/RS technology was first developed in the 1960s for managing palletized heavy loads. However, with advancements in microprocessor technology and the integration of robotic systems, AS/RS has been adapted for handling smaller and more complex loads (Gagliardi et al., 2012).

3.4. Conveyor and Sorting Systems

Conveyor systems facilitate the structured movement of products. Integrated with sensors and automation software, conveyor belts sort products based on weight, size, and destination, thereby expediting storage and shipping processes (Tripura et al., 2024).

3.5. Automated Packaging and Labeling Machines

In a logistics distribution center, it is essential to detect, record, and label incoming products based on their size and type. This enables efficient tracking and storage of products throughout the logistics process. Similarly, during dispatch, label information is scanned to ensure accurate delivery. Various labeling methods, such as thermal labels, QR codes, and RFID tags, are commonly used.

Scanners integrated into the distribution system read these labels, transmitting the data to the central logistics system. In recent years, camera-based image processing technologies have been utilized for label reading, improving product tracking. Additionally, RFID tags are employed for verification purposes. Systems that detect product dimensions, select appropriate packaging, and apply thermal printed labels are controlled using Programmable Logic Controllers (PLC).

3.6. Drones for Inventory Management

Autonomous drones equipped with RFID or cameras scan warehouse shelves and track inventory in large logistics distribution centers. Due to their high mobility and rapid response times, they are easily positioned and provide flexibility in data collection. Furthermore, drones are utilized for the rapid transportation of products over long distances.

3.7. Imaging and Sensor Systems

In a fully automated logistics distribution center, all processes, including product entry, transportation, storage, and retrieval, are carried out using mechatronic systems. Sensors are used to detect and identify products, ensuring accurate transportation. Mechatronic systems navigate by perceiving their surroundings through barcode readers, 3D cameras, and IoT-based sensor networks.

3.8. Integrated Control Systems (SCADA/PLC)

Supervisory Control and Data Acquisition (SCADA) and Programmable Logic Controllers (PLC) are management systems that ensure the synchronized operation of mechatronic systems. By collecting data from field sensors, these systems facilitate real-time data flow and analysis, optimizing and monitoring operational processes.

Additionally, these systems support the monitoring of all mechatronic components and the management of logistics operations through dedicated software. In addition to control and monitoring activities, they also archive all processes, keeping records of current and historical data.

4. ADVANTAGES OF MECHATRONİC SYSTEMS

- **High Efficiency and Speed:** Mechatronic systems complete warehouse operations 3-5 times faster than manual processes.
- **Error-Free Operations:** Sensor and AI-supported systems reduce human errors by up to 99%.
- Workplace Safety: Delegating hazardous tasks, such as heavy load handling, to robots minimizes workplace accidents.
- **Space Optimization:** AS/RS systems increase warehouse space utilization by 40-60%.
- **Real-Time Data and Analytics:** IoT sensors and SCADA systems enable real-time inventory tracking and performance measurement.
- **Cost Savings:** Labor and operational costs are reduced by 30-50%.
- **Scalability:** Mechatronic systems can be modularly expanded to meet increasing demand.
- **Sustainability:** Energy-efficient motors and recyclable packaging systems enhance environmental sustainability.

5. CONCLUSION AND EVALUATION

The integration of mechatronic systems in logistics distribution centers has led to a significant transformation in supply chain operations. The adoption of advanced automation technologies, including robotics, artificial intelligence, and IoT-based solutions, has enhanced efficiency, accuracy, and cost-effectiveness. This study conducted a bibliometric analysis to examine the academic landscape of research on mechatronic systems in logistics, highlighting key trends, influential researchers, and dominant publication sources. Moreover, this study provides an in-depth analysis of mechatronic systems used in logistics distribution centers and highlights their advantages.

The findings indicate that research in this field has been expanding, with an increasing focus on robotic automation, intelligent storage systems, and real-time data analytics. Countries such as the USA, China, Italy, Germany, and the UK have emerged as major contributors to the literature, reflecting their investment in logistics automation and smart supply chain solutions. Moreover, co-authorship analysis suggests that international collaborations play a vital role in advancing the field, fostering interdisciplinary research efforts.

The study also identified the most frequently occurring keywords, such as robotics, robotic surgery, logistics, and supply chain, which emphasize the critical role of automation in modern logistics management. Additionally, citation analysis revealed that highly cited research is often published in journals focused on operational research, production management, and transportation logistics, underlining the multidisciplinary nature of the topic.

The adoption of mechatronic systems in logistics distribution centers enhances operational efficiency and provides companies with a competitive advantage. As logistics networks continue to evolve with the adoption of Industry 4.0 technologies, future research should explore the integration of artificial intelligence, big data analytics, and digital twin technologies to further optimize logistics processes. Additionally, the sustainability aspect of mechatronic systems should be examined, particularly in terms of energy efficiency and environmental impact.

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Corruption and Emigration in the Western Balkans: Key Facts and Statistics

Visar Malaj[1] **Najada Firza**[2]

[1] University of Tirana, Department of Economics & CERGE-EI Foundation Teaching Fellow, visarmalaj@feut.edu.al, ORCID: https://orcid.org/0000-0002-3439-2642

[2] University of Bari Aldo Moro, Department of Economics and Finance & Catholic University Our Lady of Good Counsel Tirana, najada.firza@uniba.it, ORCID: https://orcid.org/0000-0002-0395-8500

Abstract: This work is focused on the phenomena of corruption and emigration in the Western Balkans (WBs) over the years from 2012 to 2022. Corruption remains a serious problem for WB societies and authorities. The high levels of corruption in WB countries threaten economic growth, increase inequality, discourage investments, and cause stress and frustration among citizens. As a consequence, a relevant portion of the populations considers emigration as the only viable alternative.

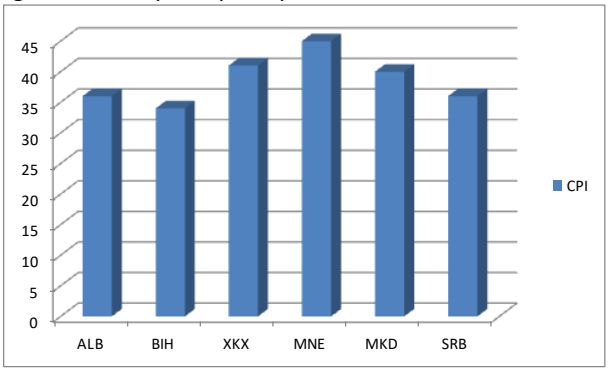
Keywords: emigration, corruption, Western Balkan countries.

1. INTRODUCTION

Corruption in WB countries continues to be widespread and serious efforts are needed in fighting the problem.[1] According to a Transparency International (TI) report, justice systems in WB countries often fail to effectively investigate and sanction high-level corruption cases; furthermore, those who are convicted often receive relatively light sentences.[2] According to Feruni, Hysa, Panait, Rădulescu and Brezoi (2020), the impact of corruption is more destructive in the WBs then in EU countries. The authors investigate the effect of corruption, urbanization, and economic freedom on the economic development of WB and EU countries over the period 2009–2018. The empirical analysis indicates that corruption has an adverse impact on economic development, whereas economic freedom and urbanization stimulate economic development in both groups of countries. According to Zeneli (2016), corruption is one of the main issues the WB is facing, challenging both domestic and foreign firms in doing business. Zeneli (2016) investigates the role of corruption in hindering foreign direct investment (FDI) in WB countries during 1992–2012. The empirical findings confirm the negative role of corruption in the attraction of FDIs to the WBs. Moreover, WB countries that suffer higher levels of corruption have lower incomes per capita.

Figure 1 shows the 2022 corruption perception index (CPI) in WB countries. The average CPI score was nearly 38,7; Montenegro obtained the highest score among WB countries in 2022 (CPI of 45), while Bosnia and Herzegovina recorded the worst performance (CPI of 34).

Figure 1: Corruption perception index in 2022 for the six Western Balkan countries.



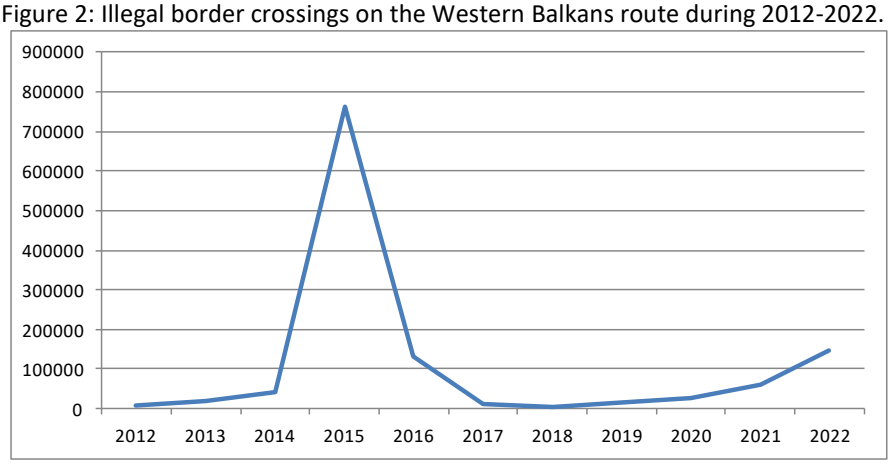
Source: Authors' elaboration on Transparency International data.

[1] See, for example, the 2021 European Commission Enlargement Package (https://neighbourhood-enlargement.ec.europa.eu/news/2021-enlargement-package-european-commission-assesses-and-sets-out-reform-priorities-western-balkans-2021-10-19_en).

[2] https://www.transparency.org/en/projects/cases-project.

Corruption is often considered as one of the main factors of emigration from the WBs. The WB route is known as one of the main migratory paths into Europe. WB countries are both a migration source, and a popular route for Asian and African migrants. According to Frontex (The European Border and Coast Guard Agency) data, the number of irregular migrants that follow this route fell steadily for some years after 2015, and started to increase again from 2019. Figure 2 shows the number of illegal border crossings on the WB route from 2012 to 2022. The number of persons who followed illegally this route in 2022 was about 145 600, or 136% more than in 2021.[3]

Figure 2: Illegal border crossings on the Western Balkans route during 2012-2022.



Source: Authors' elaboration with data from Frontex.

2. CORRUPTION AND EMIGRATION

Only a limited number of authors have studied the effect of corruption and other closely related variables on migration flows. Dimant, Krieger and Meierrieks (2013) analyze the impact of corruption on migration for 111 countries between the years 1985-2000. According to the respective empirical evidence, corruption is one of the main push factors of migration, particularly fuelling skilled migration. The authors argue that corruption tends to reduce the returns to education, especially for the better educated persons. Cooray and Schneider (2016) investigate the relationship between emigration and corruption through the system generalized method of moments (GMM), fixed-effects, and instrumental variable estimations. Empirical results show that corruption increases with the emigration rate of high-skilled migrants. On the other hand, the emigration rate of individuals with low and medium levels of education increases at low levels of corruption and decreases beyond a specific threshold. Poprawe (2015) also investigates the relationship between corruption and migration. Empirical findings indicate that countries with high levels of corruption encourage emigration and discourage immigration, because they provide unpredictable economic conditions, a lower quality of life, and insecurity. The formulated model is estimated in a cross-sectional dataset of 230 countries. Furthermore, larger populations, a common language, and a common border stimulate migration flows, whereas bilateral distance discourages migration; other statistically significant variables include GDP per capita, education, inflation in host countries, and education in home countries. Begu, Davidescu, Apostu, and Enache (2019) investigate the relationship between corruption and migration, considering a sample of European countries over the period from 2008 to 2016. According to the empirical results, the level of corruption in a given European country is positively related to migration. According to Arif (2022), migrants generally select destinations with low levels of corruption. The author uses a panel dataset over the period from 1990 to 2000 and formulates a modified gravity model. Empirical results also show that migrants with a higher level of education are more likely to choose less corrupt destinations. Similarly, Malaj and de Rubertis (2017) study the main determinants of emigration from WB countries through the well-known gravity model. The authors consider three explanators, associated with typical concerns for the WBs: standard of living, unemployment and corruption. The authors confirm the statistically significant effects of the independent variables on emigration from WB countries.

[3] https://www.frontex.europa.eu/.

3. Empirical analysis

The formulated model of this paper includes bilateral distance, CPIs of WB countries (sourced from TI), sum of total populations of the WBs (sourced from the World Bank) and of the selected European destinations, and the difference between GDPs per capita of host and home countries (World Bank). The considered response variable is the (annual) number of immigrants from each WB country residing in 25 European destinations; the respective observations were collected from Eurostat, the United Nations (UN), and the different national statistics offices. Table 1 shows the definitions and the expected signs for each of the considered parameters.

Table 1: Variables definition and expected sign.

Variable	Definiton	Expected sign
mig_odt	Number of immigrants from WB country (o) residing in the European destination (d) in year t	Dependent variable
cpi_ot	CPI in a WB country	-
gdp_diff	difference between GDPs per capita of host and home countries	+
dist_od	Bilateral distance	-
pop_odt	Sum of populations	+

Source: Own representation.

Table 3 reports a summary of the results of the estimated equation, where all variables are expressed in natural logarithm. Empirical tests showed that the random effect estimator is an appropriate technique for the considered model. It can be observed that both the “basic” variables and the new “experimental” explanators are statistically significant and follow the theoretical expectations.

Table 3: Estimation results

Independent variable	model I (mig_odt)	model II (mig_odt)
pop_odt	2,091***	1,938***
dist_od	-2,984***	-2,616***
cpi_ot		-0,921***
gdp_diff		2,503***
Adjusted R2	0,511	0,595
N	1650	1650

Source: Own representation.

4. CONCLUSION

The main objective of this work was a preliminary investigation of the phenomena of corruption and emigration in WB countries over the period from 2012 to 2022. Corruption remains a serious problem for WB societies and governments. Furthermore, corruption represents one of the main push factors of emigration from WB countries. The estimated econometric model indicated the statistical significance of perceived corruption and other relevant factors in migrant stocks of the considered destinations.

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Türkiye'de Gelir Dağılımının OECD Ülkelerine Yakınsama Analizi

Yağmur Yavuz Büyükçınar[1] Prof. Dr. Burak Güriş[2] Prof. Dr. Seyhun Doğan[3]

[1]İstanbul Üniversitesi/Sosyal Bilimler Enstitüsü, Ekonometri Anabilim Dalı, yagmuryavz@gmail.com, ORCID ID: 0000-0001-9497-5172

[2]İstanbul Üniversitesi/İktisat Fakültesi, Ekonometri Bölümü, bguris@istanbul.edu.tr, ORCID ID: 0000-0003-0562-4130

[3]İstanbul Üniversitesi/İktisat Fakültesi, İktisat Bölümü, sdogan@istanbul.edu.tr, ORCID ID: 0000-0003-3450-0612

Özet: Bu çalışma, Türkiye'de gelir dağılımının OECD ülkelerine yakınsamasını analiz etmeyi amaçlamaktadır. Analiz, 1994-2022 yılları arasındaki yıllık verileri kullanılarak gerçekleştirilmiş ve Güriş (2019) tarafından Fourier-Kruse Birim Kök Testi'nin bir uzantısı olarak geliştirilen doğrusal olmayan yeni birim kök testi uygulanmıştır. Birim kök temel hipotezinin reddedilmesi sonucunda, modelde yer alan trigonometrik terimlerin istatistiksel anlamlılığı test edilmiş ve bu terimler istatistiksel olarak anlamlı bulunmuştur. Elde edilen bulgular, Türkiye'nin gelir dağılımında OECD ülkelerine yakınsama eğiliminde olduğunu göstermiştir.

Anahtar Kelimeler: Gelir Dağılımı, OECD Ülkeleri, Yakınsama Analizi, Doğrusal Olmayan Birim Kök Testleri.

A Convergence Analysis of Income Distribution in Türkiye to OECD Countries

Abstract: This study aims to analyze the convergence of income distribution in Türkiye to OECD countries. The analysis was conducted using annual data from 1994 to 2022, and the new nonlinear unit root test developed by Güriş (2019) as an extension of the Fourier-Kruse Unit Root Test was applied. As a result of rejecting the null hypothesis of a unit root, the statistical significance of the trigonometric terms in the model was tested, and these terms were determined to be statistically significant. The findings indicated that Türkiye tends to converge to OECD countries in income distribution.

Keywords: Income Distribution, OECD Countries, Convergence Analysis, Nonlinear Unit Root Tests.

1. GİRİŞ

Gelir, bir bireyin nesnel veya nesnel olmayan araçlarla diğer birey veya bireyler için ortaya koyduğu somut bir çıktı ya da hizmet neticesi elde edilen para ya da para ile ölçülebilen değer olarak ifade edilebilir (Gençler, 2017: 20). Ancak gelir, iktisat bilimi içinde farklı yaklaşımlar göz önünde bulundurularak farklı bakış açılarıyla tanımlanmıştır. Başka bir ifadeyle tüm iktisadi yaklaşımlar için ortak bir tanımı olmaması sebebiyle gelirin her bir yaklaşım için kendi çalışma dinamiklerine göre farklı tanımları mevcuttur (Aslan ve Arslan, 2024: 1532).

Gelir dağılımı, insanların toplum olarak yaşamaya başlamasıyla birlikte ortaya çıkan ve gelirin kendisi kadar eski olan bir kavramı ifade etmektedir. Aynı zamanda gelir dağılımı günümüzde ülkelerin gelişmişliğinin en önemli göstergelerinden biridir. Bir ülkenin esasen gelir dağılımı yapısı, çeşitli yaklaşımlarla analiz edilebilir. "Bireysel gelir dağılımı, fonksiyonel gelir dağılımı, sektörel gelir dağılımı ve bölgesel gelir dağılımı" bu yaklaşımlardan bazılarıdır (Aydın, 2024: 20).

Gelir dağılımının adaletli olmadığı bir ülkede, toplumdaki bireylerin huzursuz ve mutsuz olmaları kaçınılmaz olmaktadır. Çünkü gelir dağılımından göreli olarak daha düşük pay alan kesimlerin, ülke nüfusu içinde çoğunluğu oluşturması, söz konusu kesimlerin sosyal refah devletinin temel hizmetleri olan eğitim, sağlık, beslenme vb. hizmetlerden daha az yararlanmasına yol açmaktadır. Bu da ülkenin gelişme sürecinde ihtiyaç duyulan insan kaynağı niteliğinin gelişmesini engellemektedir (Karaman ve Özçalık, 2007: 26). Sonuçta bu durum, söz konusu ülkenin ekonomik kalkınmasını olumsuz yönde etkilemektedir.

Gelir dağılımı araştırmaları, yaşadığımız toplumları ve sosyal sistemleri daha iyi anlamamıza yardımcı olur. Gelir dağılımı, sadece toplumdaki gelir paylaşımını değil, aynı zamanda sosyal ilişkiler ve bu ilişkilerin nasıl bölüşüldüğünü de yansıtmada rol oynar (Özsoy, 2024: 358). Gelir dağılımındaki adaletsizliği ölçen göstergelerden biri Gini katsayısıdır. Söz konusu katsayı "1"e yaklaştıkça gelir dağılımındaki adaletsizlik artar; "0"a yaklaştıkça da adaletsizlik azalır. Eğer Gini katsayısı "0" ise bu durum, o ekonomide "mutlak eşitliğin" bulunduğunu gösterir (Çırak, 2024: 150).

Yakınsama hipotezi, "Solow (1956) tarafından geliştirilen yoksul ekonomilerin zengin ekonomilere kıyasla daha hızlı bir büyüme trendinde olduğunu" varsayan Neoklasik Büyüme Modeline dayanmaktadır. Söz konusu hipotez, 1980'lerden itibaren literatürde oldukça ilgi çeken konulardan biri haline gelmiştir ve çalışma yelpazesi oldukça geniştir. Günümüze kadar geçen süreçte, araştırmacılar tarafından yapılan varsayımlar çeşitli yakınsama kavramlarının ortaya çıkmasına sebep olmuştur. Bunlardan biri Deterministik yakınsama-stokastik yakınsama kavramlarıdır. Zaman serisi analizi tekniklerinin gelişimiyle deterministik yakınsama ve stokastik yakınsama kavramlarının oluşumu desteklenmiştir. Deterministik yakınsama, incelenen değişkenin logaritmasının düzeyde durağan olduğunu ifade ederken; stokastik yakınsama, değişkenin grup ortalamasına oranının logaritmasının düzeyde durağan olduğunu belirtmektedir. "Sürecin durağan olması, yani birim kök içermemesi, seriye gelen şokların kalıcı olmayan bir etkiye sahip olduğu anlamına gelir" ve burada yakınsama hipotezinin geçerliliği söz konusudur. Bu bağlamda ele alınan serinin durağanlığı ise birim kök testleri ile incelenebilmektedir (Büyükçınar vd., 2024: 599).

Bu çalışmanın amacı, Türkiye'nin gelir dağılımı açısından OECD ülkelerine yakınsayıp yakınsamadığını Gini katsayısı kullanarak araştırmaktır. İlgili literatür araştırmasının ardından incelenen serinin durağanlığı, yani stokastik yakınsamanın varlığı, Güriş (2019)'in literatüre kazandırdığı Fourier-Kruse (2019) birim kök testinin bir uzantısı olarak 2023 yılında geliştirilen yeni bir doğrusal olmayan birim kök testi ile analiz edilerek bulgular değerlendirilmiştir.

2. LİTERATÜR

Gelir dağılımı, günümüz çalışmaları için oldukça ilgi gören bir konudur. Bu bağlamda Tablo 1'de gelir dağılımını konu alan ve ekonometrik yöntemlerin kullanıldığı çalışmalara ait bir özet sunulmaktadır.

Tablo 1: Literatür İncelemesi

Çalışma	Ülke/Ülke Grubu	Dönem	Kullanılan Yöntem	Sonuç
Doğan vd. (2013)	İran	1970-2010	En Küçük Kareler Yöntemi	Doğrudan yabancı yatırımlar, Gini katsayısı ile son onluk dilimin ilk onluk dilime oranı üzerinde negatif bir etkiye sahiptir. Kamu sermaye harcamalarının, Gini katsayısını ve son onluk dilimin ilk onluk dilime oranını pozitif etkilediği; kamu cari harcamalarının ise Gini katsayısını azaltma eğiliminde olduğu bulgusuna ulaşılmıştır.
Marchionne ve Parekh (2014)	Seçili 27 ülke	1994-2010	Panel Veri Analizi	Gelir eşitsizliğinin yüksek olduğu ülkelerde, borç oranlarındaki artışın büyümeyi azalttığı bulgusuna ulaşılmıştır.
Salti (2015)	Seçili 120 ülke	1990-2007	Panel Veri Analizi	Kamu borcu kompozisyonunun, gelir eşitsizliği üzerinde kalıcı etkisi olduğu ve anlamlı bir belirleyicisi olduğu bulgusuna ulaşılmıştır.
Jauch ve Watzka (2015)	Seçili 138 ülke	1960-2008	Panel Veri Analizi	Finansal gelişmenin, gelir dağılımı üzerinde pozitif etkisi olduğu bulgusuna ulaşılmıştır.
Peçe vd. (2016)	Türkiye	1977-2013	Çeşitli Eşbütünleşme Testleri	Gini katsayısı ile kişi başına düşen reel GSYH arasında negatif yönlü bir ilişki olduğu bulgusuna ulaşılmıştır.
Martorano (2018)	18 Latin Amerika Ülkesi	1990-2015	Panel Veri Analizi	Dolaysız vergi sınıflandırması içinde yer alan gelir üzerinden alınan vergilerin, gelir eşitsizliğini azaltıcı etki yarattığı bulgusuna ulaşılmıştır.
Akalın vd. (2018)	Türkiye	1984-2011	ARDL Sınır Testi	Elde edilen uzun dönem katsayıları, istatistiki açıdan anlamlı bulunmuştur. Kuznets Eğrisi Hipotezi'nin 1984-2011 döneminde Türkiye'de geçerli olduğu bulgusuna ulaşılmıştır.
Türkmen ve Özbek (2021)	E7 ülkeleri	1988-2016	Panel Veri Analizi	Finansal gelişmenin, gelir eşitsizliği üzerine etkilerini inceleyen çalışmanın sonuçlarına göre, panel geneli için uzun dönem ilişkisi

				bulunmuştur. Ülke bazında istatistiksel açıdan anlamlı bulgular elde edilmiştir.
Yalçın vd. (2024)	Seçili 38 ülke	2003-2019	Panel Veri Analizi	Tüketim vergilerinin örneklem grubundaki ülkelerin gelir dağılımını olumsuz etkilediği; gelir ve servet üzerinden alınan vergilerin ise gelir dağılımını düzelttiği bulgusuna ulaşılmıştır.
Kutbay (2024)	17 OECD ülkesi	2004-2017	Panel Veri Analizi	Mal ve hizmetlerden alınan vergilerin gelir dağılımı eşitsizliği üzerindeki etkisinin istatistiki açıdan anlamlı ve pozitif; gelir ve kurumlar vergisi ile sosyal güvenlik katkı paylarının gelir dağılımı eşitsizliği üzerindeki etkisinin ise istatistiki olarak anlamlı ve negatif olduğu bulgusuna ulaşılmıştır.
Aydın (2025)	Türkiye	2002-2023	ARDL Sınır Testi	Uzun dönem ilişkisi bulunmuştur. Sanayisizleşme eğilimindeki artışın, gelir dağılımı üzerinde bozucu bir etkisi olduğu bulgusuna ulaşılmıştır.

3. METODOLOJİ

Yeni Doğrusal Olmayan Birim Kök Testi (2023): Doğrusal olmayan yapıların modele dâhil edilmesi, doğrusal yöntemlerin analiz sonuçlarında yanıltıcı çıkarımlara yol açabileceğine işaret etmektedir. Bu durum göz önünde bulundurulduğunda, doğrusal olmayan birim kök testlerinin geliştirilmesine yönelik çalışmalar artmış ve bu testlerin Fourier terimleriyle genişletildiği gözlemlenmiştir. Fourier terimlerinin kullanımı, yapısal kırılmaların formu, zamanı ve sayısı hakkında herhangi bir varsayımda bulunmaksızın birim kök analizinin gerçekleştirilmesine imkân tanımaktadır. Bu yaklaşım, ani değişimlerin yanı sıra kademeli olarak gerçekleşen yapısal değişimlerin de tespit edilmesini mümkün kılmaktadır. Bu çerçevede, Güriş (2019) tarafından geliştirilen ve literatüre kazandırılan Güriş Fourier-Kruse birim kök testinin bir uzantısı olarak yeni bir doğrusal olmayan birim kök testi ortaya konulmuştur. Söz konusu test, Güriş (2019) çalışmasında ele alınan modellere ek olarak yeni bir modelin dâhil edilmesiyle oluşturulmuş olup söz konusu eklenen model literatürde "Case 3" olarak adlandırılmaktadır. Model aşağıdaki şekilde ifade edilmektedir (Yavuz, 2023):

$$y_t = \alpha_0 + \alpha_1 sin\left(\frac{2\pi k^* t}{T}\right) \alpha_2 cos\left(\frac{2\pi k^* t}{T}\right) + \alpha_3 trend * sin\left(\frac{2\pi k^* t}{T}\right) + \alpha_4 trend * cos\left(\frac{2\pi k^* t}{T}\right) + \varepsilon_t \quad (1)$$

Test sürecinin gerçekleşmesi için aşağıdaki adımlar izlenmektedir:

1. Adım: İlk aşamada Fourier fonksiyonu, bilinmeyen formlarda ve sayılarda yapısal kırılmaları modellemek amacıyla kullanılır. Dikkate alınan modelde trend bileşeni, Fourier fonksiyonlarıyla çarpım halinde modele eklenmektedir. Model aşağıdaki şekilde yazılmaktadır:

$$y_t = \alpha_0 + \alpha_1 sin\left(\frac{2\pi k^* t}{T}\right) \alpha_2 cos\left(\frac{2\pi k^* t}{T}\right) + \alpha_3 trend * sin\left(\frac{2\pi k^* t}{T}\right) + \alpha_4 trend * cos\left(\frac{2\pi k^* t}{T}\right) + \varepsilon_t \quad (2)$$

Modelde yer alan k^*, optimal frekansı ifade eder ve optimal k'nin seçiminde k'ye 1 ile 5 arasında değişen değerler atanarak ve bu değerler ile sırasıyla EKK yöntemi kullanılarak modelin tahmini gerçekleştirilir. Elde edilen model tahminlerinden sonra, hata terimlerinin kareleri toplamını minimum yapan k, optimal k olarak seçilir. Optimal k ile tahmin edilen modelden hata terimleri elde edilmektedir:

$$\varepsilon_t = y_t - \alpha_0 - \alpha_1 \sin\left(\frac{2\pi k^* t}{T}\right) - \alpha_2 \cos\left(\frac{2\pi k^* t}{T}\right) - \alpha_3 trend * \sin\left(\frac{2\pi k^* t}{T}\right) - \alpha_4 trend * \cos\left(\frac{2\pi k^* t}{T}\right) \quad (3)$$

2. Adım: İlk adımda elde edilen hata terimleri kullanılarak test istatistikleri aşağıdaki denklem tahmin edilerek hesaplanır:

$$\Delta\varepsilon_t = \delta_1 \varepsilon_{t-1}^3 + \delta_2 \varepsilon_{t-1}^2 + \sum_{i=1}^{k} \beta_i \Delta\varepsilon_{t-i} + v_t \quad (4)$$

Bu aşamada birim kökün varlığı Kruse (2011) çalışmasında önerilen test ile test edilir. Kruse (2011) çalışmasında, $H_0: \delta_1 = \delta_2 = 0$ birim kök temel hipotezine karşı, $H_1: \delta_1 < 0, \delta_2 \neq 0$ durağan ESTAR süreç alternatif hipotezini test etmek için bir τ testi önerilmektedir. Test istatistikleri aşağıdaki şekilde formüle edilmektedir:

$$\tau = \left(\hat{\omega}_{22} - \frac{\hat{\omega}_{21}^2}{\hat{\omega}_{11}}\right)^{-1} \left(\hat{\delta}_2 - \hat{\delta}_1 \frac{\hat{\omega}_{21}^2}{\hat{\omega}_{11}}\right)^2 + 1(\hat{\delta}_1 < 0) \frac{\hat{\delta}_1^2}{\hat{\omega}_{11}} \quad (5)$$

3. Adım: İkinci aşamada birim kök temel hipotezi reddedilirse, bu aşamada $H_0: \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = 0$ temel hipotezine karşı, $H_1: \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 \neq 0$ alternatif hipotezi F testi aracılığıyla test edilebilmektedir. Burada temel hipotez, trigonemetrik terimlerin anlamsız olduğunu ifade etmektedir. Temel hipotezin reddedilmesi, serinin kırılmalı deterministik fonksiyon etrafında durağan olduğu anlamına gelir. Bu test için kullanılacak olan kritik değerler Becker vd. (2006) çalışmasında tablolaştırılmıştır.

4. VERİ SETİ VE AMPİRİK BULGULAR

4.1. Veri Seti

Çalışmada Türkiye'deki gelir dağılımının OECD ülkelerinin gelir dağılımına yakınsayıp yakınsamadığı 1994-2022 dönemi ele alınarak analiz edilmiştir. Analiz için kullanılan Gini katsayısına ait veriler SWIID-SOLT veri tabanından elde edilmiştir. Ülkelere ait gelir dağılımı serilerinin özet istatistikleri Tablo 2'de sunulmaktadır.

Tablo 2: Özet İstatistikler

Ülkeler	Gözlem Sayısı	Ortalama	Minimum Değer	Maksimum Değer	Standart Sapma	Çarpıklık	Basıklık
Türkiye	29	41.09	39.7	42.7	0.94	0.06	-1.35
OECD	29	31.84	31.36	32.19	0.25	-0.41	-1.08

Not: Analize veri eksikliğinden dolayı Avustralya, İzlanda, Japonya, Kanada ve Portekiz dâhil edilmemiştir.

Yakınsama hipotezinin test edilmesi amacıyla serilere aşağıdaki dönüşüm yapılmıştır:

$$TRdi = \ln\left(\frac{DI_{TR}}{\overline{DI}_{OECD}}\right)$$

Burada DI_{TR} Türkiye'nin Gini katsayısını, $\overline{DI}_{OECD}$ ise OECD ülke gruplarının ortalama Gini katsayısını ifade etmektedir.

4.2. Ampirik Bulgular

Yakınsama hipotezini sınamak amacıyla dönüştürülmüş olan seriye, yeni geliştirilen doğrusal olmayan birim kök testi uygulanmıştır. Teste ait sonuçlar Tablo 3'te sunulmaktadır.

Tablo 3: Yeni Doğrusal Olmayan Birim Kök Testi (2023) Sonuçları

	Fourier-Kruse (2023)
Optimal k	1
Test İstatistiği	21.65
%5 Kritik Değer (k=1 için)	21.26
Sonuç	Temel hipotez reddedilmektedir.

Not: Karşılaştırma için kullanılan kritik değerler, Yavuz (2023) çalışmasından elde edilmiştir.

Tablo 3'te sunulan sonuçlar incelendiğinde, test sürecinde optimal frekans sayısının 1 olarak seçildiği görülmektedir. Hesaplanan test istatistiği, Yavuz (2023) çalışmasında hesaplanan kritik değer ile karşılaştırıldığında, birim kök hipotezinin reddedildiği görülmektedir. Bu sonuç, yakınsama hipotezinin geçerli olduğunu göstermektedir.

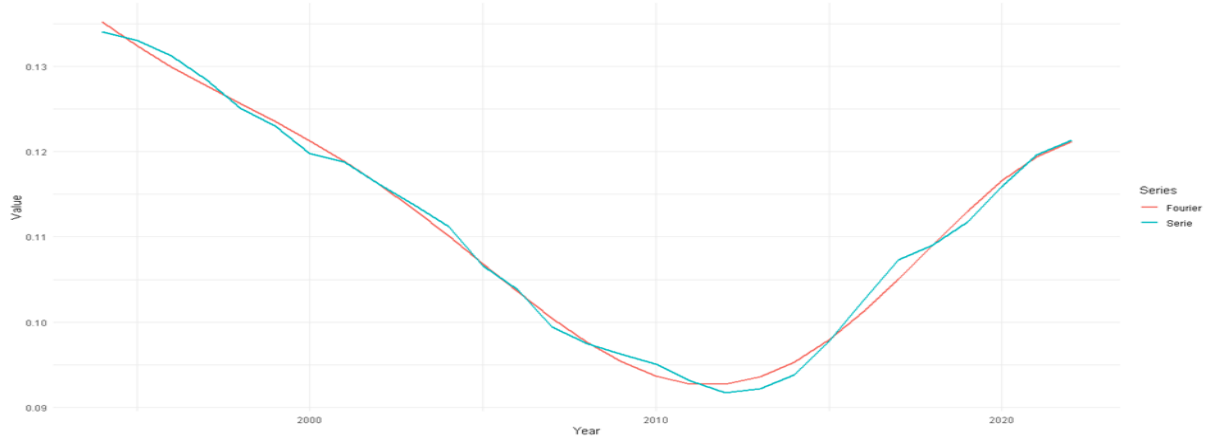
Birim kök temel hipotezi reddedildiği için, trigonometrik terimlerin istatistiksel açıdan anlamlı olup olmadıkları test edilebilir. Teste ait sonuçlar Tablo 4'te sunulmaktadır.

Tablo 4: F Testi Sonuçları

F Test İstatistiği	2265.864
Sonuç	Trigonometrik terimler istatistiksel olarak anlamlıdır.

Not: Hesaplanan test istatistiği, Becker vd. (2006) çalışmasında hesaplanan kritik değerler ile karşılaştırılmıştır.

Şekil 1: Yeni Doğrusal Olmayan Birim Kök Testi ile Grafik Analizi



Şekil 1'de yeni doğrusal olmayan birim kök testi ile dikkate alınan Case 3 model ve 1 olarak belirlenen optimal frekansla tahmin edilen değerler ile serinin düzey değerlerinin birliktelik grafiği verilmektedir. Grafikten de görüldüğü üzere, geliştirilen yeni model, serinin doğal dinamiklerini yakalamada oldukça başarılıdır.

5. SONUÇ

Gelir dağılımı, yalnızca bireyler arasındaki gelir paylaşımını değil, aynı zamanda toplumsal ilişkileri ve bu ilişkilerin nasıl şekillendiğini yansıtan önemli bir unsur olmakla birlikte günümüzde ülkelerin gelişmişlik düzeyinin en önemli göstergelerinden biri olarak kabul görmektedir. Gelir dağılımını konu alan ve yakınsama hipotezini zaman serisi metotlarıyla analiz eden bu çalışmanın sonuçları, Türkiye'nin 1994-2022 dönemi boyunca gelir dağılımı açısından OECD ülkelerine yakınsama eğiliminin olduğunu ortaya koymaktadır. Elde edilen bulgular, Türkiye'nin gelir dağılımındaki değişim dinamiklerinin OECD ülkeleri ile benzer bir yönde ilerlediğini göstermektedir. Bu sonuçlar, gelir eşitsizliğinin azaltılması açısından politika yapıcıları için gerekli çıkarımlar sunma niteliğinde olabilir.

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Mussel Farming Production Dynamic in the Baltic Sea Region

Zaiga Ozolina[1] **Biruta Sloka**

[1] University of Latvia, zaigai@inbox.lv, ORCID: 0000-0001-5841-1265

[2] University of Latvia, Biruta.Sloka@lu.lv, ORCID: 0000-0003-2129-053X

Abstract: The development and promotion of mussel farming in the Baltic Sea Region is not well advanced among entrepreneurs. Several researchers have studied the development potential of mussel farming in the Baltic Sea Region, revealing several crucial aspects for its advancement. These include the absence of existing development strategies, inherent depletion of fish stocks, a market characterised by demand for organic and environmentally friendly products, high nutrient contamination in the water, and psychological aspects such as consumers' disbelief in the potential benefits of the products.

The aim of the research is to develop suggestions on possible mussel production based on research results and analysis of statistical data on mussel production tendencies.

The research methodology: a comprehensive review of extant scientific publications concerning mussel production, complemented by insights from expert interviews.

The analysis revealed that mussel farming has been responsible for a significant increase in production in Chile and China. However, the European market has seen a decline in mussel production over the past two decades. A similar trend has been observed in the Baltic Sea Region, where mussel production volumes have decreased by 35% over the past 20 years, with an average annual decline of 2%. Conversely, mussel production has increased by 20% over the past 10 years. The decline in mussel production in the Baltic Sea Region commenced in 2002, coinciding with a decrease in mussel production in Denmark. Conversely, mussel production in Sweden has exhibited an upward trend over the past two decades, with a more pronounced increase observed in the last decade.

Mussel farming is of significance for both society and the environment. Mussels possess the capacity to filter water, and the presence of mussel farms has been observed to result in an enhancement of water transparency, thereby functioning as a natural water purifier. It is imperative to elucidate the ecological value of mussels to society and consumers, thereby underscoring the merits of utilising and consuming this product farming.

Keywords: 3 to 5 keywords should be provided.

1. INTRODUCTION

Over the past five decades, the production volumes of mussels have exhibited fluctuations. However, in the last two decades, mussel production has undergone rapid development in China and Chile, with a concomitant increase in output. Conversely, in certain European countries, the production of mussels has declined.

Mussels (Bivalve mollusks) possess the unique capacity to filter water and thereby enhance biodiversity in the vicinity of mussel farms (Troell et al., 2023). Mussel farming has been demonstrated to engender ecological and economic benefits, provided there is a demand for the product.

2. THEORETICAL BACKGROUND

In 2004, 2005 and in 2006 in Norway mussel farming production amount reached in the highest peak The highest recorded levels of mussel farming production in Norway were attained in 2004, 2005 and 2006. Ottesen and Grønhaug (2012) concede that this was due to high expectations amongst politicians and practitioners. A comprehensive study of the mussel farming industry was conducted, highlighting the absence of market intelligence and emphasizing the role of cognitive and social processes in achieving objectives within the Norwegian context. In a related study, Theodorou et al. (2011) analysed mussel farming production in Greece, indicating the necessity of managing mussel farms with a size larger than 2 hectares. The authors acknowledged that the absence of effective marketing strategies was a key impediment to the advancement of this field. In 1996, Roddy and her colleagues highlighted the negative attitude of consumers towards organic products due to a lack of availability, pricing and promotion (Roddy et al., 1996). It is important to note that mussel farming is a recent development in the Baltic Sea Region, with the majority of mussel farmers located near the North Sea, where water salinity is higher and mussels are larger. Consequently, several projects have been initiated to analyse mussel farming development in the Baltic Sea (Ozolina, 2017).

Researchers have acknowledged that mussel farms in the region are typically small in size (Villasante et al., 2013; Theodorou et al., 2011; Theodorou & Tzovenis, 2017; Cush & Valrey, 2013; Žilinskaitė et al., 2021; Krauvfelin & Diaz, 2015; Avdela et al., 2021). This has been identified as a key factor hindering the development of mussel farming in the region. Lasner & Gimpel (2024) emphasised that the development of aquaculture is being hindered by overregulation and the complexity of governance, which are impeding progress.

Da Silva et al., 2022, analyzed economic feasibility of integrated multi-trophic aquaculture for small scale aquaculture farm and results indicated economic viability, thus indicating that even small scale farms might achieve economic viability however animals are fed in traditional aquaculture, but in mussel farming mussels filter water, thus up taking necessary nutrients from the water.

Mussel filters water and reduces nutrients in water and these aspects are important to support production of blue mussel also from country management perspective, and, therefore, numerous research findings are discussed worldwide by researchers Gren, Lindahl and Lindqvist (2009) concluding also by aspects of improving the transparency of sea water, as well as important aspects of mussel farming in the Baltic Sea was analysed by Stadmark and Conley (2011). The costs for mussel farming in Russia, Kaliningrad were analysed by applying meta-regression analysis by Gren and Tirkaso in 2021 with some findings could be useful for other researchers and practical mussel farmers.

Since 1950's fishery amount have increased multiple times (Ozolina, 2017). Accessing resources is increasingly problematic due to fish stock depletion, local water pollution, which might be decreased with sustainable aquaculture (Caroppo et al., 2012). Depletion of resources might be solved with proper regulation implementation and application of necessary policy measures. In further statistical data analysis will help to analyse mussel farming changes.

3. STATISTICAL DATA ANALYSIS

The data for this study were collected from the Food and Agriculture Organization of the United Nations (hereinafter referred to as the FAO) to analyse the dynamic of mussel farming production in the Baltic Sea Region. The data set encompasses Scandinavian countries like Denmark, Sweden, Germany and Norway, where blue mussel farming is predominant, and these countries collectively account for this species of mussel production in the Baltic Sea Region.

In 2003 and 2004, Denmark was in the leading position among the Baltic Sea Region countries in terms of blue mussel farming and harvesting. However, a precipitous decline in production volumes was observed in subsequent years. The amount of harvested blue mussel decreased by 30% in 2005, by 20% in 2006, by 37% in 2008, by 29% in 2010, and by 34% in 2020. The blue mussel production decreased on average by 4% per year over the 20-year period and by 1% per year over the 10-year period. Despite this decline in production in Denmark, it stays in the leading position among the Baltic Sea Region countries.

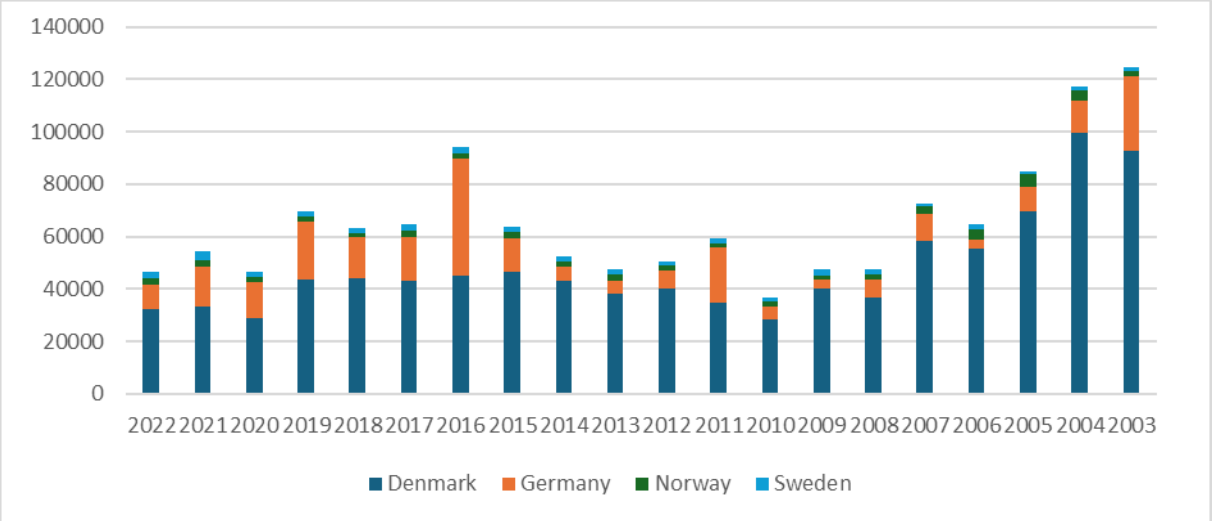
In Germany, blue mussel production volumes have exhibited significant fluctuations over the past two decades, with an annual increase of 39% recorded during the 20-year period and 27% during the 10-year period.

Norway has exhibited a more modest annual growth rate of 4% over the past two decades, and 5% over the past decade. While Norwegian blue mussel production remains comparatively modest in relation to the German market, it has demonstrated a consistent and gradual upward trajectory.

In Sweden, the annual average increase in blue mussel production over the 20-year period was 6%, while the 10-year average was 8%. In a manner analogous to Norway, blue mussel production in Sweden remains comparatively modest in relation to the German market. However, it is noteworthy that Sweden has demonstrated the highest percentage increase among the Baltic Sea Region countries during the observed period.

In general, the production of blue mussels in Germany, Sweden, Norway and Denmark has exhibited a decline of 1% on average annually over the past 20 years, while concurrently experiencing an increase of 2% annually over the preceding 10 years.

Figure 1: Blue mussel production volumes in Baltic Sea region countries 2003-2022 (tonnes)



Source: FAO, 2025.

The price of blue mussels for live aquaculture production has exhibited fluctuations in Europe over the last decade (Figure 2).

The highest average price for blue mussel was observed in Germany in 2014, reaching 2.41 euro per kilogram, followed by France in 2017 (2.61 euro per kilogram), Germany in 2020 (2.46 euro per kilogram), Portugal in 2021 (2.64 euro per kilogram) and, finally, Portugal in 2022 (3.48 euro per kilogram).

The lowest average price for the blue mussel was recorded in Sweden and Denmark in 2018 at 0.28 EUR/kg. In 2019, the price in Sweden increased to 0.57 EUR/kg, and in 2020, it rose to 0.56 EUR/kg in Denmark. In 2022, the price in Sweden and Denmark remained stable at 0.56 EUR/kg, and in Sweden, it increased to 0.58 EUR/kg and 0.60 EUR/kg in Denmark.

In Denmark, the price of blue mussels has exhibited a downward trend, with an average annual decrease of 4% during the period 2013-2022. The most significant decline in blue mussel price occurred in 2020, followed by a notable increase in 2021. The mean price over the ten-year period from 2013 to 2020 was 0.70EUR/kg, and in 2022, the mean price for cultivated blue mussels was 1.13EUR/kg. In 2022, the average price was recorded at 0.60 EUR/kg.

Furthermore, analysis of data from 2013 to 2022 reveals an average annual increase in blue mussel prices of 3% in France. The most significant decline in blue mussel price was observed in 2018, when it decreased by 19% compared to the previous year. The most substantial increase in price was recorded in 2016, when it increased by 19% compared to the previous year.

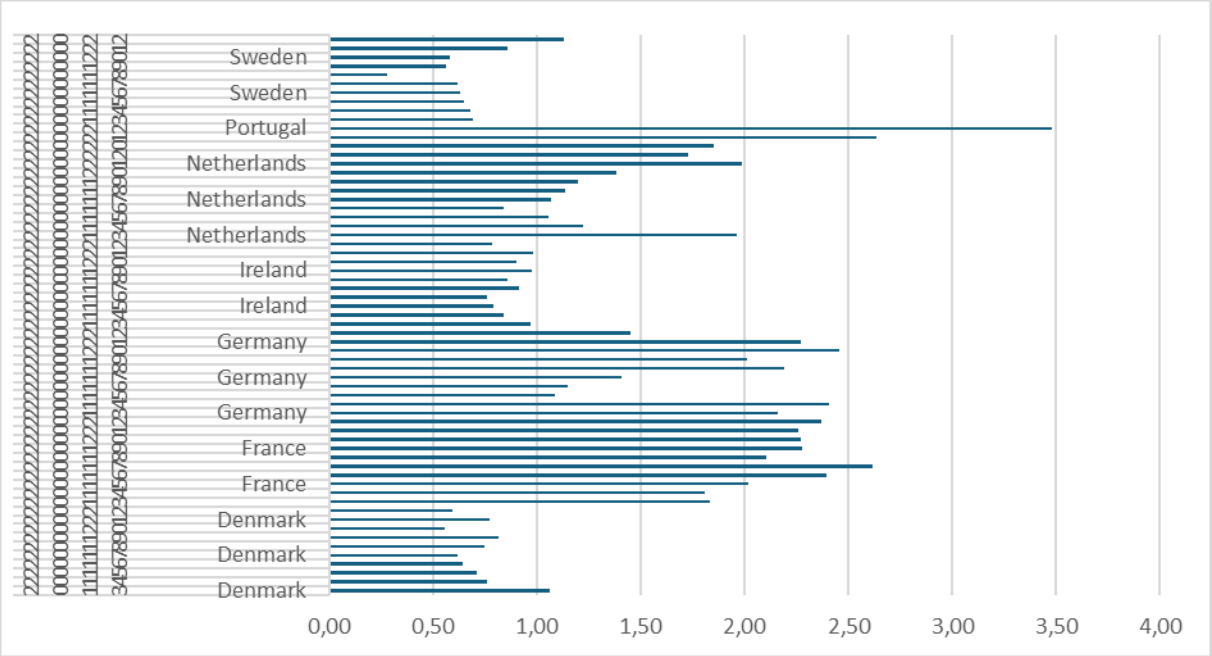
In Germany, the average annual increase in blue mussel price was 1% during the observed period. However, it should be noted that the price exhibited significant fluctuations during this time.

Similarly, in Ireland, the blue mussel price exhibited an average decline of 2% per annum during the observed period.

Conversely, in the Netherlands, blue mussel prices exhibited an average annual increase of 1% during the observed period.

Sweden has witnessed a more pronounced increase, with an average annual growth rate of 13% over the same period. It is evident that a downturn in price was observed until 2018, followed by an uptick from 2019 onwards. However, the average price in Sweden over the ten-year period (2013-2022) was 0.67 EUR/kg, with an average price of 1.13 EUR/kg in 2022.

Figure 2: Blue mussel aquaculture production price in Europe 2013-2022 (euro per kilogram)



Source: FAO, 2025 (calculation provides by authors).

It is acknowledged that Denmark has previously experienced higher levels of mussel production. The following table will analyse the changes in salaries for fishery and aquaculture laborers, and changes in blue mussel production volumes.

In the research paper by Avdelas et al. (2020), it was stated that wages and salaries were a significant factor in mussel production, due to the fact that only one third of the total costs were covered. The data on wages was collected from the Denmark Statistics Bureau.

The analysis of blue mussel production changes and salary changes compared to previous years revealed similar changes in 2016, 2017 and 2019. However, fluctuations in other periods were observed. For instance, in 2014, there was a 4% decrease in salary, whilst mussel production increased by 13%. Conversely, in 2021, mussel production exhibited a 15% surge, accompanied by a 7% rise in salaries. It is important to note that the changes in salary and mussel production volume do not always correlate and this aspect should be analysed in more detail in future studies.

Figure 3: Blue mussel production amount changes and salary changes (percentage) comparing previous year in Denmark (2014-2023)



Source: FAO; 2025 and Statistics of Denmark, 2025 (calculation provided by authors).

In the global context, mussel production has exhibited an annual growth rate of 1% over the past two decades. When analysed over a 10-year period, this figure remains consistent, indicating a stable trajectory. However, this industry is growing more slowly than aquaculture as a whole.

Mussel production in Chile has increased by 258% from 49 thousand tons in 2003 to 437 thousand tons in 2022.

Similarly, mussel production in China has increased by 39% from 582 thousand tons in 2003 to 771 thousand tons in 2022.

Collectively, these two countries are responsible for 61% of the global mussel production in 2022.

Over the course of the 20-year period under consideration, the highest increases in mussel production were observed in Venezuela, Turkey, Russia, Portugal and Germany.

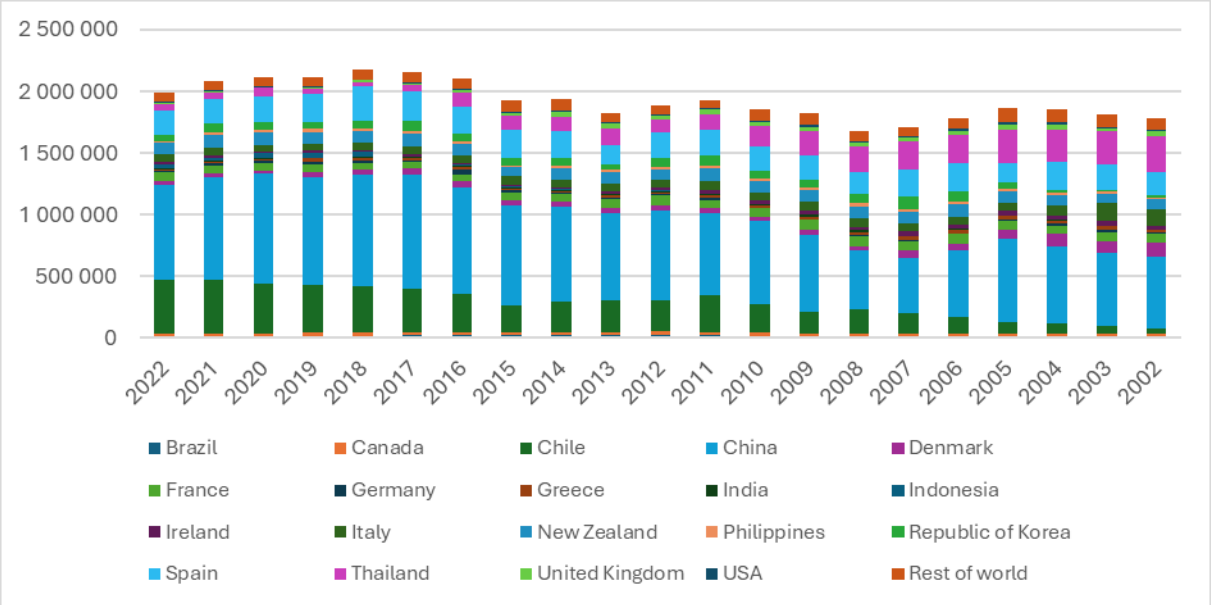
Conversely, the most significant declines in mussel production of two decades were recorded in Thailand, Peru, Italy, Greece, and Denmark.

Furthermore, a 10-year analysis reveals Turkey, Russia, Romania, Portugal and Indonesia as the key drivers of this growth.

Conversely, the most significant decline in mussel production was witnessed in Venezuela, Ukraine, the United Kingdom, Peru, and Brazil over the 20-year period.

In 2022, the leading countries in mussel production were Chile (39%), China (22%), Spain (10%), New Zealand (4%), France (4%), Italy (3%), Thailand (3%) and the Republic of Korea (3%).

Figure 4: Blue mussel production amount in the world by country 2002-2022 (tonnes)



Source: FAO, 2025.

Statistical analysis indicates that Swedish and Norwegian mussel farmers demonstrate superior prospects for growth, despite their comparatively limited production volumes, exhibiting higher growth rates for small business.

Theodorou et al. (2011) delineated small farms, and in the Baltic Sea, small farms are more likely to have space in area to develop mussel farming. Notwithstanding the fact that policy-makers would seek to limit such development, it is imperative to encourage, as opposed to restrict, small mussel farming in the eastern Baltic Sea. At present, in order to develop the sector, the potential future developers can gain information from Swedish or Norwegian mussel farmers whose successful experience allow to develop and increase production volumes.

4. CONCLUSION

The analysis revealed that mussel farming has been responsible for a significant increase in production in Chile and China. However, the European market has seen a decline in mussel production over the past two decades.

A similar trend has been observed in the Baltic Sea Region, where mussel production volumes have decreased by 35% over the past 20 years, with an average annual decline of 2%. Conversely, mussel production has increased by 20% over the past 10 years. The decline in mussel production in the Baltic Sea Region commenced in 2002, coinciding with a decrease in mussel production in Denmark. Conversely, mussel production in Sweden has exhibited an upward trend over the past two decades, with a more pronounced increase observed in the last decade.

Mussel farming is of significance for both society and the environment. Mussels possess the capacity to filter water, and the presence of mussel farms has been observed to result in an enhancement of water transparency, thereby functioning as a natural water purifier. It is imperative to elucidate the ecological value of mussels to society and consumers, thereby underscoring the merits of utilising and consuming this product farming.

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Standart Maliyet Yönteminde Fark Hesaplarının Kapatılmasında Kullanılan Yaklaşımların Finansal Tablo ve Finansal Analiz Sonuçlarına Etkisi

Prof. Dr. Zeki DOĞAN[1] **Dr. Öğr. Üyesi Adalet ZOZİK**[2]

[1] Niğde Ömer Halisdemir Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, zekidogan7@hotmail.com, ORCID:0000-0003-3328-7565.

[2] Bayburt Üniversitesi, Sosyal Bilimler Meslek Yüksekokulu, Finans Bankacılık ve Sigortacılık Bölümü, aacar@bayburt.edu.tr, ORCID: 0000-0001-9314-8167.

Özet: Standart maliyet yöntemi mevcut koşullar altında bir mamulün maliyetinin ne kadar olması gerektiğini tespit etmek için kullanılan bir maliyetleme yöntemidir. Bu yöntemde fiili maliyetler ile standart maliyetler karşılaştırılmaktadır. Bu karşılaştırma sonucunda fiili maliyetler ve standartlar maliyetler arasında farklar ortaya çıkabilmektedir. Ortaya çıkan bu farklar yine dönem sonunda dört farklı yaklaşımdan yararlanılarak kapatılabilmektedir. Birinci ve ikinci yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar sırasıyla satışların maliyeti ve olağandışı gelir ve karlar/olağandışı gider ve zararlar hesap gruplarıyla ilişkilendirilmektedir. Üçüncü yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar hem stokların maliyetine hem de satışların maliyetine ilave edilmektedir. Dördüncü yaklaşımda ise üçüncü yaklaşıma benzer bir şekilde hem stokların maliyetine hem de satışların maliyeti ile ilişkilendirilmektedir. Ancak işletme tarafından kontrol edilebilen farklar olağandışı gelir ve karlar/olağandışı gider ve zararlar hesap gruplarında yer alan ilgili kalemlere aktarılmaktadır. Doğal olarak bu yaklaşımlar farklı varsayımlara dayandığı için finansal tablo ve finansal analiz sonuçları üzerindeki etkisi de farklı olabilmektedir. Bu çalışmada ise uygulayıcılara yol göstermek amacıyla standart maliyet yönteminde fark hesaplarının kapatılmasında kullanılan yaklaşımların finansal tablo ve finansal analiz sonuçları üzerindeki etkisi, bir örnek bilanço ve gelir tablosundan faydalanılarak açıklanmaya çalışılmıştır.

Anahtar Kelimeler: Standart Maliyet Yöntemi, Fark Hesapları, Fark Hesaplarının Kapatılmasında Kullanılan Yaklaşımlar.

Jel Sınıflandırılması : M41, M49.

Abstract: The standard cost method is a costing method used to determine how much a product should cost under current conditions. In this method, actual costs are compared with standard costs. As a result of this comparison, differences may arise between actual costs and standard costs. These differences can be closed at the end of the period by using four different approaches. In the first and second approaches, the positive and negative differences accumulated in the difference accounts are associated with the cost of sales and extraordinary income and profits/extraordinary expenses and losses account groups, respectively. In the third approach, the positive and negative differences accumulated in the difference accounts are added to both the cost of stocks and the cost of sales. In the fourth approach, similar to the third approach, they are associated with both the cost of stocks and the cost of sales. However, the differences that can be controlled by the company are transferred to the relevant items in the extraordinary income and profits/extraordinary expenses and losses account groups. Naturally, since these approaches are based on different assumptions, their effects on the financial statement and financial analysis results may also be different. In this study, in order to guide the practitioners, the effects of the approaches used in closing the difference accounts in the standard cost method on the financial statements and financial analysis results were tried to be explained by using a sample balance sheet and income statement.

Key Words: Standard Cost Method, Difference Accounts, Approaches Used in Closing Difference Accounts.

Jel Classification : M41,M49.

1. GİRİŞ

İşletmelerin amaçlarından biri karın artırılmasının sağlanmasıdır. Karın artırılması ya gelirin artırılması ya da maliyetlerin azaltılması ile mümkündür. Gelir piyasa koşullarına bağlı olarak oluştuğundan artırılması mümkün olmayabilir. Bu nedenle maliyetlerin kontrol altında tutulabilmesi ve optimal kaynak kullanımının sağlanabilmesi işletmeler açısından önem arz etmektedir. Yönetim muhasebesinin bu gereksinimi karşılamak amacıyla geliştirdiği araçlardan biri de standart maliyetlerdir(Büyükmirza, 2015:605). Standart[1] maliyetler, *"Belirli bir zaman dilimi ve öngörülen bir dizi çalışma koşulu için malzeme, işçilik ve genel maliyetler için teknik tahmine*

[1] Standart kelimesi bir 'norm' veya bir 'ölçüt' anlamına gelir. Bu nedenle standart maliyet, fiili maliyetin gerçekleştirildiği verimliliği ölçmek için bir ölçüt olarak kullanılabilecek bir kriter maliyettir. Belirlenen standart maliyetler makul, ulaşılabilir ve zaman zaman işletmenin ihtiyaç ve gereksinimlerine göre revize edildiğinden, standart maliyet yönteminin yardımıyla işletmede sürekli bir gelişme süreci vardır(Panchenko, 2017).

dayalı önceden belirlenmiş maliyettir." şeklinde tanımlanmaktadır. Standart maliyet yöntemi ise *"Standart maliyetlerin hazırlanması ve kullanımı, gerçek maliyetlerle karşılaştırılması ve bunların nedenlerine ve olay noktalarına ilişkin sapmaların analizi"* seklinde tanımlanmaktadır(Ashraf, 200X).

Standart maliyetlerin temel amacı, belirli bir mamulün üretiminde verimliliği veya verimsizliği belirlemektir. Bu, ancak hem standart maliyetler hem de fiili maliyetler yan yana verildiğinde mümkün olacaktır. Standart maliyet yöntemi her türlü ticari ve sınai işletme için faydalı olmakla birlikte, üretimin standardize edildiği işletmelerde daha faydalı olacaktır. Her işin farklı özellikleri olduğundan ve her sipariş için standart maliyetleri belirlemek zor olacağından, sipariş maliyet yönteminde daha az kullanışlı olacaktır(Panchenko, 2017).

Bu çalışmada ise uygulayıcılara yol göstermek amacıyla standart maliyet yöntemi kavramsal çerçevede ele alınmış ve standart maliyet yönteminde fark hesaplarının kapatılmasında kullanılan yaklaşımların finansal tablo ve finansal analiz sonuçları üzerindeki etkisi, bir örnek bilanço ve gelir tablosundan faydalanılarak açıklanmaya çalışılmıştır.

2. STANDART MALİYETLERİN HESAPLANMASININ AVANTAJ VE DEZAVANTAJLARI

Standart maliyetlerin önemli avantajları aşağıdaki gibi sıralanabilir (Büyükmirza, 2015:610; The Institute of chartered Accountants of India, 200X).

- Standart maliyetler, maliyet kontrolüne etkenlik kazandırır. Söz konusu maliyetlerin temel hedefi maliyet kontrolüdür. Bu kapsamda fiili maliyetlerin kontrol altında tutulması amacıyla kullanılabilecek en uygun ölçüt standart maliyetlerdir. Standart maliyet yönteminde hesaplanan farklar, sorumlu yöneticilerin dikkatini aksayan noktalara çekerek kontrol açısından önemli bir rol oynayan gösterge niteliğini taşırlar.
- Standart maliyetler, fiyat belirlemeye yardımcı olur. Bu maliyetler, maliyetleri belirlemek için kullanılır. Gerçek maliyet günden güne değişse de, standart maliyetler belirli bir süre boyunca sabit kalır ve bir mamule olan talep esnek olduğunda, bu bilgi satış fiyatını belirlemek için bir temel olarak kullanılabilir.
- Standart maliyetlerin kullanılması işlerin değerlendirilmesini ve teşviklerin getirilmesini kolaylaştırır. İş değerleri, her işte yer alan sorumluluğa göre belirlenen değerlendirme ve ücret ölçeğinin kullanılmasıyla belirlenebilir.
- Standart maliyetler, yeni mamullerin maliyetinin daha büyük bir doğrulukla tahmin edilmesini kolaylaştırır.
- Standart maliyetler, karın ölçülmesi için de kullanılır. Karın doğru hesaplanmasına ilişkin soru, stok değerleme yöntemleri ve sabit genel maliyetlerin dağıtımı ile ilgilidir. Standart maliyetler, stok değerlerindeki bir dönemden diğerine meydana gelen değişikliklerden kaynaklanan kardaki değişiklikleri ortadan kaldırır ve böylece karın ölçülmesi için bir temel sağlar.
- Standart maliyetler, planlama, bütçeleme ve karar almada kullanılır. Bu maliyetler, önceden belirlenmiş maliyetler olduğundan, planlama ve bütçelemede özellikle yararlıdır.
- Standart maliyetler, mamul, faaliyet ve süreçlerin standartlaştırılmasında kullanılır, genel üretim verimliliğini artırır ve maliyetleri düşürür.
- Her yönetim seviyesinin ulaşması gereken hedef ve amaçları sağlar ve departman yöneticilerinin sorumluluklarını tanımlar. Böylece yöntem, departman sorumlusuna işletme tarafından belirlenen hedeflere ulaşması için bir teşvik görevi görür.
- Standart maliyetler, maliyetlerin tüm unsurlarının karşılaştırılması için tekdüze bir temel oluşturur. Standartlar belirlenirken özen gösterildiğinden, standartlar değişmez karşılaştırma birimleri haline gelir.
- Malzeme israfı ve boşta kalma süresinden kaynaklanan kayıp yakından kontrol edildiğinden, işletme tesislerinin, işletme sermayesinin ve cari varlıkların maksimum kullanımı sağlanır.

Standart maliyet yönteminden elde edilen tüm avantajının yanı sıra aşağıda verilen bir dizi dezavantajı da vardır (https://sajaipuriacollege.ac.in/pdf/commerce/standard-Costing-Variance-Analysis.pdf, Erişim Tarihi:01.01.2025; Ashraf, 200X):

- Faaliyetler sona erdiğinde gerçek maliyetle örtüşecek olan belirli bir durumda kesin standart maliyetleri belirlemek her zaman zordur. Standart maliyetler kısmen geçmiş deneyimler ve kısmen de gelişmiş istatistiksel tekniklere dayalı maliyet projeksiyonları tarafından belirlenir. Bu nedenle belirsizlikler standartlar etrafında döner.
- Standart maliyetler, üretim maliyetlerini planlamak ve kontrol etmek için uygulanır. Bu nedenle bir hizmet sektöründe uygulanması mümkün değildir.

- Değişen koşullara göre standart maliyetlerin düzeltilmesi gerektiği için aynı standartları her zaman sürdürmek ve devam ettirmek zordur.
- Standart maliyetler, maliyetlidir ve standart olmayan mamuller üreten üretim işletmeleri(yemek ve terzilik gibi) için uygun değildir.
- Bir işletme standartlarını güncel tutamayabilir. Başka bir deyişle bir işletme üretim koşullarındaki sık değişikliklere uyum sağlamak için standartları düzeltmeyebilir. İşletmeler, maliyetli bir iş olduğu için standartları revize etmekten kaçınabilir.
- Standartların oluşturulması ve uygulanması başlangıçta yüksek maliyetler gerektirir. Standartların revize edilmesi ve daha büyük maliyetler içeren yeni standartların belirlenmesi gerektirir. Bu nedenle küçük işletmeler standart maliyet yöntemini maliyetli bulurlar. Bu yöntem her endüstri türü için uygun olamayabilir.
- Standartlar yüksek bir seviyede sabitlendiğinde çalışanların cesareti kırılabilir. Gerçek dışı yüksek standartlar, daha iyi verimlilik için bir teşvik olarak çalışmaktan ziyade, çalışanların moralini olumsuz etkileyebilir.
- Yanlış ve güvenilir olmayan standartlar yanlış sonuçlara neden olabilir ve bu nedenle standart maliyet yöntemi, kullanıcılarının güvenini kazanamayabilir.
- Sorumluluğun belirlenmesi zordur. Özellikle kontrol edilemeyen farkların ortaya çıkması durumunda sorumlulukların belirlenebilmesi mümkün değildir.

3. STANDART MALİYET YÖNTEMİNDE FARKLARIN HESAPLANMASI

Standart maliyet yöntemi, üretim performansını değerlendirmek için farkların belirlenmesinde yönetime bir ölçüt olarak rehberlik eder. "*Farklar*" terimi, belirli bir dönemde ortaya çıkan her bir maliyet unsuru için standart maliyet ile fiili maliyet arasındaki fark olarak tanımlanabilir. "*Fark analizi*" terimi, yönetimin standart dışı performans için sorumluluk belirleyebileceği şekilde toplam sapmayı/farkı alt bölümlere ayırarak farkı analiz etme süreci olarak tanımlanabilir. Fark, olumlu veya olumsuz olabilir. Fiili performans standarttan daha iyi olduğunda, "*olumlu fark*" olarak gösterilir. Benzer şekilde, fiili performans standarttan düşük olduğunda buna "*olumsuz fark* " denir. Fark analizi, yönetimin aşağıdakileri belirleyebilmesi için sorumluluğun belirlenmesine yardımcı olur(Ashraf, 200X):

- Fark miktarı,
- Fiili performans ile bütçelenen performans arasındaki farkın nedenleri,
- Zayıf performanstan sorumlu kişi,
- Alınacak düzeltici eylemler.

Standart maliyet yönteminde farkları, standart maliyet çeşitlerine göre direkt ilk madde ve malzeme, direkt işçilik ve genel üretim maliyetleri farkları olmak üzere üç grupta incelemek mümkündür.

3.1. Direkt İlk Madde ve Malzeme Maliyeti Farkları

Direkt ilk madde ve malzeme maliyetinin tutarı, ilgili hammaddenin alış fiyatına ve bu hammaddenin üretimde kullanılan miktarına bağlıdır. Bu kapsamda hammadde ve malzeme maliyetlerinde ki bir farkın temel sebebini miktar ve fiyat yönünden ele almak gerekir. Bu nedenle direkt ilk madde ve malzeme maliyetlerindeki fark analizi, fiyat ve miktar farklarının tespitine yöneliktir. Direkt ilk madde ve malzeme fiyat ve miktar farkları aşağıda yer alan formüller ile hesaplanabilir(Civelek ve Özkan, 2011:471; Büyükmirza, 2015:627-629)

Fiyat Farkı = "(Fiili Fiyat - Standart Fiyat) x Satın Alınan Miktar"
Miktar Farkı= "(Toplam Fiili Tüketim Miktarı - Toplam Standart Tüketim Miktarı) x Standart Fiyat"

3.2.Direkt İşçilik Maliyeti Farkları

Direkt işçilik maliyetlerinin tutarı, hem saat başına ödenen direkt işçilik ücretlerine hem de mamul üretimi için harcanan direkt işçilik sürelerine bağlıdır. Bu kapsamda direkt işçilik maliyetlerine ilişkin farklar ücret ve süre farklarının hesaplanması ile ortaya çıkmaktadır. Direkt işçilik maliyetleri ücret ve süre farkları aşağıda verilen formüller ile hesaplanabilir(Büyükmirza. 2015:631-633).

Ücret Farkları = "(Fiili Ücret-Standart Ücret) x Fiili Süre"
Süre Farkları = "(Fiili Süre-Standart Süre) x Standart Ücret"

3.3. Genel Üretim Maliyetleri Farkları

Genel üretim maliyetlerindeki farklar girdi maliyetlerinin olması gerekenden daha az veya daha çok olmasından kaynaklanabilir. Bu, ***bütçe farkıdır.*** Yapılan üretimin öngörülen süreden farklı bir sürede yapılıp yapılmaması da genel üretim maliyetlerinde artış veya azalışa neden olabilir. Bu da ***verimlilik farkıdır***. Son olarak, işletme planlanan kapasitenin altında veya üzerinde çalışmış olabilir. Bu da kapasite maliyetlerinin iyi kullanılıp kullanılmadığını gösteren ***kapasite farkına*** neden olabilir. Sonuç olarak, genel üretim maliyetlerinde artış veya azalış bütçe, verimlilik ve kapasite farklarından kaynaklanabilir(Özkan ve Civelek, 2011:490).
Görüldüğü üzere genel üretim maliyetleri farkları bütçe, verimlilik ve kapasite farkları olmak üzere üç alt bölüme ayrılmaktadır. Genel üretim maliyetleri "*Bütçe farkları*", genel üretim maliyetlerini oluşturan unsurların fiili fiyat, ücret, tutar ve kullanım miktarlarının bütçelenenden farklı olması nedeniyle ortaya çıkan farktır(Özkan ve Civelek, 2011:504-505). Bütçe farkı aşağıda yer alan formül ile hesaplanabilir(Doğan, 2001:187).

Bütçe Farkları = "Fiili Genel Üretim Maliyetleri Toplamı- Fiili İş Hacmi İçin Bütçelenmiş Genel Üretim Maliyetleri Toplamı"

"*Verimlilik farkları*", yapılan üretim süresinin planlanan üretim süresinden farklı olmasına bağlı olarak daha az veya daha çok değişken genel üretim maliyeti girdisi kullanılması durumunda ortaya çıkan farktır(Özkan ve Civelek, 2011:504-505). Verimlilik farkı aşağıda yer verilen formül/ler ile hesaplanabilir(Büyükmirza, 2015:636).

Verimlilik Farkları = "Fiili İş Hacmi İçin Bütçelenmiş Genel Üretim Maliyetleri – Standart İş Hacmi İçin Bütçelenmiş Genel Üretim Maliyetleri" ***veya***
Verimlilik Farkları = "(Fiili İş Birimleri Sayısı- Standart İş Birimleri Sayısı) X Değişken Genel Üretim Maliyetleri Standart Yükleme Oranı"

"*Kapasite farkları*", planlanan kapasite kullanımının gerçekleşen kapasite kullanımından farklı olması nedeniyle üretilen her bir mamul birimine daha az veya daha çok sabit maliyet yüklenmesi nedeniyle ortaya çıkan farktır(Özkan ve Civelek, 2011: 505). Kapasite farkı aşağıda yer verilen formül/ler ile hesaplanabilir(Büyükmirza, 2015:639-640).

Kapasite Farkları = "Standart İş Hacmi İçin Bütçelenmiş Genel Üretim Maliyetleri- Üretilen Mamullerin Maliyetindeki Toplam Standart Genel Üretim Maliyetleri" ***veya***
Kapasite Farkları = "(Bütçelenmiş Üretim Karşılığı Standart İş Birimleri Sayısı- Fiili Üretim Karşılığı Standart İş Birimleri Sayısı) x Sabit Genel Üretim Maliyetleri Standart Yükleme Oranı"

4. STANDART MALİYET YÖNTEMİNDE KAYIT DÜZENİ

Standart maliyet yönteminde maliyetler fiil tutarları üzerinden maliyet hesaplarına borç kaydedilir. Bu bağlamda, standart maliyet yöntemi ile fiili maliyet yöntemi arasında bir farklılık yoktur. Ancak, standart maliyet yöntemi ile fiili maliyet yöntemi yansıtma hesapları açısından farklılık arz etmektedir. Fiili maliyet yönteminde yansıtma hesapları maliyetlerin fiili tutarları kadar alacaklandırılır ve yıl sonunda maliyet hesaplarıyla karşılaştırılarak kapatılır. Diğer taraftan, standart maliyet yönteminde yansıtma hesapları maliyetlerin standart tutarları üzerinden alacaklandırılır ve her ay sonunda maliyet hesaplarıyla karşılaştırılarak kapatılır. Bu kapanış kaydında maliyet hesapları ve yansıtma hesapları arasındaki olumlu farklar ilgili fark hesaplarının alacağına, olumsuz farklar ise ilgili fark hesaplarının borcuna kaydedilir(Yıl boyunca olumlu ve olumsuz farklar ilgili fark hesaplarında toplanır). Yıl sonunda ise fark hesaplarının borç veya alacak kalanı ilgili hesaplara devredilerek, bu fark hesapları kapatılır(Büyükmirza, 2015:642).

4.1. Fark Hesaplarının Yıl Sonunda Kapatılmasında Kullanılabilecek Yaklaşımlar

Yıl boyunca fark hesaplarında biriken olumlu ve olumsuz fark tutarları, yıl sonunda dört farklı yaklaşım ile kapatılabilmektedir. Bu yaklaşımlar aşağıda özetlenmiştir(Büyükmirza, 2015:649):

- ***Birinci yaklaşım***: Yıl sonunda fark hesaplarının borç/alacak kalanları "*620 Satılan Mamuller Maliyeti"* hesabına aktarılarak, kapatılır.
- ***İkinci yaklaşım***: Yıl sonunda fark hesaplarının alacak kalanları "*679 Diğer Olağandışı Gelir ve Karlar*", borç kalanları "*689 Diğer Olağandışı Gider ve Zararlar*" hesabına aktarılarak kapatılır.

- ***Üçüncü yaklaşım***: Yıl sonunda fark hesaplarının kalanları ***"151 Yarı Mamüller", "152 Mamüller***" ve "*620 Satılan Mamüller Maliyeti***"** hesapları arasında dağıtılır. Böylece, bu hesaplardaki tutarların standart maliyetten fiili maliyete dönüştürülmesi sağlanır.
- ***Dördüncü yaklaşım***: İşletme tarafından kontrol edilebilen farklar için yukarıda ifade edilen ikinci yaklaşıma, kontrol edilemeyen farklar için ise üçüncü yaklaşıma göre fark hesapları kapatılır.

Birinci yaklaşımda olumlu/olumsuz farklar, satılan mamuller maliyetine aktarılmaktadır. Böylece satılan mamuller maliyeti standart maliyetten fiili maliyete dönüşmektedir. İkinci yaklaşım standart maliyetlere aşırı derecede güvenen ve bu nedenle de bu maliyetlerden her türlü sapmayı kar ya da zarar olarak kabul eden görüşü yansıtmaktadır. Üçüncü yaklaşım, bütün farkları stoklara ve satılan mamuller maliyetine dağıtmayı uygun bulan görüştür. Bu yaklaşım iki nedenden dolayı tercih edilmektedir. Birincisi, stoklar ve satılan mamuller maliyeti fiili maliyete dönüşmektedir. İkincisi ise işletmenin karı ve dolayısıyla vergi matrahı da vergi otoritelerince kabul edilebilir hale gelmektedir. Dördüncü yaklaşıma göre kontrol edilebilir farklara ilişkin tüm kusurlar işletmeye ait olduğundan bu farklar gelir tablosuna aktarılmalıdır. Kontrol edilemeyen farklar ise stoklara ve satılan mamuller maliyetine dağıtılmalıdır(Bu yaklaşım kuramsal açıdan en doğru olanıdır.) (Özkan ve Civelek, 2011:498-499; Büyükmirza, 2015. 650).

5.UYGULAMA

Daha önce de ifade edildiği üzere fark hesaplarının kapatılmasında kullanılan dört faklı yaklaşım bulunmaktadır. Bu yaklaşımların finansal tablo ve finansal analiz sonuçları üzerindeki etkisini ortaya koymak amacıyla örnek bilanço ve gelir tablosundan faydalanılmıştır[2]. Bu kapsamda söz konusu yaklaşımlara göre dönem içi ve dönem sonu ilgili muhasebe kayıtları yapılmıştır. Sonrasında gelir tablosu ve bilanço kalemleri her bir yaklaşıma göre yeniden düzenlenmiştir. Son olarak fark hesaplarının kapatılmasında kullanılan yaklaşımların finansal analiz sonuçları üzerindeki etkisi oran yöntemi ile incelenmiştir.

5.1. Standart Maliyet Yönteminde Farkların Hesaplanması

Aşağıda verilen bilgilerden hareketle sırasıyla "*712 Direkt İlkmadde ve Malzeme Fiyat Farkı*", "*713 Direkt İlkmadde ve Malzeme Miktar Farkı*", "*722 Direkt İşçilik Ücret Farkları*", "*723 Direkt İşçilik Süre Farkları"*, "*732 Genel Üretim Giderleri Bütçe Farkları"*, "*733 Genel Üretim Giderleri Verimlilik Farkları*" ve "*734 Genel Üretim Giderleri Kapasite Farkları"* hesaplanacaktır.

♦ Aras İşletmesi, K hammaddesinin standart fiyatı 50TL/kg'dır. Nisan ayında K hammaddesinden 25.000 kg x 60 TL/kg'dan alım gerçekleşmiştir. Buna göre Nisan ayı hammadde alımına ilişkin ortaya çıkan fiyat farkı şu şekilde hesaplanacaktır.

Direkt İlkmadde ve Malzeme Fiyat Farkı=(Fiili Fiyat- Standart Fiyat) x Satın Alınan Miktar

K Hammaddesi Fiyat Farkı =(60-50) x 25.000=250.000 (Olumsuz)

♦ İşletmenin A mamulü için saptanan standart hammadde tüketim miktarı K hammaddesi için 26 kg/birim'dir. Bu işletmenin Nisan ayı mamul üretimi 1.000 birimdir. Bu ay gerçekleşen K hammaddesi tüketimi ise 25.000 kg' dır. Bu verilere göre, Nisan ayında K hammaddesinden tüketilmiş olması gereken standart miktarlar şu şekilde hesaplanacaktır.

Direkt İlkmadde ve Malzeme Miktar Farkı= (Toplam Fiili Tüketim Miktarı-Toplam Standart Tüketim Miktarı) X Standart Fiyat

A Mamulü =1.000 birim x 26 Kg/birim =26.000 kg'dır (Toplam standart tüketim miktarı)

K Hammaddesi Miktar Farkı= (25.000-26.000) x 50= 50.000 (Olumlu)

♦ Aras İşletmesinin belirlenen standart saat ücreti 190 TL'dir. Bu işletmenin Nisan ayı fiili direkt işçilik maliyetleri tutarı 420.000 TL, harcanan fiili direkt işçilik süresi ise 2.100 saattir. Bu verilere göre Nisan ayında direkt işçilik maliyetlerinde ortaya çıkan ücret farkları şu şekilde hesaplanacaktır.

Direkt İşçilik Ücret Farkları = (Fiili Ücret-Standart Ücret) x Fiili Süre

Fiili Saat Ücreti: 420.000TL/2.100 saat= 200 TL/saat

Direkt İşçilik Ücret Farkları = (200 – 190) x 2.100=21.000 (Olumsuz)

[2] Bu örnek, Büyükmirza (2015) ve Doğan (2001) çalışmalarından faydalanılarak hazırlanmıştır.

♦ Aras İşletmesinin A mamulü başına standart direkt işçilik süresi 2.5 saattir (Nisan ayında 1.000 birim A mamulü üretilmiştir.). Bu verilere göre direkt işçilik süre farkları şu şekilde hesaplanacaktır.

Direkt İşçilik Süre Farkları = (Fiili Süre-Standart Süre) x Standart Ücret
A Mamulü Standart Süresi=1.000 birim x 2.5 Saat /birim= 2.500 Saat

Direkt İşçilik Süre Farkları = (2.100- 2.500) x 190= 76.000 (Olumlu)

♦ Aras İşletmesinin bütçelenmiş yıllık sabit genel üretim maliyetleri tutarı 6.000.000 TL, bütçelenmiş yıllık iş birimleri sayısı 24.000 direkt işçilik saatidir. Bu İşletmenin yıllık 24.000 direkt işçilik saatlik çalışma için bütçelenmiş değişken genel üretim maliyetleri tutarı 2.400.000 TL'dir. Bu verilere göre işletmenin esnek bütçe denklemi şu şekilde yazılacaktır.
$y_{B=}$100x+500.000' dir (x= aylık direkt işçilik saatleri)

♦ Aras İşletmesi'nin mayıs ayı genel üretim maliyetleri 900.000 TL olarak gerçekleşmiştir. İşletmenin Nisan ayı fiilli direkt işçilik saatleri sayısı 2.100 ve aylık ortalama esnek bütçe denklemi $y_{B=}$100x+500.000 olduğuna göre nisan ayı bütçe farkı aşağıdaki gibi hesaplanacaktır.

Genel Üretim Giderleri Bütçe Farkları= Fiili Genel Üretim Maliyeti Tutarı- Fiili Faaliyet Hacmi İçin Bütçelenmiş Genel Üretim Maliyeti

Bütçe Farkları= 900.000- (100 x 2.100+500.000) =190.000 (Olumsuz)
Verimlilik Farkları= (2.100-2.500) x 100= 40.000 (Olumlu) veya (100x2.100+500.000)-(100x2.500+500.000)= 40.000 (Olumlu)
Genel Üretim Giderleri Kapasite Farkları= Standart İş Hacmi İçin Bütçelenmiş Genel Üretim Maliyetleri- Üretilen Mamullerin Maliyetindeki Toplam Standart Genel Üretim Maliyetleri[3]
=(100x2.500+500.000)- (350TL/d.i.s. x 2.500 d.i.s.)=750.000TL-875.000 TL=125.000 (Olumlu) ***veya***
Kapasite Farkları= (Bütçelenmiş Üretim Karşılığı Standart İş Birimleri Sayısı- Fiili Üretim Karşılığı Standart İş Birimleri Sayısı) x Sabit Genel Üretim Maliyetleri Standart Yükleme Oranı[4]

Bütçelenmiş Üretim Karşılığı Standart İş Birimleri Sayısı= 24.000 d.i.s/yıl/12 ay=2.000 d.i.s/ay
Kapasite Farkları = (2.000 d.i.s-2.500 d.i.s.) x 250 TL/d.i.s.=125.000 (Olumlu)

5.2. Standart Maliyet Yönteminde Farkların Muhasebeleştirilmesi

Tekdüzen Hesap Planı'nda standart maliyet yöntemine göre farkların muhasebeleştirilmesinde aşağıda yer alan hesaplar kullanılmaktadır.

"*712 Direkt İlkmadde ve Malzeme Fiyat Farkı*",
"*713 Direkt İlkmadde ve Malzeme Miktar Farkı*",
"*722 Direkt İşçilik Ücret Farkları*",
"*723 Direkt İşçilik Süre Farkları"*,
"*732 Genel Üretim Giderleri Bütçe Farkları"*,
"*733 Genel Üretim Giderleri Verimlilik Farkları*"
"*734 Genel Üretim Giderleri Kapasite Farkları".*

Standart maliyet yönteminde farkları hesapladıktan sonra 7/A seçeneğine göre yapılması gereken dönem içi ve dönem sonu muhasebe kayıtları aşağıdaki gibidir:

-- ----------11.04.2023----------

150 İlk Madde ve Malzeme 1.500.000

İlgili Hesaplar 1.500.000

--İlk madde ve malzemenin satın alınmasına ilişkin kayıt--

----------31.04.2023---------- ---------

710 Direkt İlkmadde ve Malzeme Giderleri 1.500.000

[3] Toplam genel üretim maliyetleri standart yükleme oranı=(6.000.000+2.400.000)/24.000 d.i.s=350TL/d.i.s.
Toplam standart genel üretim maliyetleri=Toplam genel üretim maliyetleri standart yükleme oranı x toplam standart iş birimleri sayısı
[4] Sabit genel üretim maliyetleri standart yükleme oranı =6.000.000/24.000=250TL/d.i.s.

150 İlk Madde ve Malzeme 1.500.000

-- Fiili ilk madde ve malzeme maliyetinin kaydı--

----------31.04.2023----------

720 Direkt İşçilik Giderleri 420.000

İlgili Hesaplar 420.000

--Fiili direkt işçilik maliyetinin kaydı--

----------31.04.2023----------

730 Genel Üretim Giderleri 900.000

İlgili Hesaplar 900.000

--Fiili ortak maliyetlerin kaydı--

----------31.04.2023----------

151 Yarı Mamüller - Üretim 2.650.000

711 Direkt İlkmadde ve Malzeme Yansıtma Hesabı 1.300.000
721 Direkt İşçilik Giderleri Yansıtma Hesabı 475.000
731 Genel Üretim Giderleri Yansıtma Hesabı 875.000

--Standart maliyetler ile yansıtma kaydı--

----------31.04.2023----------

152 Mamüller 2.650.000

151 Yarı Mamüller - Üretim 2.650.000

--Standart maliyetler ile mamul stoklarının kaydı--

----------31.04.2023----------

711 Direkt İlkmadde ve Malzeme Yansıtma Hesabı 1.300.000
712 Direkt İlkmadde ve Malzeme Fiyat Farkı 250.000

710 Direkt İlkmadde ve Malzeme Giderleri 1.500.000
713 Direkt İlkmadde ve Malzeme Miktar Farkı 50.000

--Fiili ve standart ilk madde ve malzeme maliyetleri arasındaki farkın kaydı--

---

----------31.04.2023----------

721 Direkt İşçilik Giderleri Yansıtma Hesabı 475.000
722 Direkt İşçilik Ücret Farkları 21.000

720 Direkt İşçilik Giderleri 420.000
723 Direkt İşçilik Süre Farkları 76.000

--Fiili ve standart direkt işçilik maliyetleri arasındaki farkın kaydı--

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----------31.04.2023----------

731 Genel Üretim Giderleri Yansıtma Hesabı 875.000
732 Genel Üretim Giderleri Bütçe Farkları 190.000

730 Genel Üretim Giderleri 900.000
733 Genel Üretim Giderleri Verimlilik Farkları 40.000
734 Genel Üretim Giderleri Kapasite Farkları 125.000

--Fiili ve standart genel üretim maliyetleri arasındaki farkın kaydı--

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Aras işletmesinin birinci yaklaşıma göre fark hesaplarının yıl sonunda kapatılmasına ilişkin yapması gereken muhasebe kayıtları aşağıdaki gibidir.

----------31.12.2023----------
620 Satılan Mamuller Maliyeti 461.000
712 Direkt İlkmadde ve Malzeme Fiyat Farkı 250.000
722 Direkt İşçilik Ücret Farkları 21.000
732 Genel Üretim Giderleri Bütçe Farkları 190.000

--Olumsuz farkların kapatılmasına ilişkin kayıt--

----------31.12.2023----------
713 Direkt İlkmadde ve Malzeme Miktar Farkı 50.000
723 Direkt İşçilik Süre Farkları 76.000
733 Genel Üretim Giderleri Verimlilik Farkları 40.000
734 Genel Üretim Giderleri Kapasite Farkları 125.000

620 Satılan Mamüller Maliyeti 291.000
--Olumlu farkların kapatılmasına ilişkin kayıt--

Aras İşletmesinin ikinci yaklaşıma göre fark hesaplarının kapatılmasına ilişkin yapması gereken muhasebe kayıtları aşağıdaki gibidir.

----------31.12.2023----------
689 Diğer Olağandışı Gider ve Zararlar 461.000
712 Direkt İlkmadde ve Malzeme Fiyat Farkı 250.000
722 Direkt İşçilik Ücret Farkları 21.000
732 Genel Üretim Giderleri Bütçe Farkları 190.000

--Olumsuz farkların kapatılmasına ilişkin kayıt--

----------31.12.2023----------
713 Direkt İlkmadde ve Malzeme Miktar Farkı 50.000
723 Direkt İşçilik Süre Farkları 76.000
733 Genel Üretim Giderleri Verimlilik Farkları 40.000
734 Genel Üretim Giderleri Kapasite Farkları 125.000

679 Diğer Olağandışı Gelir ve Karlar 291.000
--Olumlu farkların kapatılmasına ilişkin kayıt--

Aras İşletmesinin üçüncü yaklaşıma göre fark hesaplarının kapatılmasına ilişkin yapması gereken muhasebe kayıtları aşağıdaki gibidir (Fark hesaplarında biriken tutarlar, "*151 Yarı Mamüller-Üretim*", "*152 Mamüller*" ve "*620 Satılan Mamüller Maliyeti*" hesaplarına eşit oranda dağıtılmıştır.).

----------31.12.2023----------
151 Yarı Mamüller -Üretim 153.666
152 Mamüller 153.666
620 Satılan Mamüller Maliyeti 153.666
712 Direkt İlk Madde ve Malzeme Fiyat Farkı 250.000
722 Direkt İşçilik Ücret Farkları 21.000
732 Genel Üretim Giderleri Bütçe Farkları 190.000

--Olumsuz farkların kapatılmasına ilişkin kayıt—

----------31.12.2023----------

713 Direkt İlkmadde ve Malzeme Miktar Farkı 50.000

723 Direkt İşçilik Süre Farkları 76.000
733 Genel Üretim Giderleri Verimlilik Farkları 40.000
734 Genel Üretim Giderleri Kapasite Farkları 125.000

151 Yarı Mamüller –Üretim 97.000
152 Mamüller 97.000
620 Satılan Mamüller Maliyeti 97.000

-Olumlu farkların kapatılmasına ilişkin kayıt--

Aras İşletmesinin dördüncü yaklaşıma (Direkt işçilik maliyetleri ücret farkının 10.000 TL'lik kısmının kontrol edilebilen farklar ve diğer farkların ise kontrol edilemeyen farklar olduğu varsayılmıştır.) göre fark hesaplarının kapatılmasına ilişkin yapması gereken muhasebe kayıtları aşağıdaki gibidir (Fark hesaplarında biriken tutarlar, "*151 Yarı Mamüller-Üretim*", "*152 Mamüller*" ve "*620 Satılan Mamüller Maliyeti*" hesaplarına eşit oranda dağıtılmıştır.).

----------31.12.2023----------
689 Diğer Olağandışı Gider ve Zararlar 10.000
722 Direkt İşçilik Ücret Farkları 10.000

--Olumsuz farkın kapatılmasına ilişkin kayıt--

----------31.12.2023----------
151 Yarı Mamüller -Üretim 150.333
152 Mamüller 150.333
620 Satılan Mamüller Maliyeti 150.333
712 Direkt İlkmadde ve Malzeme Fiyat Farkı 250.000
722 Direkt İşçilik Ücret Farkları 11.000
732 Genel Üretim Giderleri Bütçe Farkları 190.000

--Olumsuz farkların kapatılmasına ilişkin kayıt--

----------31.12.2023----------
713 Direkt İlkmadde ve Malzeme Miktar Farkı 50.000
723 Direkt İşçilik Süre Farkları 76.000
733 Genel Üretim Giderleri Verimlilik Farkları 40.000
734 Genel Üretim Giderleri Kapasite Farkları 125.000
151 Yarı Mamüller -Üretim 97.000
152 Mamüller 97.000
620 Satılan Mamüller Maliyeti 97.000

--Olumlu farkların kapatılmasına ilişkin kayıt--

5.3. Standart Maliyet Yönteminde Farkların Dağıtımında Kullanılan Yaklaşımların Bilanço ve Gelir Tablosu Üzerindeki Etkisi

Standart maliyet yönteminde farkların dağıtımında kullanılan yaklaşımlara göre dönem içi ve dönem sonu ilgili muhasebe kayıtları yapıldıktan sonra Aras İşletmesinin her bir yaklaşıma göre bilanço ve gelir tablosu kalemleri sırasıyla Tablo 1 ve Tablo 2'de sunulmuştur.

Tablo 1: Aras İşletmesi 31.12.2023 Tarihli Bilançosu

	1. Yaklaşım	**2. Yaklaşım**	**3. Yaklaşım**	**4. Yaklaşım**

VARLIKLAR				
Dönen Varlıklar	**11.310.000**	**11.310.000**	**11.423.332**	**11.416.666**
Hazır Değerler	1.600.000	1.600.000	1.600.000	1.600.000
Ticari Alacaklar	4.500.000	4.500.000	4.500.000	4.500.000
Stoklar	5.150.000	5.150.000	5.263.332	5.256.666
Diğer Dönen Varlıklar	60.000	60.000	60.000	60.000
Duran Varlıklar	**3.600.000**	**3.600.000**	**3.600.000**	**3.600.000**
Ticari Alacaklar	300.000	300.000	300.000	300.000
Maddi Duran Varlıklar	3.300.000	3.300.000	3.300.000	3.300.000
AKTİF TOPLAM	**14.910.000**	**14.910.000**	**15.023.332**	**15.016.666**
KAYNAKLAR				
Kısa Vadeli Yabancı Kaynaklar	**6.564.800**	**6.564.800**	**6.589.732**	**6.588.266**
Mali Borçlar	3.150.000	3.150.000	3.150.000	3.150.000
Ticari Borçlar	2.870.000	2.870.000	2.870.000	2.870.000
Diğer Borçlar	250.000	250.000	250.000	250.000
Borç ve Gider Karşılıkları	294.800	294.800	319.732	318.266
Uzun Vadeli Yabancı Kaynaklar	**1.000.000**	**1.000.000**	**1.000.000**	**1.000.000**
Mali Borçlar	200.000	200.000	200.000	200.000
Ticari Borçlar	800.000	800.000	800.000	800.000
Özkaynaklar	**7.345.200**	**7.345.200**	**7.433.600**	**7.428.400**
Sermaye	4.000.000	4.000.000	4.000.000	4.000.000
Sermaye Yedekleri	1.200.000	1.200.000	1.200.000	1.200.000
Kar Yedekleri	1.100.000	1.100.000	1.100.000	1.100.000
Dönem Net Karı	1.045.200	1.045.200	1.133.600	1.128.400
PASİF TOPLAM	**14.910.000**	**14.910.000**	**15.023.332**	**15.016.666**

Tablo 2: Aras İşletmesinin 01.012024-31.12.2024 Tarihli Gelir Tablosu

GELİR TABLOSU KALEMLERİ	**1. Yaklaşım**	**2. Yaklaşım**	**3. Yaklaşım**	**4. Yaklaşım**
NET SATIŞLAR	7.600.000	7.600.000	7.600.000	7.600.000
SATIŞLARIN MALİYETİ (-)	4.170.000	4.000.000	4.056.666	4.053.333
BRÜT SATIŞ KARI	**3.430.000**	**3.600.000**	**3.543.334**	**3.546.667**
FAALİYET GİDERLERİ(-)	2.800.000	2.800.000	2.800.000	2.800.000
FAALİYET KARI	**630.000**	**800.000**	**743.334**	**746.667**
DİĞER FAALİYETLERDEN OLAĞAN GELİR VE KARLAR	980.000	980.000	980.000	980.000
DİĞER FAALİYETLERDEN OLAĞAN GİDER VE ZARARLAR (-)	100.000	100.000	100.000	100.000
FİNANSMAN GİDERLERİ(-)	250.000	250.000	250.000	250.000
OLAĞAN KAR	**1.260.000**	**1.430.000**	**1.373.334**	**1.376.667**
OLAĞANDIŞI GELİR VE KARLAR	80.000	371.000	80.000	80.000
OLAĞANDIŞI GİDER VE ZARARLAR(-)	0	461.000	0	10.000
DÖNEM KARI	**1.340.000**	**1.340.000**	**1.453.334**	**1.446.667**
DÖNEM KARI VERGİ VE DİĞER YAS. YÜK. KARŞ.(-)	294.800	294.800	319.734	318.267
DÖNEM NET KARI	1.045.200	1.045.200	1.133.600	1.128.400

Tablo 1 ve Tablo 2'de görüldüğü üzere birinci yaklaşımda yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar "*620 Satılan Mamüller Maliyeti"* hesabına aktarılarak gelir tablosu ile ilişkilendirilmiştir. Bu nedenle olumsuz ve olumlu farklar (Olumsuz farklar olumlu farklardan daha fazla gerçekleşmiştir) arasındaki tutar kadar satışların maliyeti kaleminin tutarı daha fazla hesaplanmış ve brüt satış karı, faaliyet karı, olağan kar ve dönem karının tutarı (461.000 TL(olumsuz farklar) - 291.000 TL (olumlu farklar)=170.000 TL) bu fark kadar daha az gerçekleşmiştir. Sonuç olarak dönem net karının da daha az hesaplanmasına neden olmuştur[5]. Bu yaklaşımın bilanço üzerindeki etkisini ise şu şekilde açıklamak mümkündür: Farklar gelir tablosu kalemleri ile ilişkilendirildiği

[5] Kurumlar vergisi oranı %22 olarak dikkate alınmıştır.

için bu yaklaşımın dönen varlık ve duran varlık kalemleri üzerinde herhangi bir etkisi olmamıştır. Özkaynaklar hesap sınıfının tutarı ise ikinci yaklaşım ile değişmemiş üçüncü ve dördüncü yaklaşıma göre daha az gerçekleşmiştir. Çünkü sonuç hesaplarında yer alan "*692 Dönem Net Karı veya Zararı"* hesabının kalanı "*590 Dönem Net Karı"* hesabına aktarıldığı için dolayısıyla bu hesabın tutarı da üçüncü ve dördüncü yaklaşıma göre daha az gerçekleşmiştir. Benzer şekilde "*37 Borç ve Gider Karşılıkları*" hesap grubunda yer alan "*370 Dönem Karı Vergi ve Diğer Yasal Yükümlülük Karşılıkları*" hesabının tutarı da daha az hesaplanmıştır. Başka bir ifade ile bu yaklaşıma göre dönem karı üzerinden daha az kurumlar vergisi karşılığı ayrılmıştır. Uzun vadeli yabancı kaynak kalemlerine ilişkin herhangi bir işlem olmadığı için de bu yaklaşımın bu hesap sınıfında yer alan kalemler üzerinde bir etkisi olmamıştır.

İkinci yaklaşımda yıl boyunca fark hesaplarında toplanan olumlu farklar "*679 Diğer Olağandışı Gelir ve Karlar*", hesabına olumsuz farklar ise "*689 Diğer Olağandışı* Gider *ve Zararlar*" hesabına kaydedilerek gelir tablosu ile ilişkilendirilmiştir. Bu nedenle de olumsuz ve olumlu farklar (461.000 TL(olumsuz farklar) - 291.000 TL (olumlu farklar)=170.000 TL) arasındaki tutar kadar "*Dönem Karı*" tutarının azalmasına neden olmuştur. Sonuç olarak "*Dönem Net Karı*" tutarı da daha az gerçekleşmiştir. Bu yaklaşımın bilanço kalemleri üzerindeki etkisini ise şu şekilde açıklamak mümkündür: Farklar gelir tablosu kalemleri ile ilişkilendirildiği için bu yaklaşımın dönen varlık ve duran varlık kalemleri üzerinde herhangi bir etkisi olmamıştır. Özkaynaklar hesap sınıfının tutarı ise birinci yaklaşım ile değişmemiş üçüncü ve dördüncü yaklaşıma göre daha az gerçekleşmiştir Çünkü sonuç hesaplarında yer alan "*692 Dönem Net Karı veya Zararı"* hesabının kalanı "*590 Dönem Net Karı"* hesabına aktarıldığı için dolayısıyla bu hesabın tutarı da üçüncü ve dördüncü yaklaşıma göre daha az gerçekleşmiştir. Benzer şekilde "*37 Borç ve Gider Karşılıkları*" hesap grubunda yer alan "*370 Dönem Karı Vergi ve Diğer Yasal Yükümlülük Karşılıkları*" hesabının tutarı da daha az hesaplanmıştır. Başka bir ifade ile bu yaklaşıma göre dönem karı üzerinden daha az kurumlar vergisi karşılığı ayrılmıştır. Uzun vadeli yabancı kaynak kalemlerine ilişkin herhangi bir işlem olmadığı için de bu yaklaşımın bu hesap sınıfında yer alan kalemler üzerinde bir etkisi olmamıştır.

Üçüncü yaklaşımda yıl boyunca fark hesaplarında biriken olumlu farklar "*151 Yarı Mamüller - Üretim*", "*152 Mamüller"*, "*620 Satılan Mamüller Maliyeti*" hesaplarının alacağına, olumsuz farklar ise bu hesapların borcuna aktarılarak gelir tablosu ve bilanço ile ilişkilendirilmiştir. Olumsuz ve olumlu farklar arasındaki tutardan satışların maliyeti kalemine ilave edilen farklar kadar bu kalemin toplam tutarı artmıştır. Bu nedenle brüt satış karı, faaliyet karı, olağan kar ve dönem karının tutarı, bu fark kadar daha az gerçekleşmiş (461.000 TL(olumsuz farklar) - 291.000 TL (olumlu farklar)=170.000 TL; (170.000/3)*1= 56.666) ve dolayısıyla dönem net karı da daha az hesaplanmıştır. Bu yaklaşımın bilanço kalemleri üzerindeki etkisini ise şu şekilde açıklamak mümkündür: Özkaynakların toplam tutarı ise diğer yaklaşımlara göre daha fazla gerçekleşmiştir. Çünkü sonuç hesaplarında yer alan "*692 Dönem Net Karı veya Zararı"* hesabının kalanı "*590 Dönem Net Karı"* hesabına aktarıldığı için dolayısıyla bu hesabın tutarı da daha fazla gerçekleşmiştir. Benzer şekilde "*37 Borç ve Gider Karşılıkları*" hesap grubunda yer alan "*370 Dönem Karı Vergi ve Diğer Yasal Yükümlülük Karşılıkları*" hesabının tutarı da daha fazla hesaplanmıştır. Başka bir ifade ile bu yaklaşıma göre dönem karı üzerinden daha fazla kurumlar vergisi karşılığı ayrılmıştır. Uzun vadeli yabancı kaynak kalemlerine ilişkin herhangi bir işlem olmadığı için de üçüncü yaklaşımın bu hesap sınıfında yer alan kalemler üzerinde bir etkisi olmamıştır. Bu yaklaşım işletmenin toplam dönen varlıkları tutarının diğer yaklaşımlara göre artmasını sağlamıştır. Çünkü olumsuz ve olumlu farklar arasındaki tutardan stokların maliyeti kalemine ilave edilen tutar kadar bu kalemin toplam tutarı artmıştır (461.000 TL(olumsuz farklar) - 291.000 TL (olumlu farklar)=170.000 TL; (170.000/3)*2= 113.332 TL). Duran varlık kalemlerine ilişkin herhangi bir işlem olmadığı için de bu yaklaşımın bu hesap sınıfında yer alan kalemler üzerinde bir etkisi olmamıştır.

Dördüncü yaklaşımda ise yıl boyunca fark hesaplarında biriken işletme tarafından kontrol edilemeyen olumlu farklar "*151 Yarı Mamüller - Üretim*", "*152 Mamüller*" ve "*620 Satılan Mamüller Maliyeti*" hesaplarının alacağına, olumsuz farklar ise bu hesapların borcuna kaydedilmiştir. Diğer taraftan işletme tarafından kontrol edilebilen olumsuz farklar ise "*689 Olağan Dışı Gider ve Zararlar*" hesabına aktarılmıştır. Olumsuz ve olumlu farklar arasındaki tutardan satışların maliyeti kalemine ilave edilen farklar kadar bu kalemin toplam tutarı artmıştır. Bu nedenle brüt satış karı, faaliyet karı, olağan kar ve dönem karı tutarı, bu fark kadar daha az gerçekleşmiş (451.000 TL(olumsuz farklar) - 291.000 TL (olumlu farklar)=160.000 TL; (160.000/3)*1= 53.333) ve dolayısıyla dönem net karı da daha az hesaplanmıştır. İşletme tarafından kontrol edilebilen olumsuz ücret farkının 10.000 TL'lik kısmı "*689 Olağandışı Gider ve Zararlar Hesabına*" aktarıldığı için bu olumsuz fark kadar "*Dönem Karı*" tutarı daha az gerçekleşmiş ve bu duruma bağlı olarak "*Dönem Net Karı*" tutarı da daha az hesaplanmıştır. Bu yaklaşımın bilanço kalemleri üzerindeki etkisini ise şu şekilde açıklamak mümkündür: Olumsuz ve olumlu farklar arasındaki tutardan (işletme tarafından kontrol edilebilen olumsuz ücret farkının 10.000 TL'lik kısmı hariç) stokların maliyeti kalemine ilave edilen fark kadar bu kalemin toplam tutarı artmıştır (451.000 TL(olumsuz farklar) - 291.000 TL (olumlu

farklar)=160.000 TL; (160.000/3)*2= 106.666 TL). Duran varlık kalemlerine ilişkin herhangi bir işlem olmadığı için de dördüncü yaklaşımın bu hesap sınıfında yer alan kalemler üzerinde bir etkisi olmamıştır. Özkaynakların toplam tutarı ise üçüncü yaklaşıma göre daha az, birinci ve ikinci yaklaşıma göre daha fazla gerçekleşmiştir. Çünkü sonuç hesaplarında yer alan "*692 Dönem Net Karı veya Zararı"* hesabının kalanı "*590 Dönem Net Karı"* hesabına aktarıldığı için dolayısıyla bu hesabın tutarı da birinci ve ikinci yaklaşıma göre daha fazla, üçüncü yaklaşıma göre daha az gerçekleşmiştir. Benzer şekilde "*37 Borç ve Gider Karşılıkları*" hesap grubunda yer alan "*370 Dönem Karı Vergi ve Diğer Yasal Yükümlülük Karşılıkları*" hesabının tutarı da üçüncü yaklaşıma göre daha az hesaplanmıştır. Başka bir ifade ile bu yaklaşıma göre dönem karı üzerinden üçüncü yaklaşıma göre daha az birinci ve ikinci yaklaşıma göre daha fazla kurumlar vergisi karşılığı ayrılmıştır. Uzun vadeli yabancı kaynak kalemlerine ilişkin herhangi bir işlem olmadığı için de bu yaklaşımın bu hesap sınıfında yer alan kalemler üzerinde bir etkisi olmamıştır.

Sonuç olarak birinci ve ikinci yaklaşımda fark hesaplarında biriken tutarlar gelir tablosu ile ilişkilendirildiği için bu iki yaklaşıma göre işletmenin varlık ve kaynakları toplamı değişmemiştir. Üçüncü yaklaşımda farklar hem bilanço hem de gelir tablosu ile ilişkilendirildiği için stokların maliyetine ilave edilen tutar (113.332TL) kadar işletmenin toplam varlık ve kaynakları artmıştır. Dördüncü yaklaşımda ise üçüncü yaklaşıma benzer bir şekilde stokların maliyetine ilave edilen tutar (106.666 TL) kadar işletmenin toplam varlık ve kaynaklarında bir artış görülmüştür.

5.4. Standart Maliyet Yönteminde Fark Hesaplarının Kapatılmasında Kullanılan Yaklaşımların Finansal Analiz Sonuçlarına Etkisi

Bilindiği üzere oran analizi, finansal tablodaki/tablolardaki kalemler arasındaki ilişkileri hesaplama ve sunma sürecidir. Finansal analizin önemli bir aracıdır çünkü bir işletmenin finansal performansını ve konumunu incelemeye yardımcı olur. Oranlar işletmenin güçlü ve zayıf yönlerini gösterir. Farklı amaçlar için farklı oranlar kullanılabilir. Bu kapsamda İşletmeye ait finansal tabloların analizinde oranları finansal faaliyete göre likidite, faaliyet, mali yapı ve karlılık oranları olmak üzere dört sınıfa ayrılmıştır. Bu sınıflandırmada yer alan bazı seçilmiş oranlar ve bu oranlara ilişkin olarak yapılan hesaplamalar Tablo 3'de sunulmuştur.

Tablo 3: Fark Hesaplarının Kapatılmasında Kullanılan Yaklaşımların Finansal Analiz Sonuçlarına Etkisi

ORANLAR		**1.Yaklaşım**	**2.Yaklaşım**	**3.Yaklaşım**	**4.Yaklaşım**
	LİKİDİTE ORANLARI				
Cari Oran	Dönen Varlıklar / Kısa Vadeli Yabancı Kaynaklar	1.72	1.72	1.73	1.73
Likidite Oranı	(Dönen Varlıklar – Stoklar) / Kısa Vadeli Yabancı Kaynaklar	0.94	0.94	0.93	0.93
Nakit Oranı	(Hazır Değerler + Menkul Kıymetler) / Kısa Vadeli Yabancı Kaynaklar	0.24	0.24	0.24	0.24
FAALİYET ORANLARI					
Alacak Devir Hızı	Net Satışlar / Ticari Alacaklar	1.69	1.69	1.69	1.69
Alacak Tahsil Süresi	365 / Alacak Devir Hızı	216 gün	216 gün	216 gün	216 gün
Stok Devir Hızı	Satışların Maliyeti / Stoklar	0.81	0.78	0.77	0.77
Stok Devir Süresi	365 / Stok Devir Hızı	450 gün	468 gün	474 gün	474 gün
Aktif Devir Hızı	Net Satışlar / Aktif Toplam	0.51	0.51	0.51	0.51
MALİ YAPI ORANLARI					
Yabancı Kaynak Oranı	Toplam Yabancı Kaynaklar / Pasif Toplam	0,51	0,51	0.51	0.51
Öz Kaynak Oranı	Öz Kaynaklar / Pasif Toplam	0,49	0,49	0,49	0,49
Yabancı Kaynak Öz Kaynak Oranı	Toplam Yabancı Kaynaklar / Öz Kaynaklar	1,03	1,03	1,02	1,02
Kısa Vadeli Yabancı Kaynak Oranı	Kısa Vadeli Yabancı Kaynaklar / Toplam Pasif	0,44	0,44	0,44	0,44

Uzun Vadeli Yabancı Kaynak Oranı	Uzun Vadeli Yabancı Kaynaklar / Toplam Pasif	0,07	0,07	0,07	0,07
KARLILIK ORANLARI					
Brüt Satış Karı Oranı	Brüt Satış Karı / Net Satışlar	0,45	0,47	0,47	0,47
Faaliyet Karı Oranı	Faaliyet Karı / Net Satışlar	0,08	0,11	0,10	0,10
Dönem Karı Oranı	Dönem Karı / Net Satışlar	0,18	0,18	0,19	0,19
Aktif Karlılık Oranı	Dönem Karı / Aktif Toplam	0,09	0,09	0,10	0,10

Likidite oranları bir işletmenin mali durumunu, kısa vadeli ödeme gücü açısından değerlendirmek için kullanılır. Bu oranlardan "*cari oran*", "*likidite oranı*" ve "*nakit oranı*" hesaplanmıştır.

"*Cari Oran*", cari varlıkların cari yükümlülükleri karşılayıp karşılamadığını değerlendirmek amacıyla kullanılmaktadır. Birinci ve ikinci yaklaşımda işletmenin cari oranı 1,72, üçüncü ve dördüncü yaklaşımda ise 1,73 olarak hesaplanmıştır. Bunun nedeni, birinci ve ikinci yaklaşımda fark hesaplarında biriken tutarlar, gelir tablosu ile ilişkilendirildiği için bu iki yaklaşıma göre işletmenin dönen varlıkları ve kısa vadeli yabancı kaynakları toplamlarının değişmemesidir. Üçüncü ve dördüncü yaklaşımda ise fark hesaplarında biriken tutarlar, hem bilanço hem de gelir tablosu ile ilişkilendirildiği için işletmenin toplam dönen varlıklarının kısa vadeli yabancı kaynaklar içerisindeki ağırlığı artmıştır. Dört farklı yaklaşıma göre hesaplanan bu oran işletmenin lehine yorumlanabilir. Başka bir ifade ile işletmenin cari varlıklarıyla cari yükümlülüklerini karşılama performansının oldukça iyi olduğu söylenebilir.

"*Likidite Oranı*", stokların değerini dönen varlıklardan çıkararak işletmenin nakit pozisyonunu daha doğru bir şekilde vermektedir (Stokların satılamaması veya stokların kredili olarak satılması vb. durumlardan dolayı stoklar dönen varlıklardan ayrı tutulur.). Bu oranın 1 olması yeterli kabul edilmektedir. Birinci ve ikinci yaklaşımda işletmenin likidite oranı 0,94; üçüncü ve dördüncü yaklaşımda ise 0,93 olarak hesaplanmıştır. Bunun nedeni, birinci ve ikinci yaklaşımda fark hesaplarında biriken tutarlar, gelir tablosu ile ilişkilendirildiği için bu iki yaklaşıma göre işletmenin dönen varlıkları ve kısa vadeli yabancı kaynakları toplamlarının değişmemesidir. Üçüncü ve dördüncü yaklaşımda ise fark hesaplarında biriken tutarlar, hem stokların hem de satışların maliyeti kalemleri ile ilişkilendirildiği için işletmenin toplam dönen varlıklarının kısa vadeli yabancı kaynaklar içerisindeki ağırlığı artmıştır. Dört farklı yaklaşıma göre hesaplanan bu oranın sonucu işletmenin lehine yorumlanabilir. Başka bir ifade Aras İşletmesinin stokları hariç kalan cari varlıklarının kısa vadeli borç ve yükümlülüklerini karşılama performansının oldukça iyi olduğu söylenebilir.

"*Nakit Oranı*", nakdin kısa vadeli yükümlülüklere bölünmesinin sonucudur. Nakit oranı, mevcut nakdin yeterliliğini ölçmek için kullanılır (Affandi, vd., 2018:4). Bu oranın 0,20 olması yeterli kabul edilmektedir. Dört farklı yaklaşıma göre hesaplanan bu oran 0,24'tür. Bunun nedeni, birinci ve ikinci yaklaşımda fark hesaplarında biriken tutarlar, gelir tablosu ile ilişkilendirildiği için bu iki yaklaşıma göre işletmenin dönen varlıkları ve kısa vadeli yabancı kaynakları toplamlarının değişmemesidir. Üçüncü ve dördüncü yaklaşımda ise fark hesaplarında biriken tutarlar, hem bilanço hem de gelir tablosu (stokların ve satışların maliyeti) ile ilişkilendirilmiştir. Ancak, "*10 Hazır Değerler*" hesap grubunu ilgilendiren bir işlem olmadığı için bu hesap grubunun tutarı aynı kalmıştır. İşletmenin kısa vadeli borçlarında kullanılan yaklaşıma göre artış olsa da 10 no.lu grubun bu borçlar içindeki ağırlığı değişmemiştir. Bu sonuç, Aras İşletmesinin nakit ve nakde eşdeğer varlıklarının kısa vadeli borç ve yükümlülüklerini karşılama performansının oldukça iyi olduğu söylenebilir.

"*Faaliyet Oranları*", bir işletmede sermaye/varlık kullanımının etkinliğini ölçmek için kullanılmaktadır. Bu oranlardan biri "*Alacak Devir Hızı"* oranıdır. Bu oran, bir işletmenin alacaklarının yıl içinde kaç kez tahsil edildiğini göstermektedir.[6] Alacak devir hızını tamamlayan oran olan "*Alacak Tahsil Süresi*" ise yıl içinde ticari alacakların kaç günde tahsil edildiğini bildirmektedir(Gorczyńska, 2011). İşletmenin alacak devir hızı dört yaklaşıma göre de 1,69 olarak hesaplanmıştır. Bunun nedeni fark hesaplarında biriken tutarların kapatılmasında kullanılan hesapların bu oranı oluşturan pay ve payda ile ilgisinin olmamasıdır. Yüksek bir alacak devir hızı, güçlü bir nakit

[6] Uygulamada, alacak devir hızı oranı hesaplanırken bir dizi konu dikkate alınmalıdır. İlk olarak, ticari alacaklar dönem başı değerleri, dönem sonu değerleri veya dönem başı ve dönem sonu bakiyesinin ortalaması olabilir. Ancak bu bilgiler elde edilemediği için toplam ticari alacakların değeri de kullanılmıştır. İkinci olarak, oran kredili satışlarını hesaba katmalıdır, ancak genellikle kredili satışlar hakkında veri elde etmek zordur ve bu nedenle bunun yerine toplam satışların değeri kullanılmıştır.

akışını yansıtırken, düşük alacak devir hızı ise tahsilat sürecinin iyileştirilmesi gerektiğini yansıtır. Ayrıca, bu oranın işletmenin lehine ya da aleyhine yorumlanabilmesi için sektör ortalamalarıyla karşılaştırılması gerekir.

Faaliyet oranlarından bir diğeri "*Stok Devir Hızı*" oranıdır. Bu oran bir işletmenin stoklarının likiditesini ölçmektedir. Belirli bir zaman diliminde stokların kaç kez nakde çevrildiğini göstermektedir. Bir işletmenin stoklarını yönetme verimliliğini değerlendirmektedir. Stok devir süresi ise belirli bir zaman diliminde stokların ortalama olarak stokta beklediği gün sayısını göstermektedir(Doğan, 2003). Birinci, ikinci, üçüncü ve dördüncü yaklaşıma göre İşletmenin stok devir hızı sırasıyla 0,81, 0,78, 0,77 ve 0,77 olarak hesaplanmıştır. Birinci yaklaşımda diğer yaklaşımlara göre bu oranın daha fazla hesaplanması, fark hesaplarında biriken tutarların (olumsuz farklar olumlu farklardan daha fazla olduğu için) tamamının satışların maliyetine ilave edilmesinde kaynaklanmaktadır. İkinci yaklaşımda ise üçüncü ve dördüncü yaklaşıma göre stok devir hızı oranının daha fazla hesaplanmasının nedeni ise bu oranı oluşturan pay ve paydayı etkileyen bir işlem olmamasıdır. Üçüncü yaklaşımda ise fark hesaplarında biriken olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net sapma/ farktan (olumsuz fark) satışların maliyetine ilave edilen tutar (56.666 TL) oranı oluşturan payda yer alan satışların maliyeti kaleminin tutarını artırmıştır. Diğer taraftan net sapma/ farktan (olumsuz fark) stokların maliyetine ilave edilen tutar (113.332 TL), oranı oluşturan payda da yer alan stokların maliyeti kaleminin tutarını da artırmıştır. Bu nedenle bu oran birinci ve ikinci yaklaşıma göre %1 daha az hesaplanmıştır. Dördüncü yaklaşıma göre fark hesaplarında biriken olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net sapma/ farktan (olumsuz fark) satışların maliyetine ilave edilen tutar (53.333 TL), oranı oluşturan payda yer alan satışların maliyeti kaleminin tutarını artırmıştır. Diğer taraftan net sapma/ farktan (olumsuz fark) stokların maliyetine ilave edilen tutar (106.666 TL), oranı oluşturan payda da yer alan stokların maliyeti kaleminin tutarını da artırmıştır. Bu nedenle bu oran birinci ve ikinci yaklaşıma göre %1 daha az, üçüncü yaklaşım ile aynı sonucu vermiştir.

Faaliyet oranlarından bir diğeri ise "*Aktif Devir Hızı*" oranıdır. Bu oran, bir işletmenin toplam varlıklarının kaç katı satış yaptığını göstermek için kullanılmaktadır. Başka bir ifade ile aktif devir hızı oranı bir işletmenin varlıklarının gelir veya kar elde etmek için ne kadar verimli kullanıldığını ölçmektedir(Kurniani, 2021:20). Dört yaklaşıma göre de hesaplanan bu oran 0,51'dir. Kullanılan yaklaşıma göre oranı oluşturan payın tutarı (Net Satışlar) değişmezken paydanın tutarı değişmiştir. Ancak aktif toplam içindeki net satışların ağırlığı değişmemiştir.

"*Mali Yapı Oranları*" bir işletmenin uzun vadeli borç ödeme gücünün tespitinde kullanılan oranlardır. Bu oranlardan "*Yabancı Kaynak Oranı*", "*Öz Kaynak Oranı*", "*Yabancı Kaynak Öz Kaynak Oranı"*, "*Kısa Vadeli Yabancı Kaynak Oranı*", "*Uzun Vadeli Yabancı Kaynak Oranı*" hesaplanmıştır.

"*Yabancı Kaynak Oranı*", bir işletmenin sahip olduğu varlıklarının ne kadarlık kısmının yabancı kaynaklarla finanse edildiğini göstermek için kullanılmaktadır. Bu oranın %50 civarında olması uygun kabul edilmektedir(Doğan, 2003:67). Dört yaklaşıma göre de hesaplanan bu oran 0,51'dir. Bunun nedeni birinci ve ikinci yaklaşıma göre bu oranın pay kısmında yer alan toplam yabancı kaynaklarının tutarı ve payda kısmında yer alan toplam varlıklarının tutarı değişmemesidir. Çünkü birinci yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar satışların maliyetine, ikinci yaklaşımda ise sonuç hesaplarından olan "*679 Diğer Olağandışı Gelir ve Karlar"* veya "*689 Diğer Olağandışı* Gider *ve Zararlar*" hesaplarına ilave edilmiştir. Üçüncü ve dördüncü yaklaşıma göre bu oranın pay kısmında yer alan toplam yabancı kaynaklarının tutarı ve payda kısmında yer alan toplam varlıklarının tutarı artmıştır. Bunun nedeni üçüncü yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar hem satışların maliyetine (56.666 TL) hem de stokların maliyetine (113.332 TL) ilave edilmesidir. Fark hesaplarında biriken olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net farkın bir kısmı (olumsuz fark) stokların maliyetine eklenerek aktifleştirilmiştir. Bu nedenle işletmenin dönen varlıkları toplamının tutarı diğer yaklaşımlara göre daha fazladır. Ayrıca fark hesaplarında biriken toplam net farkın bir kısmı da (olumsuz fark) sonuç hesaplarına aktarılmıştır. Bu nedenle de dönem karı üçüncü yaklaşımda diğer yaklaşımlara göre daha fazla gerçekleşmiştir. Dolayısıyla bu kar üzerinden daha fazla kurumlar vergisi karşılığının hesaplanmasına neden olarak kısa vadeli yabancı kaynaklarının toplam tutarı da diğer yaklaşımlara göre artmıştır. Ayrıca birinci, ikinci ve dördüncü yaklaşıma göre dönem net karının tutarı da daha fazla hesaplandığı için İşletmenin özkaynakları toplamı bu yaklaşıma göre daha fazla yükselmiştir. Ancak, işletmenin toplam varlıkları içerisinde yabancı kaynaklarının ağırlığı değişmemiştir. Dört farklı yaklaşıma göre hesaplanan bu oranın sonucunu işletmenin lehine yorumlamak mümkündür.

"*Öz Kaynak Oranı*", bir işletmenin sahip olduğu varlıklarının ne kadarının öz kaynaklarla finanse edildiğini göstermek için kullanılmaktadır. Bu oran, yabancı kaynak oranını 1'e tamamlamaktadır(Zozik, 2024:114). Dört yaklaşıma göre de hesaplanan bu oran 0,49'dur. Bunun nedeni birinci ve ikinci yaklaşıma göre bu oranın pay kısmında yer alan toplam özkaynaklarının tutarı ve payda kısmında yer alan toplam varlıklarının tutarı

değişmemiştir. Çünkü birinci yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar satışların maliyetine, ikinci yaklaşımda ise sonuç hesaplarından olan "*679 Diğer Olağandışı Gelir ve Karlar"* veya "*689 Diğer Olağandışı* Gider *ve Zararlar*" hesaplarına eklenmiştir. Üçüncü ve dördüncü yaklaşıma göre bu oranın pay kısmında yer alan toplam özkaynaklarının tutarı ve payda kısmında yer alan toplam varlıklarının tutarı diğer yaklaşımlara göre daha fazla artmıştır. Bunun nedeni üçüncü yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar hem satışların maliyetine hem de stokların maliyetine ilave edilmesidir. Fark hesaplarında biriken olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net farkın (olumsuz fark) bir kısmı stokların maliyetine (113.332 TL) eklenerek aktifleştirilmiştir. Bu nedenle işletmenin dönen varlıkları toplamı tutarı diğer yaklaşımlara göre daha fazla artmıştır. Ayrıca fark hesaplarında biriken toplam net farkın (olumsuz fark) bir kısmı (56.666 TL) da sonuç hesaplarına aktarılmıştır. Bu nedenle dönem karı diğer yaklaşımlara göre daha fazla gerçekleşmiştir. Dolayısıyla bu kar üzerinden daha fazla kurumlar vergisi karşılığının hesaplanmasına neden olarak kısa vadeli yabancı kaynaklarının toplam tutarı da diğer yaklaşımlara göre artmıştır. Ayrıca birinci, ikinci ve dördüncü yaklaşıma göre dönem net karının tutarı da daha fazla hesaplandığından İşletmenin özkaynakları toplamı bu yaklaşıma göre daha fazla gerçekleşmiştir. Ancak İşletmenin dönen varlıklarının, kısa vadeli yabancı kaynaklarının ve özkaynaklarının toplam tutarındaki bu artışlar bu oranın sonucunu etkilememiştir. Bu nedenle işletmenin toplam varlıkları içerisinde yabancı kaynaklarının ağırlığı değişmemiştir. Dört farklı yaklaşıma göre hesaplanan bu oranın sonucunu işletmenin lehine yorumlamak mümkündür.

"*Yabancı Kaynak Öz Kaynak Oranı*", bir işletmenin toplam borçlarının öz kaynaklarına oranını göstermektedir. Oran, bir işletmenin borç finansmanının özsermaye finansmanına kıyasla ne ölçüde kullanıldığını karşılaştırmaktadır(Hantono, 2018:65). Birinci ve ikinci yaklaşıma göre yabancı kaynak özkaynak oranı 1,03; üçüncü ve dördüncü yaklaşıma göre ise 1,02 olarak hesaplanmıştır. Bunun nedeni birinci ve ikinci yaklaşıma göre bu oranın pay kısmında yer alan toplam özkaynaklarının tutarı ve payda kısmında yer alan toplam varlıklarının tutarının değişmemesidir. Çünkü birinci yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar satışların maliyetine, ikinci yaklaşımda ise sonuç hesaplarından olan "*679 Diğer Olağandışı Gelir ve Karlar"* veya "*689 Diğer Olağandışı* Gider *ve Zararlar*" hesaplarına ilave edilmiştir. Üçüncü ve dördüncü yaklaşıma göre bu oranın pay kısmında yer alan toplam yabancı kaynaklarının tutarı ve payda kısmında yer alan toplam özkaynaklarının tutarı artmıştır. Bunun nedeni üçüncü yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar hem satışların maliyetine (56.666 TL) hem de stokların maliyetine (113.332 TL) ilave edilmesidir. Fark hesaplarında biriken olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net farkın (olumsuz fark) bir kısmı stokların maliyetine eklenerek aktifleştirilmiştir. Bu nedenle işletmenin dönen varlıkları toplamı diğer yaklaşımlara göre daha fazla artmıştır. Ayrıca fark hesaplarında biriken toplam net farkın(olumsuz fark) bir kısmı da sonuç hesaplarına aktarılmıştır. Bu nedenle dönem karı diğer yaklaşımlara göre daha fazla gerçekleşmiştir. Dolayısıyla bu kar üzerinden daha fazla kurumlar vergisi karşılığının hesaplanmasına neden olarak kısa vadeli yabancı kaynaklarının toplam tutarı da diğer yaklaşımlara göre artmıştır. Ayrıca birinci, ikinci ve dördüncü yaklaşıma göre dönem net karının tutarı da daha fazla hesaplandığından İşletmenin özkaynakları toplamı bu yaklaşıma göre daha fazla gerçekleşmiştir. Ancak İşletmenin kısa vadeli yabancı kaynakları ve özkaynaklarının toplam tutarındaki bu artışlar bu oranın sonucunu etkilememiştir. Dört farklı yaklaşıma göre hesaplanan bu oranın sonucunu işletmenin lehine yorumlamak mümkündür.

"*Kısa vadeli yabancı kaynak oranı*", bir işletmenin toplam varlıklarının ne kadarlık kısmının kısa vadeli borç ve yükümlülüklerle finanse edildiğini göstermektedir. Bu oranın 1/3 seviyesini aşmaması yeterli kabul edilmektedir(Zozik, 2024:114). Dört yaklaşıma göre de hesaplanan bu oran 0,44'dür. Bunun nedeni birinci ve ikinci yaklaşıma göre bu oranın pay kısmında yer alan kısa vadeli yabancı kaynaklarının toplam tutarı ve payda kısmında yer alan toplam varlıklarının tutarı değişmemesidir. Çünkü birinci yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar satışların maliyetine, ikinci yaklaşımda ise "*679 Diğer Olağandışı Gelir ve Karlar"* veya "*689 Diğer Olağandışı* Gider *ve Zararlar*" hesaplarına eklenmiştir. Üçüncü ve dördüncü yaklaşıma göre bu oranın pay kısmında yer alan toplam kısa vadeli yabancı kaynaklarının tutarı ve payda kısmında yer alan toplam varlıklarının tutarı artmıştır. Bunun nedeni üçüncü yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar hem satışların maliyetine hem de stokların maliyetine ilave edilmesidir. Fark hesaplarında biriken olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net farkın (olumsuz fark) bir kısmı stokların maliyetine (113.332 TL) eklenerek aktifleştirilmiştir. Bu nedenle işletmenin dönen varlıkları toplamının tutarı diğer yaklaşımlara göre daha fazla artmıştır. Ayrıca fark hesaplarında biriken toplam net farkın (olumsuz fark) bir kısmı da sonuç hesaplarına(56.666 TL) aktarılmıştır. Bu nedenle dönem karı diğer yaklaşımlara göre daha fazla gerçekleşmiştir. Dolayısıyla bu kar üzerinden daha fazla kurumlar vergisi karşılığının hesaplanmasına neden olarak kısa vadeli yabancı kaynaklarının toplam tutarı da diğer yaklaşımlara göre artmıştır. Ayrıca birinci, ikinci ve dördüncü yaklaşıma göre dönem net karının tutarı da daha fazla hesaplandığından İşletmenin özkaynakları

toplamı bu yaklaşıma göre daha fazla gerçekleşmiştir. Ancak İşletmenin dönen varlıklarının, kısa vadeli yabancı kaynaklarının ve özkaynaklarının toplam tutarındaki bu artışlar bu oranın sonucunu etkilememiştir. Bu nedenle işletmenin toplam varlıkları içerisinde kısa vadeli yabancı kaynaklarının ağırlığı değişmemiştir. Dört farklı yaklaşıma göre hesaplanan bu oranın sonucunu işletmenin lehine yorumlamak mümkündür.

"*Uzun Vadeli Yabancı Kaynak Oranı*", bir işletmenin toplam varlıklarının ne kadarlık kısmının uzun vadeli borç ve yükümlülüklerle finanse edildiğini göstermektedir. Bu oranın 1/6 seviyesini aşmaması uygun kabul edilmektedir(Doğan, 2003). Dört yaklaşıma göre hesaplanan bu oran 0,07'dir. Bu yaklaşımlara göre bu oranın pay kısmında yer alan uzun vadeli yabancı kaynak kalemleri ile ilgili herhangi bir işlem olmadığı için bu sınıfın toplam tutarı değişmemiştir. Bu nedenle uzun vadeli yabancı kaynak oranının payda kısmında yer alan toplam varlıklarındaki değişimleri irdelemek gerekmektedir. Bu kapsamda birinci ve ikinci yaklaşıma göre bu oranın payda kısmında yer alan toplam varlıklarının tutarı değişmemiştir. Çünkü birinci yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar satışların maliyetine, ikinci yaklaşımda ise sonuç hesaplarından olan "*679 Diğer Olağandışı Gelir ve Karlar" veya* "*689 Diğer Olağandışı Gider ve Zararlar*" hesaplarına ilave edilmiştir. Üçüncü ve dördüncü yaklaşıma göre bu oranın payda kısmında yer alan toplam varlıklarının tutarı artmıştır. Bunun nedeni üçüncü yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar hem satışların maliyetine hem de stokların maliyetine ilave edilmesidir. Fark hesaplarında biriken olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net farkın (olumsuz fark) bir kısmı stokların maliyetine (113.332 TL) eklenerek aktifleştirilmiştir. Bu nedenle işletmenin dönen varlıkları toplamı diğer yaklaşımlara göre daha fazla artmıştır. Ayrıca fark hesaplarında biriken toplam net farkın (olumsuz fark) bir kısmı da sonuç hesaplarına (56.666 TL) aktarılmıştır. Bu nedenle üçüncü yaklaşımda dönem karı diğer yaklaşımlara göre daha fazla gerçekleşmiştir. Dolayısıyla bu kar üzerinden daha fazla kurumlar vergisi karşılığının hesaplanmasına neden olarak kısa vadeli yabancı kaynaklarının toplam tutarı da diğer yaklaşımlara göre artmıştır. Ayrıca birinci, ikinci ve dördüncü yaklaşıma göre dönem net karının tutarı da daha fazla hesaplandığından İşletmenin özkaynakları toplamı bu yaklaşıma göre daha fazla gerçekleşmiştir. Ancak İşletmenin dönen varlıklarının, kısa vadeli yabancı kaynaklarının ve özkaynaklarının toplam tutarındaki bu artışlar, bu oranın sonucunu etkilememiştir. Bu nedenle işletmenin toplam varlıkları içerisinde uzun vadeli yabancı kaynaklarının ağırlığı değişmemiştir. Dört farklı yaklaşıma göre hesaplanan bu oranın sonucunu işletmenin lehine yorumlamak mümkündür.

Karlılık oranları, satışlar, varlıklar veya kullanılan sermayeye göre karı ölçmek için bir ölçüt sağlamaktadır. Bu oranlar, işletme faaliyetlerinin nihai sonucunu vurgulamaktadır. Temel amaç işletmenin verimliliğini değerlendirmektir. Karlılık oranlarından "*Brüt Satış Karı Oranı*", "*Faaliyet Karı Oranı",* "*Dönem Karı Oranı*" ve "*Aktif Karlılık Oranı*" hesaplanmıştır.

"Brüt Satış Karı Oranı", maliyetlerin karlılık üzerindeki etkisinin ölçülmesinde kullanılan bir orandır. Bu oranın yüksek çıkması istenmektedir. Çünkü yükselme eğiliminde olması net satışlar içerisinde satışların maliyeti kaleminin payının azaldığını göstermektedir(Doğan, 2003:68). Birinci yaklaşıma göre brüt satış karı oranı 0,45; diğer yaklaşımlara göre ise 0,47 olarak hesaplanmıştır. Bu yaklaşımlara göre bu oranın payda kısmında yer alan net satışlar ile ilgili herhangi bir işlem olmadığı için bu kalemin toplam tutarı değişmemiştir. Bu nedenle brüt satış karı oranının pay kısmında yer alan brüt satış karındaki değişimleri irdelemek gerekmektedir. Bu kapsamda birinci yaklaşımda yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar "*620 Satılan Mamuller Maliyeti"* hesabına aktarılmış ve olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net sapma/ fark (olumsuz fark) satışların maliyeti kaleminin tutarını artırmıştır. Bu nedenle bu yaklaşıma göre satışların maliyeti kalemindeki artış diğer yaklaşımlara göre brüt satış karının daha az hesaplanmasına neden olmuştur. Dolayısıyla brüt satış karının net satışlar içindeki toplam ağırlığı diğer yaklaşımlara göre % 2 azalmıştır. İkinci yaklaşıma göre yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar olağandışı gelir ve karlar /olağandışı gider ve zararlar hesap gruplarıyla ilişkilendirildiği için brüt satış karı oranı birinci yaklaşıma göre daha fazla hesaplanmıştır. Üçüncü yaklaşımda yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar "*151 Yarı Mamüller-Üretim"*, "*152 Mamüller"* ve "*620 Satılan Mamüller Maliyeti*" hesaplarında izlenmiştir. Görüldüğü üzere hem stokların (113.332 TL) hem de satışların maliyeti (56.666 TL) kaleminin tutarı artmıştır. Başka bir ifade ile satışların maliyetine ilave edilen tutar kadar brüt satış karı daha az gerçekleşmiştir. Dördüncü yaklaşımda ise yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar "*151 Yarı Mamüller-Üretim*", "1*52 Mamüller*" ve "*620 Satılan Mamüller Maliyeti*" hesaplarında izlenmiştir. Görüldüğü üzere hem stokların (106.666 TL) hem de satışların maliyeti (53.333 TL) kaleminin tutarı artmıştır. Başka bir ifade ile satışların maliyetine ilave edilen tutar kadar brüt satış karı daha az gerçekleşmiştir. Ancak İşletmenin ikinci, üçüncü ve dördüncü yaklaşıma göre satışların maliyeti kaleminin tutarındaki değişmelere rağmen toplam net satışları içerisinde brüt satış karının payı değişmemiştir.

"*Faaliyet Karı Oranı*", bir işletmenin vergi ve faizden önceki faaliyetlerinden elde ettiği karlılığı ölçmektedir. Faaliyet karının net satışlara bölünmesiyle hesaplanır. Birinci yaklaşıma göre faaliyet karı oranı 0,08; ikinci yaklaşıma göre 0,11; üçüncü ve dördüncü yaklaşıma göre 0,10 olarak hesaplanmıştır. Bu yaklaşımlara göre bu oranın payda kısmında yer alan net satışlar ile ilgili herhangi bir işlem olmadığı için bu kalemin toplam tutarı değişmemiştir. Bu nedenle faaliyet karı oranının pay kısmında yer alan faaliyet karındaki değişimleri irdelemek gerekmektedir. Bu kapsamda birinci yaklaşımda yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar "*620 Satılan Mamuller Maliyeti"* hesabına aktarılmış ve olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net sapma/ fark (olumsuz fark) satışların maliyeti kaleminin tutarını artırmıştır. Bu nedenle bu yaklaşıma göre satışların maliyeti kalemindeki artış diğer yaklaşımlara göre brüt satış karı ve dolayısıyla faaliyet karının daha az hesaplanmasına neden olmuştur. İkinci yaklaşıma göre yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar olağandışı gelir ve karlar /olağandışı gider ve zararlar hesap gruplarıyla ilişkilendirildiği için faaliyet karı oranı diğer yaklaşımlara göre daha fazla hesaplanmıştır. Üçüncü yaklaşımda yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar "*151 Yarı Mamüller-Üretim"*, "*152 Mamüller"* ve "620 *Satılan Mamüller Maliyeti*" hesaplarında izlenmiştir. Görüldüğü üzere hem stokların hem de satışların maliyeti kaleminin tutarı artmıştır. Başka bir ifade ile satışların maliyetine ilave edilen tutar kadar faaliyet karı daha az gerçekleşmiştir. Dördüncü yaklaşımda ise yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar "1*51 Yarı Mamüller-Üretim*", "*152 Mamüller*" ve "*620 Satılan Mamüller Maliyeti"* hesaplarında izlenmiştir. Görüldüğü üzere hem stokların hem de satışların maliyeti kaleminin tutarı artmıştır. Başka bir ifade ile satışların maliyetine ilave edilen tutar kadar brüt satış karı daha az gerçekleşmiştir. Bu nedenle brüt satış karı, faaliyet karı, olağan kar ve dönem karı tutarı, bu fark kadar daha az gerçekleşmiş (451.000 TL(olumsuz farklar) - 291.000 TL (olumlu farklar)=160.000 TL; (160.000/3)*1= 53.333) ve dönem net karı da daha az hesaplanmıştır. İşletme tarafından kontrol edilebilen olumsuz ücret farkının bir kısmı "*689 Olağandışı Gider ve Zararlar Hesabına*" aktarılmıştır. Ancak bu durum İşletmenin üçüncü ve dördüncü yaklaşıma göre satışların maliyeti kaleminin tutarındaki değişmelere rağmen toplam net satışları içerisinde faaliyet karının payı değişmemiştir.

"Dönem Karı Oranı", bir işletmenin dönem karının net satışlar içindeki oranını göstermek için kullanılır. Birinci ve ikinci yaklaşıma göre dönem karı oranı 0,18; üçüncü ve dördüncü yaklaşıma göre ise 0,19 olarak hesaplanmıştır. Bu yaklaşımlara göre bu oranın payda kısmında yer alan net satışlar ile ilgili herhangi bir işlem olmadığı için bu kalemin toplam tutarı değişmemiştir. Bu nedenle dönem karı oranının pay kısmında yer alan dönem karındaki değişimleri irdelemek gerekmektedir. Bu kapsamda birinci yaklaşımda yıl boyunca fark hesaplarında biriken olumlu ve olumsuz farklar "*620 Satılan Mamuller Maliyeti"* hesabına aktarılmış ve olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam net sapma/ fark (olumsuz fark) satışların maliyeti kaleminin tutarını artırmıştır. Bu nedenle bu yaklaşıma göre satışların maliyeti kalemindeki artış diğer yaklaşımlara göre brüt satış karı, faaliyet karı ve olağan kar kalemleri tutarının daha az hesaplanmasına neden olmuştur. Ancak ikinci yaklaşımda net olumsuz farkın tamamının olağandışı gelir ve karlar/olağandışı gider ve zararlar hesap gruplarıyla ilişkilendirildiği için dönem karı kaleminin tutarı birinci ve ikinci yaklaşıma göre değişmemiştir. Diğer taraftan birinci yaklaşımda dönem karı kaleminin tutarı ise üçüncü ve dördüncü yaklaşıma göre ise daha az gerçekleşmiştir. Çünkü fark hesaplarında biriken olumsuz farklar olumlu farklardan daha fazla olduğu için ortaya çıkan toplam olumsuz net farkın bir kısmı stokların maliyetine eklenerek aktifleştirilmiştir. Bir kısmı ise satışların maliyeti kalemine ilave edilmiştir (Dördüncü yaklaşımda işletme tarafından kontrol edilebilen olumsuz ücret farkının bir kısmı "*689 Olağandışı Gider ve Zararlar Hesabına*" aktarıldığı için bu olumsuz fark kadar "*Dönem Karı*" tutarı üçüncü yaklaşıma göre daha az gerçekleşmiş ve dolayısıyla "*Dönem Net Karı*" tutarı da daha az hesaplanmıştır. Ancak bu durum oranın sonucunu etkilememiştir.).

"*Aktif Karlılık Oranı*" bir işletmenin varlıklarını bir dönem boyunca kar elde etmek için yönetmede ne kadar verimli olduğunu ölçmek için kullanılmaktadır. Birinci ve ikinci yaklaşıma göre aktif karlılık oranı 0,09; üçüncü ve dördüncü yaklaşıma göre ise 0,10 olarak hesaplanmıştır. Bunun nedeni bu oranın pay ve paydası kullanılan yaklaşıma göre farklılık gösterebilmesidir. Birinci ve ikinci yaklaşıma göre oranın payında yer alan dönem karı tutarı ve payda kısmında yer alan işletmenin toplam varlıkları tutarı değişmemiştir. Birinci yaklaşımda ortaya çıkan toplam net olumsuz fark satışların maliyetine ikinci yaklaşımda ise olağandışı gelir ve karlar/olağandışı gider ve zararlar hesap gruplarıyla ilişkilendirildiği için dönem karı tutarı birinci ve ikinci yaklaşımda diğer yaklaşımlara göre daha az gerçekleşmiştir. Dolayısıyla stokların maliyeti ile ilişkilendirilmediği için de işletmenin toplam varlıklarının tutarı da birinci ve ikinci yaklaşımda diğer yaklaşımlara göre daha az tutardadır. Bu nedenlerle de aktif karlılık oranı birinci ve ikinci yaklaşımda üçüncü ve dördüncü yaklaşıma göre % 1 azalış göstermiştir.

6.SONUÇ

Standart maliyet yönteminde fark hesaplarının kapatılmasında kullanılabilecek yaklaşımların finansal tablolar üzerindeki etkisi farklı olabilmektedir. Çünkü bu yaklaşımlar farklı varsayımlara dayanmaktadır. Birinci ve ikinci yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar sırasıyla satışların maliyeti ve olağandışı gelir ve karlar/olağandışı gider ve zararlar hesap gruplarıyla ilişkilendirilmektedir. Üçüncü yaklaşımda fark hesaplarında biriken olumlu ve olumsuz farklar hem stokların maliyetine hem de satışların maliyetine ilave edilmektedir. Dördüncü yaklaşımda ise üçüncü yaklaşıma benzer bir şekilde hem stokların maliyetine hem de satışların maliyeti ile ilişkilendirilmektedir. Ancak işletme tarafından kontrol edilebilen farklar olağandışı gelir ve karlar/olağandışı gider ve zararlar hesap gruplarında yer alan ilgili kalemlere aktarılmaktadır. Doğal olarak yaklaşımların finansal tablolar üzerindeki etkisi ve bu tablolardan yararlanılarak yapılan finansal analiz sonuçları üzerindeki etkisi de farklı olabilmektedir. Bu nedenle standart maliyet yönteminde fark hesaplarının kapatılmasında kullanılabilecek yaklaşımların seçimi önem arz etmektedir. Çünkü standart maliyet yönteminde fark hesaplarının kapatılmasında farklı yaklaşımların kullanılması durumunda farklı sonuçlar ortaya çıkabilmektedir.

Sonuç olarak farkların kapatılmasında kullanılabilecek olan üçüncü yaklaşım işletmenin toplam varlıklarının değerinin yüksek çıkmasını sağlamıştır. Çalışmamız kapsamındaki örnek üzerinde değerlendirdiğimizde üçüncü yaklaşımın bilanço üzerindeki etkisi olumludur. Ayrıca vergi otoriteleri ile sorun yaratmayacak olan da üçüncü yaklaşımdır. Bu nedenler ile eğer bir işletme daha yüksek kar elde etmek, özkaynaklarını artırmak, yeni ortak/ortaklar bulmak, uzun vadeli borç almak veya faaliyetlerini devamlı sermaye ile finanse etmek istiyorsa öncelikle üçüncü yaklaşımı, daha sonra ise dördüncü yaklaşımı kullanmalarını öneriyoruz. Ayrıca varlıklarının finansmanında kısa vadeli borç kullanan bir işletme için de dönen varlıklarının tutarını yükselten üçüncü yaklaşımın kullanılması daha uygun olacaktır.

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Kavramsal Çerçeve ve Dijital İşçi Kavramı

Öğr. Gör. Dr. Zeynep Kuh [1]

[1]Trakya Üniversitesi/ Uzunköprü Meslek Yüksekokulu, Yönetim ve Organizasyon, Sağlık Kurumları İşletmeciliği, kuh.zeynep@gmail.com, ORCİD: 0000-0002-2511-5192

Özet: Bu bildiride, dijital işçi kavramının nasıl ortaya çıktığı ve zaman içerisinde nasıl geliştiği ele alınmıştır. Sanayi Devrimi'nden günümüze kadar dijitalleşme ve otomasyonun iş hayatını ve çalışanları nasıl etkileyip dönüştürdüğü incelenmiştir. Ayrıca fiziksel işçiler ile dijital işçilerin karşılaştırması detaylı bir şekilde ele alınmıştır. Dijital işçilerin iş süreçlerindeki rolünün nasıl şekillendiği, hangi alanlarda daha verimli ve hızlı oldukları, iş yerindeki katkılarının neler olduğu incelenmiş ve bu işçilerin sağladıkları avantajlar ile beraber ortaya çıkan dezavantajları da detaylı bir şekilde açıklanmıştır. Dijital işçilerin, endüstri 4.0 ve endüstri 5.0 süreçlerinde ne kadar önemli bir yere sahip olduğu vurgulanmıştır. Bu süreçlerde dijital işçilerin, fabrikalarda, ofislerde ve birçok farklı iş alanında nasıl kullanıldığı, işlerin daha hızlı, daha verimli ve daha kolay yapılmasına nasıl katkı sağladığı anlatılmıştır. Ayrıca, dijital işçilerin bu yeni sanayi dönemlerinde sadece destekleyici bir rol oynamakla kalmayıp iş süreçlerinin temel parçalarından biri haline geldikleri ifade edilmiştir. Dijitalleşme ve otomasyonun, iş hayatında neleri değiştirdiği, işleri nasıl farklılaştırdığı ve çalışanlar ile işverenler için ne gibi sonuçlara yol açtığı ele alınmıştır. Bu çalışma, dijital işçi kavramını öğrenmek, sanayi alanındaki değişimlerde dijital işçilerin rolünü anlamak ve dijitalleşmenin çalışanlar üzerindeki etkilerini değerlendirmek isteyenler için geniş ve anlaşılır bir bakış açısı sunmaktadır.

Anahtar Kelimeler: Dijital İşçi, Dijitalleşme, Otomasyon

Abstract: This paper discusses how the concept of digital workers emerged and evolved over time. It examines how digitalization and automation have influenced and transformed work life and employees from the Industrial Revolution to the present day. Additionally, a detailed comparison between physical workers and digital workers is provided. The role of digital workers in work processes, the areas where they are more efficient and faster, and their contributions to the workplace are analyzed, along with the advantages they bring and the disadvantages they may cause. The significant role of digital workers in Industry 4.0 and Industry 5.0 processes is emphasized. It explains how digital workers are utilized in factories, offices, and various work fields, contributing to making tasks faster, more efficient, and easier. Furthermore, it highlights that digital workers not only play a supportive role in this new industrial era but also become an essential part of work processes. The study also addresses how digitalization and automation have changed the work environment, altered job processes, and impacted both employees and employers. This study offers a comprehensive and clear perspective for those who want to learn about the concept of digital workers, understand their role in industrial transformation processes, and evaluate the effects of digitalization on employees.

Key Words: Digital Worker, Digitalization, Automation

1. GİRİŞ

Günümüzde dijital teknolojiler iş dünyasında köklü bir dönüşüm yaratmakta ve bu dönüşüm, çalışma biçimlerini çeşitlendirmektedir. Dijitalleşmenin iş gücü üzerindeki etkisi, sadece çalışma modellerini değil, aynı zamanda iş tanımlarını, çalışanların rollerini ve iş süreçlerini de yeniden şekillendirmektedir. Bu dönüşüm sürecinde, dijital işçiler iş dünyasında giderek daha önemli bir konuma gelmekte ve işin doğasını değiştirmektedir. Çalışanların iş süreçlerine entegrasyonunu kolaylaştıran dijital platformlar ve yapay zekâ destekli otomasyon sistemleri, iş süreçlerini hızlandırırken aynı zamanda verimliliği artırmaktadır. Bununla birlikte, dijital işçiliğin sunduğu esneklik ve bağımsızlık gibi avantajlar, iş güvencesi ve gelir belirsizliği gibi yeni riskleri de beraberinde getirmektedir.Günümüzde dijitalleşme sadece iş dünyasında değil, günlük hayatımızda da köklü değişimlere yol açıyor. Örneğin, artık birçok insanın freelance (serbest) çalışma modelini tercih ettiğini, sabit bir ofis ortamı yerine dijital platformlar üzerinden çalıştığını gözlemliyoruz. Bu durum, çalışanlar için esneklik ve bağımsızlık sağlarken, aynı zamanda gelir belirsizliği gibi riskleri de taşımaktadır.

Dijital işçi kavramı, literatürde henüz kesin bir tanıma kavuşmamış olsa da genel olarak dijital teknolojilerle iç içe geçmiş ve esnek çalışma modellerini benimseyen iş gücünü ifade etmektedir. Fuchs'a (2012) göre, Web 2.0 ortamında içerik üreten kişiler, ortaya koydukları kullanım değeri sayesinde dijital işçi olarak kabul edilmektedir. Bu bağlamda, dijital işçilerin üretim araçlarına sahip olmamaları ve ürettikleri içerikler üzerindeki kontrol eksikliği, onların kendi emeklerinden uzaklaşmalarına neden olmaktadır. Rionaldi ve arkadaşlarının (2024) çalışmasında ise dijital işçiler; çalışma biçimleri, iş güvenceleri, hareketlilik düzeyleri ve sözleşme türlerine göre farklı kategorilere ayrılmaktadır. Bu bölümde, dijital işçi kavramının kapsamı ele alınacak, dijital işçi türleri detaylandırılacak ve bu çalışma modellerinin iş dünyasına etkileri analiz edilecektir.

2. DİJİTAL İŞÇİ KAVRAMI

Dijital iş üzerine birçok akademik çalışma yapılmış olsa da bu kavram için herkesin kabul ettiği net bir tanım henüz bulunmamaktadır. Çoğu araştırmacı, dijital iş türlerini genellikle çalışanın iş türüne ve sahip olduğu özgürlük ve bağımsızlık seviyesine göre tanımlamaktadır (Rionaldi et al., 2024: 217). Dijital emek konusunda öncü çalışmalarıyla bilinen Fuchs'a (2012: 43) göre, Web 2.0 ortamında içerik üreten kişiler, ortaya koydukları kullanım değeri sayesinde dijital işçiler olarak kabul edilebilir. Başka bir deyişle, Web 2.0 platformlarında bilgi, görsel veya metin gibi değerli içerikler üreten bireyler, dijital emek ortaya koydukları için dijital işçi olarak değerlendirilmektedir.

Dijital teknoloji, insanların iş düzeninde ve genel olarak hayatlarının birçok alanında giderek daha belirgin bir rol oynamaktadır. Özgürleştirici teknoloji çalışmaları veya teknolojiyi eleştirel bir bakış açısıyla ele alan yaklaşımlar, genellikle teknolojinin farklı ve alternatif kullanım yollarını keşfetmeye odaklanmaktadır. Çağrı merkezlerinden platform tabanlı iş modellerine kadar pek çok çalışma ortamında, sermayenin ihtiyaç ve talepleri bu teknolojilere derinlemesine entegre edilmiştir (Woodcock, 2016: 1-10).

Günümüzde iş yerinde teknoloji denince genellikle akla dijital teknoloji geliyor — öyle ki, artık teknoloji neredeyse tamamen dijital araçlarla özdeşleşmiş durumda. Mesela bir ofiste çalışmayı düşündüğümüzde, genellikle sandalye, masa, bilek desteği, kalem, aydınlatma, tesisat, elektrik veya internet altyapısı gibi unsurları pek dikkate almayız. Bunun yerine, daha çok bilgisayar ve yazılımlara odaklanırız. Halbuki, bu unsurların çoğu insanın günlük iş deneyimi üzerinde önemli ve doğrudan etkileri var. Üstelik bunlar da aslında başka birçok çalışma ve teknoloji türüne dayanıyor. Yine de teknolojinin iş yerinde nasıl deneyimlendiğini ve nasıl kullanıldığını anlamak, onun etkilerini ve potansiyelini (ya da etkisizliğini) kavramak açısından gerçekten önemli (Nanoethics, 2021: 90).

Dijital işçi, yazılım tabanlı bir çalışan olarak görev yapar. Bu programlar, iş süreçlerini baştan sona tamamlayabilir ve genellikle insanların üstlendiği rolleri yerine getirebilir. ChatGPT gibi genel amaçlı teknolojilerden farklı olarak, dijital işçiler belirli iş akışlarını yürütmek ve insan ekiplerine entegre olmak üzere özel olarak tasarlanmıştır (Carmichael-Jack, 2023).

Tekrarlayan ve basit görevlerden oluşan işler, yapay zekâ tarafından otomatikleştirilme ve dolayısıyla insan iş gücünün yerini alma riski en yüksek olan işlerdir. Yapay zekâ ve dijital işçilerin sunduğu otomasyon kapasitesi, bu tür görevlerde hız ve doğruluk sağladığından, bazı mesleklerin tamamen dijital işçiler tarafından devralınması muhtemeldir (Carmichael-Jack, 2023). Yakın gelecekte dijital işçiler tarafından üstlenilmesi beklenen bazı meslekler şunlardır:

- Satış Temsilcisi (Outbound)
- Veri Giriş Elemanı
- Tele Pazarlamacı:
- Müşteri Destek Temsilcisi
- Hukuk Asistanı
- Kredi Değerlendirme Uzmanı

Carmichael- Jack'in bu çalışmasına göre tekrarlayan ve basit görevlerin yapay zekâ ve dijital işçiler tarafından üstlenilmesi, iş dünyasında önemli bir dönüşüme işaret etmektedir. Yapay zekâ ve dijital işçilerin sağladığı hız ve doğruluk sayesinde, bu tür işlerin insan yerine dijital işçiler tarafından yapılması kaçınılmaz hale gelmektedir. Özellikle satış temsilcisi, veri giriş elemanı, tele pazarlamacı, müşteri destek temsilcisi, hukuk asistanı ve kredi değerlendirme uzmanı gibi rollerin, dijital işçilerin devralması muhtemel meslekler arasında olduğu görülmektedir. Dijital işçilerin bu tür görevleri üstlenmesi, iş süreçlerinde maliyetleri düşürürken verimliliği artırma potansiyeline sahiptir. Bu durum, insan çalışanların daha yaratıcı ve stratejik roller üstlenmelerine zemin hazırlarken, iş dünyasında iş tanımlarının ve çalışma modellerinin de yeniden şekillenmesine neden olabilecektir.

Bu bilgilere ek olarak, Coşkun (2023: 30) dijital işçi kavramına farklı bir bakış açısı getirerek, bu alandaki yeni bir soruna dikkat çekmiştir. Coşkun'a göre, günümüzün belirsiz ve sürekli değişen dijital dünyasında, dijital işçiler bilgi akışını sağlama sorumluluğunu büyük ölçüde üstlenmektedir. Ancak bu süreçte, üretim araçlarına sahip olmadıkları gibi, çalıştıkları ağ üzerinde herhangi bir mülkiyet hakkına da sahip değillerdir. Bu durum, dijital işçilerin ortaya koydukları emek üzerinde kontrol sahibi olamamalarına ve kendi emeklerinden uzaklaşmalarına neden olmaktadır. Bu bağlamda, dijital işçiler çıplak ağ işçileri olarak tanımlanmakta ve ürettikleri değerin sonuçlarından kopuk bir şekilde çalıştıkları değerlendirilmektedir.

2.1. Dijital İşçi Türleri

Dijital teknolojilerin iş dünyasında yarattığı dönüşüm, çalışma biçimlerini çeşitlendirmiş ve geleneksel iş modellerinin ötesinde yeni dijital işçi türlerinin ortaya çıkmasına neden olmuştur. Dijital işçiler; çalışma şekilleri, iş güvenceleri, hareketlilik düzeyleri ve sözleşme türlerine göre farklı kategorilere ayrılmaktadır. Sabit bir iş yerinde belirli saatlerde çalışanlardan, tamamen bağımsız ve esnek bir şekilde çalışan dijital göçebelere kadar geniş bir yelpazede yer alan bu işçi türleri, dijital teknolojilerin sunduğu olanaklarla iş dünyasında farklı dinamikler yaratmaktadır. Bu bölümde, dijital işçi türleri detaylı bir şekilde ele alınmış ve bu farklı iş modellerinin çalışanlar üzerindeki etkileri incelenmiştir.

Tablo 1. Dijital İşçi Türleri

TÜR	AÇIKLAMA	YAZAR(LAR)
9'dan 5'e Çalışanlar	Sınırlı hareketlilik ve esneklikle tek bir iş yerinde çalışanlar.	Ens, Stein ve Jensen (2018)
Bilişim Tabanlı Mobil Çalışanlar	Sabit bir konuma bağlı olmadan uzaktan çalışanlar.	Valenduc ve Vendramin (2016)
Dijital Göçebeler	Sabit bir çalışma yeri, çalışma zamanı veya organizasyonel bağlantısı olmadan yoğun hareketlilik ile çalışan bilgi çalışanları.	Jarrahi ve Thomson (2017); Ens, Stein ve Jensen (2018); Reichenberger (2018); Winkelhake (2018); Valenduc (2019)
Mobil Bilgi Çalışanları	Bir organizasyonun fiziksel sınırlarının ötesinde çalışan bilgi çalışanları.	Jarrahi ve Thomson (2017)
eLancer'lar	İnternet üzerinden çalışan; serbest çalışan veya saatlik ya da proje bazlı sözleşmelerle çalışanlar.	Schroeder, Bricka ve Whitaker (2019)
Talep Üzerine Çalışanlar	Sürekli bir istihdam ilişkisine sahip olan ancak önceden tanımlanmış bir iş hacmi ve ücret yapısı olmayan, çevrimiçi platformlar üzerinden işverenle talep yönetimi yapan çalışanlar.	Valenduc ve Vendramin (2016); Valenduc (2019)
Prosumer Çalışanlar	Sınırlı veya hiç sözleşme olmadan dijital bilgi üreten ve tüketen çalışanlar.	Valenduc (2019)
Gig Çalışanları	Online platformlardan proje bazlı işler alan veya internet üzerinden ürün ve hizmet satan çalışanlar.	Ens, Stein ve Jensen (2018)
Seyahat Eden Elit	İstikrarlı istihdam koşulları altında iş amacıyla sık seyahat eden çalışanlar.	Ens, Stein ve Jensen (2018)
Kalabalık Çalışanlar	Proje bazlı olarak sanal mikro görevlerde çalışan amatör ve profesyonel serbest çalışanlar.	Durward, Blohm ve Leimeister (2016); Valenduc ve Vendramin (2016); Valenduc (2019)
Bulut Çalışanları	Kısa vadeli iş birliği anlaşmaları yoluyla organizasyonlarla bilgi ve fikir alışverişinde bulunan nitelikli çalışanlar.	Ruggieri ve diğerleri (2016)
Sıvı İş Gücü	Dünya çapındaki iş gücünden bilgi ve uzmanlığa göre seçilen ve belirli projelerde çalışanlar.	Winkelhake (2018)
Vikinomi Çalışanları	Hiyerarşi, baskı veya ücret olmadan gönüllü olarak bilgi toplayan, güncelleyen ve paylaşan nitelikli çalışanlar.	Winkelhake (2018)

Kaynak: (Rionaldi et al, 2024: 218).

Rionaldi ve arkadaşlarının dijitial işçi türlerini sınıflandırdıkları Tablo 1'e göre; Dijital işçiler, çalışma biçimleri, hareketlilik düzeyleri, iş güvenceleri ve sözleşme yapıları açısından farklı kategorilere ayrılmaktadır. Örneğin, 9'dan 5'e çalışanlar sabit bir iş yeri ve belirli bir çalışma saatine sahipken, dijital göçebeler sabit bir yer veya zamana bağlı olmadan çalışmaktadır. Bilişim tabanlı mobil çalışanlar ise herhangi bir fiziksel konuma bağlı olmadan, uzaktan çalışabilmektedir. Gig çalışanları ve eLancer'lar ise internet üzerinden proje bazlı çalışmakta ve genellikle bağımsız hareket etmektedir. Buna karşılık, kalabalık çalışanlar ve bulut çalışanları, kısa süreli işlerde veya proje bazlı görevlerde çalışırken, işverenlerle olan iletişimlerini dijital platformlar üzerinden yürütmektedir. Bu durum, dijital işçilerin esnek bir çalışma modeline geçiş yaptığını ve geleneksel çalışma düzenlerinden farklılaştığını göstermektedir. Dijital işçiliğin sunduğu esneklik ve bağımsızlık, çalışanlar için bazı avantajlar sağlarken, aynı zamanda iş güvencesi ve gelir belirsizliği gibi riskleri de beraberinde getirmektedir. Özellikle talep üzerine çalışanlar ve gig çalışanları, düzenli bir iş veya sabit bir gelir olmadığı için ekonomik belirsizlik yaşayabilmektedir. Öte yandan, seyahat eden elitler ve sıvı iş gücü gibi gruplar, dünya genelindeki iş fırsatlarından yararlanmakta ve belli bir yere bağlı kalmadan çalışmaktadır. Vikinomi çalışanları ise herhangi bir baskı veya yönetim olmadan, gönüllü olarak çalışmakta ve bilgilerini paylaşmaktadır. Bu durum, dijital işçiliğin oldukça esnek ve çeşitli çalışma biçimlerini içerdiğini ve gelecekte iş dünyasında daha fazla esneklik ve teknolojiye bağımlılık getireceğini göstermektedir.

Gelecekteki dijital işçi türleri, dijital işin çalışanların işe daha fazla bağlanmasını ve kendini işine adamasını kolaylaştırabileceğini göstermektedir. Stebbins (2014: 143-155), sıkı teslim tarihlerinin ve yoğun iş yükünün, çalışanların işine bağlanmasını zorlaştırdığını belirtmiştir. Buna karşılık, çalışanların işe bağlılığını destekleyen temel unsurlar doğru şekilde anlaşılırsa, dijital iş daha rahat ve keyifli bir hale gelebilir. Ayrıca, şirketlerin iş tasarımı (job crafting) modelinden ilham alarak daha esnek bir yönetim tarzı benimsemesi, dijital işçilerin çalışma şekillerini ve görevlerini nasıl yapacaklarını kendilerinin belirlemesini sağlayabilir. Bu durum, çalışanların işlerine daha fazla katılım göstermesine yardımcı olabilir (Hancock, et al, 2020: 65-70). Ayrıca, gelecekte dijital işçilerin, teknolojileri ve sanal iş yerleriyle bağlantılarını daha bilinçli bir şekilde yönetmeye önem verecekleri düşünülmektedir. Bu yüzden, şirketlerin de teknolojiyi bilinçli kullanma kültürünü desteklemesi faydalı olacaktır (Colbert, et al, 2016: 735). Bu tür yönetim politikaları, çalışanların da görüşü alınarak oluşturulabilir.

3. SONUÇ

Sonuç olarak, dijitalleşme ve otomasyonun iş dünyasında yarattığı dönüşüm, **dijital işçi** kavramını ortaya çıkarmış ve bu yeni iş gücü modeli, çalışma biçimlerini köklü bir şekilde değiştirmiştir. Dijital işçiler, yazılım tabanlı çalışanlar olarak, iş süreçlerini hızlandırmak ve verimliliği artırmak amacıyla tasarlanmıştır. Bu durum, özellikle tekrarlayan ve basit görevlerde dijital işçilerin insan çalışanların yerini almasına yol açmaktadır. Satış temsilcisi, veri giriş elemanı ve müşteri destek temsilcisi gibi işler, yapay zekâ ve otomasyon sayesinde daha hızlı ve düşük maliyetle gerçekleştirilebildiği için bu tür işlerde dijital işçilerin devreye girmesi kaçınılmaz hale gelmiştir. Bu süreç, iş dünyasında verimlilik ve hız gibi avantajlar sağlarken, çalışanların iş güvencesi ve gelir belirsizliği gibi sorunlarla karşılaşmasına da neden olmaktadır.

Dijital işçilerin iş dünyasına entegrasyonu, iş süreçlerini kolaylaştırmakla kalmamış, aynı zamanda çalışanların iş rollerini ve sorumluluklarını da yeniden tanımlamıştır. Örneğin, gig çalışanları ve eLancer'lar, internet üzerinden proje bazlı işler üstlenirken, bilişim tabanlı mobil çalışanlar ise sabit bir lokasyona bağlı kalmadan çalışmaktadır. Bu durum, çalışanlara daha fazla esneklik ve bağımsızlık sağlarken, aynı zamanda iş güvencesi ve sabit gelir elde etme konularında belirsizlik yaratmaktadır. Ayrıca, Coşkun'un (2023) çalışmasına göre, dijital işçilerin ürettikleri değerler üzerinde doğrudan bir kontrol sahibi olamamaları ve çalıştıkları ağlarda mülkiyet hakkına sahip olmamaları, dijital işçilerin kendi emeklerinden yabancılaşmalarına neden olmaktadır. Bu durum, dijital işçilerin psikolojik ve sosyal anlamda işlerine daha az bağlanmalarına yol açmaktadır.

Gelecekte dijital işçilerin iş dünyasındaki etkisi artmaya devam edecektir. Özellikle Endüstri 4.0 ve Endüstri 5.0 süreçlerinde dijital işçilerin, işlerin daha hızlı, verimli ve düşük maliyetle yapılmasına olan katkısı artacaktır. Ancak bu süreçte işverenler ve organizasyonlar, dijital işçilerin insan çalışanlarla uyum içinde çalışmasını sağlamak için daha bilinçli politikalar geliştirmelidir. Çalışanların teknolojiyle olan ilişkisini daha bilinçli yönetmesi ve iş süreçlerinde daha fazla söz sahibi olmaları, iş güvencesi ve psikolojik tatmin açısından önemli olacaktır. Dijital işçilerin sağladığı avantajların yanı sıra ortaya çıkan belirsizlik ve iş güvencesi sorunlarını çözmek için, işverenlerin çalışanların geri bildirimlerine dayalı daha esnek ve adil çalışma modelleri oluşturması gerekmektedir.

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Managerial Accounting and Control Systems in Enterprises - Quo Vadis?: The Case of Biokarpet S.A. Group

Zoi Zografou[1] Dagmar Škodová–Parmová[2] Labros Sdrolias[3] Stavros Kalogiannidis[4]

[1] Ph.D. Cand., Faculty of Economics, University of South Bohemia, Czech Republic, zograz00@jcu.cz

[2] doc. Dr. Ing., Faculty of Economics, University of South Bohemia, Czech Republic, parmova@ef.jcu.cz

[3] Prof. Dr., Dr., Department of Business Administration, University of Thessaly, Greece, lsdrolias@uth.gr

[4]Ass. Prof. Dr., Department of Business Administration, University of West Macedonia, Greece, stavroskalogiannidis@gmail.com

Abstract: The purpose of this paper is, through a thorough theoretical and research approach, to highlight the necessity and importance of the existence of the cost control process by the responsible managerial controllers in each company. It is important that these managerial controllers are considered, not as independent and separate subsystems, but as broader cost control mechanisms that will be integrated into the systems that will ultimately concern and relate to the business cycle of the enterprise, cost management, business decision making, and competition. The survey includes 142 employees of the Greek group Biokarpet S.A. A structured online questionnaire is used to collect data, followed by their entry and analysis using the SPSS statistical package. The results suggest that the existence and use of specific managerial accounting tools and control systems ensure that an enterprise is able to achieve its set objectives, as well as that its individual members behave in a consistent and effective manner towards these objectives.

Keywords: Managerial Accounting, Control, Control Systems, Enterprises, Case Study

1. INTRODUCTION

In the business sector, the market is constantly changing and this requires a change in their attitude towards, primarily from an economic point of view, the implementation and management of the entire process of operational control in general and cost control in particular. Internal control within businesses becomes an instrument and means of identifying and addressing risks, which helps the business achieve its goals and successfully perform its tasks. Only an effective control system can help in the objective assessment of the possible development and trends of the business's performance and costs and thus detect and eliminate the threats and risks that will arise over time (Abernethy and Brownell, 1997).

Control systems must support the effectiveness and integrity of each stage of this cycle and provide continuous feedback to managers and other high-level executives of each company. One of the key means of control of enterprises, the application of which in modern and quite complex economic conditions provides the necessary conditions for achieving competitive advantage, is the creation of an effective control system, cost and non-cost, of all activities performed within the framework of their operation (Anthony and Govindarajan, 2003).

Control of an organization is defined as "a process before an action guides, in the course of action adjusts and once the action accomplished, assessing his results to draw useful lessons" (Boisselier, 1999).

Controlling in enterprises refers to the process of ensuring that the activities carried out by businesses are in line with the planning and objectives that were initially set. In other words, controlling is the process of capturing the image of the actual work that is carried out in order to fulfill the initial plan. In addition, controlling provides information on whether the actions taken within the business support the development and smooth operation of the business, based on a strictly functional and cost-based approach, or whether they need to be redefined on a new basis (Berry et al., 2005). In any business, controlling is easily applicable and achievable when the objectives have been clearly set, their results are expected and thus easily measurable, and the activity to be audited is known and repeated without interruption.

In order to determine the appropriate managerial accounting control system, it is necessary to compare the actual results of the individual and total costs resulting from the productive operation of the company with the desired results that were determined in its initial action plan. That is, it is appropriate to compare the expected and actual performance, which is ultimately reflected through the determination of Profit or Loss, essentially through the deduction of Cost from Revenue (Davila, 2005). If differences arise during the comparison, the person responsible for defining the systems must be immediately informed of them, in order to assess whether these differences are within a normal deviation framework. During the process of defining a managerial

accounting control system, all factors that could potentially delay or even hinder the course of its operation must be taken into account. The prediction, identification and recording of these factors are an example of a quality control process and can help improve the performance of the enterprise. Managerial accounting control systems participate and contribute to the problem-solving process (Merchant, 1998). When solving problems, the importance of the problem must be understood, the root of the problem must be identified and analyzed and then any corrective measures must be taken. The role of management is to plan, organize, integrate and connect all the activities of the enterprise in order to achieve the goals that each company has identified and set (Henri, 2006). Managerial accounting control systems facilitate the enterprise to succeed in the above processes.

In a general context, a managerial accounting control system is the tool through which managers, control the progress of planned activities and ensure that the existing executives of the enterprise act in an organized and effective manner to achieve the cost objectives of the company. The managerial accounting control system is the process by which managers ensure that resources are used effectively and efficiently to achieve the aforementioned objectives of the enterprise (Langfield-Smith, 1997). Each managerial accounting control system consists of a series of “economies of scale” actions, which encourage the employees of each company to work according to the objectives for the benefit of the company. These actions concern the planning of the course of operation of the enterprise, the coordination and correlation of the activities of the company and the evaluation of the information that contributes to the decision-making within the company, all of which are based on the lowest possible operating and production cost (Anthony and Govindarajan, 2003).

Through managerial control, managers of each enterprise achieve effective leadership by forming a complete and comprehensive picture of the company's situation. They also ensure that they are informed about the value and conclusions that arise from the making and implementation of their decisions (Atkinson et al., 2012). Managerial control is a tool that offers the real picture of the enterprise, captures the essence of the existing condition and identifies the weak points, deficiencies and differences that exist in relation to the initial expectations after the implementation of the decisions taken. Managerial control provides the company's management with the ability to evaluate the consistency of the implementation of the decisions taken within the company and that are directly or indirectly related to the cost of the product and its parts (Abhijit, 2011). Furthermore, it is the basis for making managerial decisions and for measuring performance, maintaining control over the use of resources in accordance with the predetermined objectives and priorities of the enterprise. In general, managerial control is a basic tool for the management of each company and the management of all activities carried out on a daily basis. It provides the company's managers with all the necessary cost information, reaching conclusions regarding the measurement of expected results and their comparison with the desired ones, after the implementation of decisions (Collier, 2003).

Based on the main points mentioned above, the main objective of this article is to highlight the necessity of using managerial accounting control systems for the smooth operation of the business and maintaining full control of the business's operations. For this purpose, the highly dynamic Greek multinational company Biokarpet S.A., which is based in the wider area of the city of Larissa, was used as a case study.

2. MANAGERIAL ACCOUNTING CONTROL SYSTEMS

The main purpose of a managerial accounting control system is to assist managers in organizing and coordinating the activities of the enterprise, as well as in the general guidance and impetus of the company's activities towards the achievement of the overall purposes, goals and objectives of the enterprise (Merchant and Otley, 2007). The managerial accounting control system consists of certain actions that are implemented during the operation of the enterprise. Each managerial accounting control system begins its implementation based on the planning, programming and organization of the company's action plan (Macintosh, 1994). Then follows the organization of the sequence in which the activities of the action plan must be carried out. Then the information and data collected from the results of the action plan are evaluated and disseminated to all the individual departments of the enterprise. Finally, employees in the company's departments are asked to decide whether the way in which their departments operate is as efficient as they had expected or not (Dimov and Iliev, 2010).

The aim and main concern of managerial accounting control systems is to ensure that the work of the departments of each enterprise is consistent with the initial standards of action and the expected results of each department (Dutta, 2000). Therefore, managerial accounting control systems ensure that the company applies the appropriate techniques in a timely manner and in case of uncertainty makes the appropriate decisions in order to achieve its objectives and to ensure unity and coherence between its sectors during its operation.

In order to achieve control in the enterprise, the control methods that are categorized and analyzed below are used (Merchant, 1998; Shevelev et al., 2017).

Figure 1: Managerial Accounting Control Methods



Direct Supervision and Observation: According to this method, the manager has a dual role in the enterprise, working together with the employees and at the same time observing them and collecting all the information that is produced during the operation of the enterprise. In other words, the manager does not rely on the information provided by the managerial accounting information system but during his participation and supervision of the company's activities tries to solve as many problems as he can directly (Macintosh and Quattrone, 2010; Sakun et al., 2021; Jasim et al., 2022).

Budgets: Budgets, in addition to being a planning tool, are control methods, as during the budget formulation process in each company, a direction of action is also drawn up. Budgets determine the goods, services and the amount of money that the enterprise is going to consume and spend during the time period for which the budget is defined. In other words, the total cost for the operation of the company is determined (Bufan, 2013; Cools et al., 2017).

Ratio Analysis: In Ratio Analysis, the basic elements from the financial statements provide quick estimates of the financial performance and financial situation of the enterprise. During the Ratio Analysis process, comparisons can be made between the ratios of the same company or similar companies that produce the same products and provide the same services (Whittington, 1980; Adedeji, 2014).

Break-Even Analysis: Break-Even Analysis, that is the point at which neither profits nor losses are recorded, offers managers a first picture of profits and losses for different sales amounts. Break-Even Analysis, as a control tool, enables the evaluation of the performance of the enterprise and the promotion of actions towards improving the future performance of the enterprise (Alnasser et al., 2014; Ionescu and Dumitru, 2015).

Management by Objectives (MBO): Management by Objectives is a method based on which the objectives of the individual departments of the company are determined, as well as the functions that each employee must carry out (Ntanos and Boulouta, 2012; Mio et al., 2015).

CPM and PERT: The methods that concern the control of the time that the processes need to be carried out in the enterprise are the Critical Path Method (CPM) and the Program Evaluation and Review Technique (PERT). The Critical Path Method (CPM) is used for projects whose duration is known from the beginning and which may have minimal to no deviation from the initial schedule. On the contrary, the Program Evaluation and Review

Technique (PERT) is used for projects whose duration is not predetermined and is very likely to change during the achievement of the project (Ajiboye, 2011; Cynthia, 2020).

Management Information Systems: The Management Information System (MIS) is a system of providing information to the management of each enterprise on a regular basis. Managers use the information to organize the individual departments of their company and to control them efficiently and effectively (O'brien and Marakas, 2006; Carenys, 2010).

2.1 Advantages and Disadvantages of Managerial Accounting Control Systems

In modern businesses, managerial accounting control systems provide timely and valid information and feedback to business managers. In general, they are considered easy to use and implement in businesses, since they are developed quickly with the help of computers and by utilizing the electronic files maintained by the business.

Of course, during the process of using a managerial accounting control system, all factors that could potentially delay or even hinder the course of its operation must be taken into account. The forecast, identification and recording of these factors are an example of a quality control process and can help improve the performance of the business. This fact is a rather difficult and time-consuming process, especially for employees who do not have the necessary experience (Chenhall, 2003).

3. MATERIAL AND METHODS

In order to achieve the objectives of the research, a quantitative research is carried out, using the questionnaire as a research tool. The research focuses on and is carried out in the Biokarpet S.A. group based in Greece. A structured online questionnaire is used to collect primary data. The questionnaire is sent to 185 employees of the Biokarpet S.A. group, 142 of whom complete it. After receiving the completed questionnaires, the data are entered into the SPSS statistical package. Finally, the data analysis and interpretation of the results obtained are carried out.

Regarding the questionnaires, they consist of 24 questions which are divided into two parts. The first part includes questions concerning the demographic characteristics of the sample under examination and the second part includes questions examining the employees' views on managerial accounting control systems. The responses of the survey participants are given using a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5).

After collecting the completed questionnaires, a reliability check of the sample is carried out, in order to draw safe and valid conclusions. Finally, descriptive statistics, correlation analysis, X^2 independence test and multiple linear regression analysis are performed, using the SPSS statistical package.

4. RESULT AND DISCUSSION

4.1 Descriptive Statistics

The sample consists of 142 individuals, of whom 66.2% are men and 33.8% are women. The largest percentage of the participants in the survey belongs to the age group of 56 to 65 years, which gives maturity to the sample and validity to its responses. In addition, a fairly large percentage of the sample has over 15 years of work experience in companies of the same or similar business activity.

Table 1: Descriptive Statistics

	Demographic Characteristics	Frequency	Percentage
Gender	Woman	48	33.8%
	Man	94	66.2%
Age	26-35	27	19%
	36-45	30	21.1%
	46-55	35	24.6%
	56-65	50	35.2%
	Less than 1 year	0	0.0%

Years of Experience	1-5	14	9.9%
	5-10	14	9.9%
	10-15	18	12.7%
	15-20	54	38%
	More than 20 years	42	29.6%

4.2 Reliability of Data

In order to ensure that reliable conclusions are drawn, it was deemed necessary to check the reliability of the sample. The concept of reliability concerns the extent to which a set of variables can be consistent with what it is intended to measure (Sekaran, 2003; Quinlan et al., 2015).

The questions of the questionnaire are divided into sections, depending on the concept they relate to and are intended to measure. Thus, the Cronbach's a index is examined for each section of questions, as well as for the entire set of questions in the questionnaire.

Observing the values of the a index, it is understood that for each section of questions the index greatly exceeds the value $a \geq 0.7$, which has been defined in the literature. More specifically, it becomes clear that the indices of the sections range in the interval $0.878 \leq a \leq 0.917$, which indicates a high degree of homogeneity of the questions of each section (Hair et al., 1998, Tabachnick and Fidell, 2001). The same happens with the index of the set of questions, as we see it is equal to 0.932, a fairly high value that tends to unity (1), which indicates that the questionnaire is governed by reliability as a whole.

Table 2: Reliability Index per Questionnaire Section

	Reliability Statistics	
Questionnaire Section	Cronbach's Alpha	N of Items
1	0.892	4
2	0.908	4
3	0.878	4
4	0.917	4
5	0.902	4
All Questions	0.932	21

In order to complete the test, the value of the Cronbach's a index was also examined in case any of the variables were deleted, either from each question section or from the entire questionnaire. From the table below it can be seen that the removal of any question would lead to a lower value of the index. Therefore, there is no question that reduces reliability and should be removed.

Table 3: Reliability Index after Removing a Question from the Questionnaire

		Item-Total Statistics
		Cronbach's Alpha if Item Deleted
1	Q11	0.811
	Q12	0.891
	Q13	0.874
	Q14	0.886
2	Q21	0.904
	Q22	0.901
	Q23	0.845
	Q24	0.893
3	Q31	0.813
	Q32	0.870
	Q33	0.836

	Q34	0.871
4	Q41	0.912
	Q42	0.909
	Q43	0.913
	Q44	0.908
5	Q51	0.901
	Q52	0.852
	Q53	0.863
	Q54	0.897
6	Q6	0.924

4.3 Testing the Independence of the Questionnaire Variables from Demographic Data

The X^2 test, known as the chi square test of independence, examines, through the two hypotheses formulated, whether the two variables that make up the two-entry table are independent or not. The X^2 index is the statistical index used to assess statistical significance. It is essentially a statistical test based on the use of the X^2 statistical distribution at a significance level of a = 0.05 (Diaconis and Efron, 1985; Lin et al., 2015).

The purpose of the independence test is to determine whether the employee responses are independent of the demographic data of the Biokarpet S.A. group staff or whether they are directly influenced by them. The test used is based on the double-entry frequency table of the variables and the resulting X^2 value.

In order to perform the test, the null hypothesis is formulated and the independence of the two variables is examined by applying the independence test. The hypotheses are formulated as follows:

H_0: The respondents' answers are not affected by the demographic characteristics.

H_1: The respondents' answers are affected by the demographic characteristics.

Table 4: Independence test of questionnaire variables from demographic data

Question	p-value gender	p-value age	p-value years of experience
Q11	0.166	0.000	0.031
Q12	0.005	0.000	0.000
Q13	0.016	0.000	0.000
Q14	0.000	0.000	0.000
Q21	0.027	0.000	0.000
Q22	0.000	0.000	0.000
Q23	0.001	0.000	0.000
Q24	0.355	0.157	0.134
Q31	0.030	0.000	0.000
Q32	0.213	0.028	0.018
Q33	0.018	0.326	0.012
Q34	0.000	0.000	0.000
Q41	0.030	0.000	0.000
Q42	0.030	0.000	0.000
Q43	0.000	0.000	0.000
Q44	0.049	0.004	0.008
Q51	0.232	0.002	0.086
Q52	0.006	0.203	0.042
Q53	0.011	0.129	0.026
Q54	0.000	0.000	0.000
Q6	0.039	0.109	0.350

It is understood that the majority of the responses of the participants in the survey show p-value < 0.05, therefore the null hypothesis H_0 is rejected and the alternative hypothesis is accepted, which indicates the dependence of the responses on demographic characteristics.

From the above data, we are led to the conclusion that the participants form their opinion regarding managerial accounting control systems, based on their gender, their age and the years of experience they have in the specific professional sector.

4.4 Multiple Regression Analysis

Multiple linear regression is the most widely used multivariate technique. Using multiple linear regression, the values of a dependent variable are estimated using the values of some independent variables. For each independent variable, a coefficient is calculated that ensures the best prediction - estimation of the dependent variable. It is reasonable that the estimated values of the dependent variable will differ from its true values (error). The deviations between these values are called residuals (Nathans et al., 2012; Tabachnick and Fidell, 2019).

The multiple linear regression model shows the variance in the smooth operation of the business and the maintenance of full control over the business's operations, which is explained by the selected independent variables that are related to the efficient utilization of business resources, the comparison of desired with actual goals, the protection of business rights, the obedience of personnel to the business's operating rules, and the strengthening of the business's financial position.

Therefore, the general form of the regression model is as follows:

$Y = b_0 + b_1X_1 + b_2X_2 + \ldots\ldots\ldots + b_kX_k + \varepsilon$

where Y = Q6, b_k = parameter, X_k = {Q1, Q2, Q3, Q4, Q5} that is each X_k represents a question section and ε are the residuals.

Table 5: Model Summary

Model Summary			
Model	R	R Square	Adjusted R Square
1	.776	.603	.587
a. Predictors: (Constant), Q5, Q3, Q1, Q4, Q2			
b. Dependent Variable: Q6			

The coefficients of determination R, R^2 and Adjusted R^2 as well as the significance test of the F value of the ANOVA (Analysis of Variance) table are the indicators of the goodness-of-fit of a model (Dafermos, 2005; Dimitriadis, 2016).

From the Anova table it is observed that the regression model is statistically significant since it displays Sig. = 0.000 < 0.001. Based on the value of the F criterion and the statistical significance, the suitability of the model is confirmed with regard to its predictive ability.

Table 6: Anova

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.673	5	4.112	39.425	.000
	Residual	16.272	136	.104		
	Total	40.945	141			
a. Dependent Variable: Q6						
b. Predictors: (Constant), Q5, Q3, Q1, Q4, Q2						

Regarding the test of the existence of multicollinearity, the statistical indicators of tolerance and variance inflation factor (VIF) were used for the independent variables. Jamal (2017) explains that if any of the VIF values exceeds 5 or 10, this means that the associated regression coefficients are underestimated due to multicollinearity.

The analysis meets the assumptions of multicollinearity, since the tolerance values range from 0.289 to 0.919 while the value inflation factor (VIF) ranges from 1.088 to 3.465 indicating that multicollinearity is not a problem in this study.

The strength of each independent variable that influences the dependent variable can be monitored by the standardized Beta coefficient. Therefore, the coefficient explains the average change in the dependent variable that is caused by a unit change in the independent variable. From the table above, we conclude that the first question section is the most contributing independent variable in predicting the dependent variable with a B value of 0.321.

Table 7: Coefficients

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.223	.285		.784	.435		
	Q1	.211	.046	.321	4.540	.000	.511	1.959
	Q2	.209	.078	.235	2.694	.008	.333	2.999
	Q3	.074	.076	.092	.977	.330	.289	3.465
	Q4	.201	.052	.248	3.859	.000	.615	1.626
	Q5	.157	.051	.162	3.071	.003	.919	1.088
a. Dependent Variable: Q6								

Therefore the multiple linear regression equation is

Q6 = 0.223 + 0.211Q1 + 0.209Q2 + 0.074Q3 + 0.201Q4 + 0.157Q5

The result of the application of managerial accounting control systems in every enterprise is the compliance and obedience of the staff and individuals of the company's management with the rules of the enterprise. The rules may be related to the external environment of the company, such as the institutional and legislative framework, but also to its internal one, which concerns its internal operating regulations and the general policy of action it follows.

Also, another result of the use of managerial accounting control systems is the utilization of operational resources in an efficient manner for the course of the company. All available means of the enterprise, namely human resources and financial resources, are utilized to the maximum extent in order to provide the company with the maximum possible benefit.

In addition, control and evaluation of the information that enters the company and that which already exists and circulates in the company is carried out, regarding their reliability and the size of their contribution to the company.

Thus, the company achieves and achieves the goals and objectives, which have been determined by the top management from the beginning.

Finally, appropriate control during the operation of the company provides protection for the rights and demands of its employees, as well as the preservation and maintenance of its assets.

In conclusion, the existence of a control system is a deterrent for illegal behavior within companies. Control is the catalyst for the proper and effective operation of an enterprise, the limitation of negative impacts and the prevention of potential risks. Control concerns, in a broader scope, the way the company is managed and the practical application of management methods during the daily operation of the company. It also contributes to the approach and management of the risks faced by the company. Managerial accounting control systems aim at the smooth, effective and prudent operation of the company while ensuring its future viability.

5. CONCLUSION

Managerial accounting control systems play an important role in achieving organizational control of any business. They help determine the goals and areas of activity of the enterprise as well as the alternative actions of the business and the effects on its overall course. Managers are responsible for ensuring that the goals of the

business are achieved, but they are also responsible for ensuring that the available resources of each business are used in the best possible way.

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APPENDIX

Questionnaire

Part I: Demographics

Question I.1 Gender:

Woman	
Male	

Question I.2 Age Category:

18 - 25	
26 - 35	
36 - 45	
46 - 55	
56 - 65	

Question I.3 Years of Work Experience:

Less than 1 year	
1 - 5	
5 - 10	
10 - 15	
15 - 20	
More than 20 years	

Part II: Investigation of Viewpoint

(Five-point Likert scale)

We would like you to answer the following questions in the following order: strongly disagree (1), disagree (2), neither disagree nor agree (3), agree (4), strongly agree (5):

	SCALE				
QUESTIONS	1	2	3	4	5
Q1					
1.The use of managerial accounting control systems contributes to the efficient utilization of business resources for the evolutionary route of the business.					
2.The use of managerial accounting control systems provides managers with quantitative standards by which they can measure and compare actual performance with expected performance.					
3.Managerial accounting control systems provide managers with operating cost data for the business, so that they can draw safe conclusions regarding the financial performance of the business.					
4.The use of managerial accounting control systems contributes to the definition of the cost development plan of the business.					
Q2					
1.The use of managerial accounting control systems enables business managers to compare the results of the business's actions with the goals they had initially set.					
2.Managerial accounting control systems provide managers with data on the deviation of actual performance from expected performance, enabling them to take immediate corrective action to reduce the performance gap.					
3.Managerial accounting control systems provide managers with the necessary information to determine the course of action of the business.					
4.Managerial accounting control systems help managers determine the changes they need to make if the business's operating results are not in line with the expected results.					

Q3					
1.The use of managerial accounting control systems provides the necessary protection of the rights and claims of the company's employees.					
2.The use of managerial accounting control systems enables employees to be aware of their obligations as members of the business.					
3.The use of managerial accounting control systems enables employees to check whether they are consistent with the requirements of their managers.					
4.The use of managerial accounting control systems enables employees to check whether they have completed their work within the predetermined time frame.					
Q4					
1.The use of managerial accounting control systems contributes to the company's personnel's obedience to its operating rules.					
2.Managerial accounting control systems help business managers to be fully aware of the state of the business at all times.					
3.Through the use of managerial accounting control systems, managers can check whether employees have completed the work initially assigned to them.					
4.Continuous control by managers, through the use of managerial accounting control systems, prevents employees from deviating from the initial plan of action.					
Q6					
The use of managerial accounting control systems is considered essential for the smooth operation of the business and maintaining full control of the business's operations.					

Çevre-merkezcilik ve İnsan-merkezcilik Yaklaşımları Perspektifinden Türkiye'de Sokak Hayvanları

Dr. Öğr. Üyesi Sezgin SEZGİN[1]

[1] Kırklareli Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Siyaset Bilimi ve Kamu Yönetimi, sezgin_sezqin@hotmail.com, ORCID: 0000-0002-6625-3997

Özet: İnsanlık, tarih boyunca ihtiyaçlarını karşılayabilmek için çevre ile hep etkileşim içerisinde olmuştur. Ancak özellikle sanayi devriminden itibaren insanın çevre üzerinde kurduğu aşırı tahakküm, insan ve çevre ilişkisinin nasıl ele alınacağına dair çeşitli tartışmaları beraberinde getirmiştir. Çevre sorunlarının çözümüne dair ortaya çıkan insan merkezli ve çevre merkezli yaklaşımlar, odağına insanı ve çevreyi almaları bakımından farklılaşmaktadır. Çevrenin korunması ve çevre sorunlarının azaltılması, çevrede yaşayan her bir unsura değer vermeyi, insanın diğer canlı türleri ile ilişkisini yeniden ele almayı zorunlu kılmaktadır. Çevrenin vazgeçilmez bir unsuru olan sokak hayvanlarının durumu, insan merkezliler ve çevre merkezliler tarafından farklı biçimde ele alınmaktadır. Türkiye'de 2024 yılında yasalaşan 160 sayılı Hayvanları Koruma Kanunu'nda Değişiklik Yapılmasına Dair Kanun Teklifi, sokak hayvanlarına yönelik uygulanacak politikalar açısından kamuoyunda, medyada ve akademik yazında çokça tartışılmıştır. Bu çalışmanın amacı; Türkiye'de kamuoyunda tartışma konusu haline gelen sokak hayvanları konusunu, çevre sorunlarına çözüm üretmek amacıyla ortaya çıkmış olan insan merkezli ve çevre merkezli yaklaşımlar perspektifinden incelemektir. Çalışma nitel araştırma yöntemlerinden literatür taraması tekniği kullanılarak hazırlanmıştır. Çalışma sonucunda en genel ifade ile; insan merkezcilerin ve çevre merkezcilerin sokak hayvanlarının haklarına yönelik farklı tutumlarda bulundukları görülmüştür. İnsan merkezciler sokak hayvanlarının durumunu yalnızca insan çıkarları açısından düşünürken, çevre merkezciler sokak hayvanlarını kendilerine içkin bir değerleri olmasından ötürü değerli kabul etmektedir.

Anahtar Kelimeler: Çevremerkezcilik, İnsanmerkezcilik, Çevre, Sokak Hayvanları, Türkiye.

Stray Animals in Turkey from the Perspective of Ecocentric and Anthropocentric Approaches

Abstract: Throughout history, humanity has always interacted with the environment in order to meet its needs. However, the excessive domination of humans over the environment, especially since the industrial revolution, has brought about various debates on how to handle the relationship between humans and the environment. Human-centered and environment-centered approaches to solving environmental problems differ in terms of their focus on human and environment. Protecting the environment and reducing environmental problems necessitates valuing each element living in the environment and reconsidering the relationship between humans and other living species. The situation of stray animals, an indispensable element of the environment, is handled differently by anthropocentrists and ecocentrists. In Turkey, the proposed Law No. 160 on the Amendment of the Law on the Protection of Animals, which became law in 2024, has been widely discussed in the public, media and academic literature in terms of the policies to be implemented for stray animals. The aim of this study is to examine the issue of stray animals, which has become a topic of public debate in Turkey, from the perspective of human-centered and environment-centered approaches that have emerged to produce solutions to environmental problems. The study was prepared using the literature review technique, one of the qualitative research methods. As a result of the study, it was seen that anthropocentrists and ecocentrists have different attitudes towards the rights of stray animals. While anthropocentrists consider the situation of stray animals only in terms of human interests, ecocentrists consider stray animals valuable because they have an intrinsic value.

Key Words: Ecocentrism, Anthropocentrism, Environment, Stray Animals, Turkey.

1. GİRİŞ

İnsan ve çevre arasındaki etkileşim, tarih boyunca farklı yaklaşımlar çerçevesinde ele alınmıştır. Sanayi Devrimi'nden itibaren çevre üzerindeki insan tahakkümünün artması, çevre sorunlarını derinleştirmiş ve bu sorunlara yönelik çözüm arayışlarını beraberinde getirmiştir. Bu bağlamda ortaya çıkan insanmerkezcilik (antroposentrizm) ve çevremerkezcilik (ekosentrizm) yaklaşımları, doğa ile insan arasındaki ilişkiye dair farklı perspektifler sunmaktadır. İnsanmerkezci bakış açısı, doğayı ve içindeki tüm unsurları insanın faydasına hizmet eden araçlar olarak değerlendirirken, çevremerkezci anlayış doğayı ve tüm canlıları içkin bir değere sahip olarak kabul etmektedir.

Son yıllarda Türkiye'de sokak hayvanlarının durumu, bu iki yaklaşım çerçevesinde sıkça tartışılan bir konu haline gelmiştir. Özellikle 2024 yılında yürürlüğe giren 160 sayılı Hayvanları Koruma Kanunu'nda Değişiklik Yapılmasına Dair Kanun, sokak hayvanlarının barınaklara alınmasını ve sahiplenilmeyenlerin belirli koşullar altında ötenaziye tabi tutulmasını öngören düzenlemeleri nedeniyle kamuoyunda geniş yankı uyandırmıştır. İnsanmerkezci

perspektiften bakıldığında, bu düzenlemeler toplum güvenliği ve halk sağlığını koruma amacı taşırken, çevremerkezci bakış açısına göre hayvanların yaşama hakkı ihlal edilmektedir.

Bu çalışma, Türkiye'de sokak hayvanları meselesinin insanmerkezcilik ve çevremerkezcilik ekseninde nasıl ele alındığını incelemeyi amaçlamaktadır. Literatür taraması yöntemiyle yürütülen araştırma kapsamında, sokak hayvanlarına yönelik politikaların farklı etik yaklaşımlar çerçevesinde nasıl değerlendirildiği analiz edilmiştir. Çalışma amacı gereği bir durum tespiti yapmakta olup Türkiye'deki sokak hayvanları sorununa yönelik bir çözüm önerisi getirmemektedir.

2. ÇEVREYE DAİR ETİK YAKLAŞIMLAR

Çevrenin bir parçası olan insan, doğal dengenin devam edebilmesi için yeryüzündeki canlı ve cansız varlıklarla uyumlu halde yaşamak durumundadır. İnsan-çevre ilişkileri, insanlığın ilk ortaya çıkışına kadar eskiye götürülebilir. Avcılık ve toplayıcılık dönemine bakıldığında insanın çevre karşısında ondan korkan ve uyum sağlamaya çalışan çoğunlukla edilgen bir yapıda olduğu görülmektedir. Neolitik çağa geçiş ile yerleşik hayata geçen, tarım yapmaya başlayan insan, çevre üzerinde egemenlik kurmaya başlamıştır. Sanayi Devrimi ile birlikte insan-çevre ilişkisi, egemenliğin çok daha ötesinde çevre üzerinde aşırı tahakküm kurulması ve kaynakların sömürülmesi boyutuna ulaşmıştır (Ergün ve Çobanoğlu, 2012: 97).

Nitekim Akkoyunlu Ertan, 1998 yılında yayınlanan çalışmasında çevrenin bir sorun alanı olarak tartışılmaya başlanmasının birkaç on yıl öncesine dayandığını belirtmiştir. Dolayısıyla insan ve çevre arasındaki dengenin insanın lehine (!) bozulmaya başlanmasının Sanayi Devrimi sonrasına denk geldiğini söylemek yanlış olmayacaktır.

İnsanoğlunun refah düzeyini ve yaşam kalitesini yükseltmek için doğal düzeni göz ardı ederek kaynak kullanma çabası, özellikle 20. yüzyılın ikinci yarısından itibaren çevre sorunları şeklinde patlak vermiştir. Çevrenin yalnızca insanlara sınırsız kaynak sağlayan bir konuma indirgenmesi sonucunda çevreyle uyumlu yaşamaktan çok çevreye yabancılaşma başlamıştır. Artık çevre, kendine içkin bir değere sahip değildir, bizatihi sahip olunulması gereken bir nesnedir (Yoğurtçu, 2021: 1153). Tarihin her döneminde çevrenin kendine içkin yapısından kaynaklı da meydana gelmiş olan çevre sorunları, 20. yüzyılın ikinci yarısıyla beraber yerini insan kaynaklı çevre sorunlarına bırakmıştır.

Çevre sorunlarının görünür olması ve fark edilmeye başlanmasıyla birtakım çözüm önerileri geliştirilmiştir. Çözüm önerileri, en genel hatlarıyla insan-merkezli (antroposentrik) ve çevre-merkezli (ekosentrik) yaklaşımlar etrafında şekillenmiştir. İnsan ve çevre ilişkisini ele alan çalışmalara bakıldığında literatürün çevre-merkezli yaklaşımları olumladığı görülmektedir (Karakaya ve Çobanoğlu, 2012: 25).

2.1. İnsan-merkezcilik Yaklaşımı

Çevre sorunlarının nasıl çözüleceğine dair arayışların ilkleri, insanın faydasını ve çıkarını önceleyen yaklaşımlar olmuştur. 20. yüzyılın son çeyreği ile İngiltere, Almanya ve Hollanda gibi ülkelerde ortaya çıkan bilim ve teknolojideki ilerlemelerin çevre sorunlarına çözüm olacağı düşüncesi, üretim aşamalarında gelişmiş teknolojilerden yararlanılmasının kalkınmanın çevre üzerindeki etkilerini azaltacağını savunmaktadır (Uslu, 2009: 51).

İnsan-merkezcilik yaklaşımı Yunanca "anthropos" kelimesinden türetilmiştir. Söz konusu yaklaşıma göre insan dışındaki canlı ve cansız varlıklar, kendiliğinden içkin bir değere sahip değildir. Batı kültürünün ortaya çıkardığı insan-merkezcilik yaklaşımına göre insanoğlu kendisini "doğanın efendisi" şeklinde görmektedir. Çevre konusunda etik ilkeler belirlenecekse bunlar ancak insanların faydasına bir anlama sahipse kabul edilmelidir. İnsanlığın menfaati, her şeyin üzerindedir. İnsan dışındaki varlıkların değeri kendiliğinden değil, insana sağladığı yararlar ölçüsündedir (Ünder, 1996: 59).

İlhan Tekeli, insan-merkezli yaklaşımı ekonomik gelişmeci yaklaşım şeklinde tarif etmektedir (Tekeli, 1999: 119). Ekonomik gelişmeci yaklaşıma göre insanlığın yaşam standartlarının yükseltilmesi, üretim ve tüketim artışı ile paralel olduğundan insan-merkezli yaklaşım ile örtüşmektedir. Her iki kavramda da ortak olan nokta; yalnızca insanlığın iyiliğine olan faaliyetlerin anlamlı ve değerli olmasıdır. Diğer canlı ve cansız varlıklar, bu sürece katkı sağladıkları ölçüsünde değer kazanmaktadır.

İnsan-merkezci yaklaşıma göre çevre, insanı saran bir dekorun ötesinde bir anlama sahip değildir. Çevrenin değeri, insana sağladığı fayda ve verdiği mutlulukla orantılıdır. Dolayısıyla insanlığın faydasını ve mutluluğunu artırmak için her şeyi yapabilmesinin mübah görülmesi ve çevreyi istediği biçimde kullanabilmesi insan-

merkezciliği savunanlar tarafından olağan görülmektedir (Akalın, 2022: 32). İnsan-merkezci yaklaşımda az da olsa çevre korumacılık görüşü hakimdir. Ancak insanlığın ihtiyaçları ile çevresel menfaatler çakışırsa çevresel menfaatlerden ödün vermek gerekir (Kernohan, 2012: 12).

İnsan-merkezli yaklaşımın tarihsel kökeni Aristoteles'e kadar eskiye götürülebilir. Aristoteles, canlılara yönelik oluşturduğu piramitte piramidin en üst basamağına insanı koymuştur. Ayrıca piramide göre bitkiler hayvanlar için, hayvanlar da insanlar için vardır. Yani bitkilerin ve hayvanların insandan bağımsız değerlendirilebilecek bir özgün değeri yoktur. Doğadaki hiçbir şey amaçsız değildir ve doğadaki her şey bizatihi insanlığın hizmetine sunulmuştur (Keleş ve Ertan, 2002: 188-189).

Immanuel Kant'a göre de yeryüzünde asıl amaç insandır. Asıl amaç insan olduğundan insanların hayvanlara veya diğer cansız varlıklara karşı herhangi bir sorumluluğu yoktur. Cansız varlıklar, insanlara fayda sağlıyorlarsa korunmalarında yarar vardır ancak yararı olmayan cansız varlıkların herhangi bir değeri yoktur. Hayvanlar ise öz bilince sahip değillerdir. Bu nedenle hiçbir zaman bir amaç olamazlar, yalnızca insanlık için bir araç olabilirler (Karakoç, 2004: 63).

Kısaca özetlenecek olursa insan-merkezci yaklaşım odağına insanı almaktadır. İnsanın dışındaki her türlü canlı ve cansız varlıktan gerektiğinde ödünler verilebilmesi mümkündür. Üretim ve tüketimin azaltılmasından ziyade bilim ve teknolojideki ilerlemelerin burada kullanılmasıyla çevre sorunlarının azaltılabileceğine dair düşünce hakimdir.

2.2. Çevre-merkezcilik Yaklaşımı

İnsan-merkezli yaklaşımların odağına yalnızca insanı alıyor oluşu, çevre sorunları karşısında çözümsüz kalması, dünyayı insanlığın hizmetine sunulmuş sınırsız kaynaklar olarak görüyor olması gibi nedenlerle yeni alternatif yaklaşım arayışları başlamıştır. Bu arayışların en önemlisi, bütüncül bir bakış açısına sahip olan çevre-merkezli (ekosentrik) yaklaşımlardır. Çevre-merkezli yaklaşımın kökeni Yunanca "holon" kelimesinden gelmekte olup her şeyi içine alan veya kapsayan anlamında kullanılmaktadır (Kılıç, 2008: 183).

Yeryüzü canlı ve cansız varlıklardan meydana gelmektedir. Çevre-merkezci yaklaşım, yeryüzünü oluşturan canlı ve cansız tüm varlıkları kapsayan bütüncül bir bakış açısına sahiptir. Çevre etiği tartışmalarında yalnızca insanı merkezine alan yaklaşımlar pek kabul görmese de ekosistemin düzenini sürdürmesinde cansız varlıkların da rolü yadsınamaz. Canlı veya cansız fark etmeksizin yeryüzündeki her varlık, düzenin devamı açısından bir öneme sahiptir (Akkoyunlu Ertan, 1998: 137).

Çevre-merkezciler, insanın ve doğadaki diğer türlerin daha iyi standartlarda yaşamalarını istemenin yanında doğanın bizatihi kendi başına değerli olduğunu savunmaktadır. Çevre-merkezcilere göre insan, doğadaki canlı ve cansız varlıklardan ayrı olarak incelenmez, ekosistemin birbirine bağlı ve birbirinden ayrılmaz zincirlerinin bir parçası olarak görülür (Tepe, 1991).

Çevre merkezci bakış açısına göre, evrendeki her varlık—bitkiler, hayvanlar ve diğer ekosistem unsurları—doğal döngünün ayrılmaz bir parçasıdır. Her varlık kendine özgü işlevlere sahip olup, eşit haklara sahiptir. Bu anlayış, insanı doğanın hakimi olarak değil, ekosistemin bir üyesi olarak görür. İnsan, bilinçli bir varlık olmasıyla bitkiler ve hayvanlardan ayrışsa da, tüm canlılar gibi ortak bir kökenden gelmektedir. Bu nedenle insan, doğadan ayrı düşünülemez; aksine, onun ayrılmaz bir bileşenidir (Akalın, 2022: 68).

Canlı ve cansız tüm varlıklar birbiriyle sürekli bir etkileşim içindedir ve bu karşılıklı bağımlılık, doğada organik bir bütünlük oluşturur. Bu bütündeki herhangi bir bağın kopması, sistemin dengesinin bozulmasına ve işleyişinin aksamasına yol açar. Örneğin, bir orman ekosisteminde kuraklık meydana geldiğinde, su kaynakları giderek azalır ve bunun sonucunda bazı hayvanlar göç etmek zorunda kalırken, dirençsiz olanlar hayatta kalamaz. Bitkiler de yaşamlarını sürdürebilmek için suya gereksinim duyar. Toprağın aşırı kuruması, bitkilerin su almasını zorlaştırırken, yüksek sıcaklık terlemeyi artırarak bitkilerin kendi içindeki suyu da kaybetmesine neden olur. Hareket edemedikleri için uzun süreli kuraklık, bitkilerin doğrudan ölümüne sebep olabilir. Bu örnek, cansız unsurların canlılar üzerindeki büyük etkisini açıkça göstermektedir. Canlı yaşamı için bu denli hayati öneme sahip olan cansız varlıkları yalnızca birer kaynak olarak görmek ve onlara herhangi bir değer atfetmemek, ahlaki bir eksiklik olacaktır (Gülersoy ve Dursun, 2023: 34-35).

Çevre merkezli yaklaşım, varlıkların yalnızca insanlara sağladığı fayda ve çıkarlar doğrultusunda değerlendirilmesi yerine, onların kendine özgü içsel değerleri (özsel değer –intrinsic value) nedeniyle korunması ve saygı görmesi gerektiğini vurgular. İçsel değer kavramı, doğadaki unsurların nasıl kullanıldığından bağımsız olarak, onların kendi başlarına sahip olduğu ve diğerleri tarafından tanınan değeri ifade eder (Des jardins, 2006: 263). Çevre merkezli yaklaşımın sunduğu bakış açısı, yeryüzündeki yaşamın sürdürülebilirliğini yalnızca biyotik (canlı) unsurlara değil,

aynı zamanda abiyotik (cansız) varlıklara da dayandırır. Bu yaklaşım, ekosistemdeki dengenin karşılıklı bağımlılık ilkesi doğrultusunda sürdürülebileceğini savunur (Kayaer, 2013: 72).

3. TÜRKİYE'DE SOKAK HAYVANLARININ MEVCUT DURUMU

İnsan ve hayvan arasındaki karşıtlık, insanın kendisini hayvanlardan daha üstün görmesi ve onlara hükmetme hakkına sahip olduğu inancıyla modern dünyada yaygın bir ideoloji olarak karşımıza çıkmaktadır. Türcülük ve insan-merkezcilik gibi kavramlarla tanımlanan bu düşünce sistemi, her yıl trilyonlarca hayvanın sömürülmesini ve öldürülmesini meşru hale getirirken, insanın hayvanlardan üstün olduğu fikrini de toplumsal norm haline getirmektedir (Zengin Ergin, 2018: 143).

Dünyada yaşanan hızlı kentleşme olgusu, sokak hayvanlarının yaşam alanlarını da hızla kentleştirerek ya yaşam alanlarını kaplamakta ya da onları yapay bir çevrede yaşamaya mecbur bırakmaktadır. Kentlerde yaşanan dönüşümle beraber sokak hayvanları, birtakım çevrelerce kent merkezlerinde "fazlalık" olarak görülmeye başlanmıştır (Yalçın, 2020: 8). Sokak hayvanlarına yönelik her türden şiddet, giderek yaygın hale gelmektedir.

İnsanlar açısından bakıldığında sokak hayvanları ve sokak hayvanlarının neden olduğu saldırı ve ölümlerin de gittikçe artmakta olduğu görülmektedir. Öyle ki Türkiye'de 2023 yılı aralık ayı verilerine göre başıboş sokak köpeklerinin sayısı yaklaşık 2,8 milyondur. Türkiye'de 2022 yılından itibaren 107 kişinin sokak köpekleri saldırısı sonucunda hayatını kaybettiği, bunlardan 50'sinin ise çocuklardan oluştuğu açıklanmıştır. Ayrıca Türkiye, Türkiye, Dünya Sağlık Örgütü'nün yayımladığı "Kuduz Riskli Temasın Yüksek Olduğu Ülkeler" ve "Kist Hidatik Tehlikesinin Yüksek Olduğu Ülkeler" haritalarında "yüksek tehlike" kategorisinde yer almaktadır (Şahin, 2024: ix).

Sokak hayvanlarına yönelik iyileştirme faaliyetlerine dair dünyada geliştirilmiş çok sayıda çözüm önerisi bulunmaktadır. Sokak hayvanı nüfusunun kontrol altına alınmasının en insani ve kalıcı yolu, kısırlaştırma yöntemiyle kontrolsüz üremenin önüne geçmektir. Kısa vadede ise büyükşehirlerde yoğunlaşan sokak hayvanlarının, daha az popülasyona sahip bölgelere taşınarak, burada bakım ve beslenmelerinin eksiksiz sağlanması gerekmektedir. Ancak bu uygulamadan önce kısırlaştırma işlemlerinin titizlikle tamamlanması şarttır. Sokak hayvanları konusunda en büyük sorun genellikle köpekler olup, sürü psikolojisiyle saldırganlaşmalarının önüne geçmek adına, belirli bölgelere bırakılan köpeklerin ayrı noktalara konumlandırılması etkili bir çözüm olacaktır. Belediyelerin veteriner hekimlerinin iş yükünü hafifletmek ve onlara destek olmak amacıyla, hayvan barınaklarının Tarım ve Orman Bakanlığı bünyesine alınması, hem personel eksikliğini gidermek hem de devlet desteğini doğrudan ve etkili bir şekilde sunmak açısından önemlidir. Kamu bünyesine geçirilen barınakların hayvan hastanesi altyapısıyla güçlendirilmesi, hem sokak hayvanlarının daha iyi koşullarda tedavi edilmesini sağlayacak hem de ekonomik imkânı kısıtlı vatandaşların evcil hayvanlarını daha rahat bir şekilde beslemelerine destek olarak sahipsiz hayvan sayısının artmasının önüne geçecektir. Zamanla bu hastanelerin çiftlik hayvanlarına da hizmet verecek şekilde genişletilmesi, veterinerlik alanındaki istihdamı artırarak hayvancılığın daha verimli hale gelmesine katkıda bulunacaktır. Bununla birlikte, çip ve kimliklendirme sistemiyle kayıt altına alınan hayvanların kasıtlı olarak sokağa terk edilmesini engellemek adına ağır cezai yaptırımların getirilmesi ve kayıp ihbarının belirli bir süre içinde zorunlu hale getirilmesi gerekmektedir. Ayrıca, sokak hayvanı sahiplenmeyi teşvik etmek amacıyla mama, aşı ve tedavi gibi temel ihtiyaçlar için destek sağlanması, bu hayvanların daha iyi koşullarda yaşamalarını mümkün kılacaktır (Youth Think Thank, ty.: 3-4).

Tüm bu veriler ve tartışmalar çerçevesinde 2024 yılında 160 sayılı Hayvanları Koruma Kanunu'nda Değişiklik Yapılmasına Dair Kanun Teklifi Türkiye Büyük Millet Meclisi'nde kabul edilmiş ve kamuoyunda önemli tartışmaları beraberinde getirmiştir.

Kanunla birlikte "topla, aşıla ve kısırlaştır, yerine bırak" yöntemi terk edilmiştir. Yeni düzenlemeye göre sokaktaki köpekler toplanarak sahiplendirilene kadar barınaklarda bakılacaktır. Yerel yönetimlere bakımevi kurmaları için 31 Aralık 2028 tarihine kadar süre verilmiş; il ve ilçe belediyelerinin bütçelerinin binde 5'ini, büyükşehir belediyelerinin ise bütçelerinin binde 3'ünü sokak hayvanlarına dair yapılacak işlere ayırmaları gerektiği hükme bağlanmıştır. Kanunun kamuoyunda en sık tartışılan maddesi 5. Maddedir. Maddede yapılan yeni düzenlemelere göre; barınaklara alınan köpeklerden "*insan ve hayvanların hayatı ve sağlığı için tehlike teşkil eden ve olumsuz davranışları kontrol edilemeyen, bulaşıcı veya tedavi edilemeyen hastalığı bulunan ya da sahiplenilmesi yasak olanlarına*", Veteriner Hizmetleri, Bitki Sağlığı, Gıda ve Yem Kanunu'nun 9. maddesindeki "Hayvanlara ötenazi yapmak yasaktır. Ancak, hayvanlara acı ve ıstırap çektiren veya iyileşme durumu bulunmayan hastalık durumlarında, akut bulaşıcı bir hayvan hastalığının önlenmesi ya da eradikasyonu amacıyla veya insan sağlığı için risk oluşturan durumlarda, davranışları insan ve hayvanların hayatı ve sağlığı için tehlike teşkil eden ve olumsuz davranışları kontrol edilemeyen durumlarda veteriner hekim tarafından ötenazi yapılmasına karar verilebilir.

Ötenazi işlemi veteriner hekim tarafından veya veteriner hekim gözetiminde yapılır" hükümleri uygulanacak (160 sayılı Hayvanları Koruma Kanunu'nda Değişiklik Yapılmasına Dair Kanun, 2024).

KONDA'nın 2024 yılı temmuz ayında gerçekleştirdiği araştırma, kamuoyunun 160 sayılı Hayvanları Koruma Kanunu'nda Değişiklik Yapılmasına Dair Kanun Teklifi'ne ilişkin düşüncelerini yansıtması açısından oldukça önemlidir. Rapora göre Türkiye genelinde vatandaşların %85'i, sokak hayvanlarının gerekli hallerde uyutulabileceği fikrine katılmamaktadır. Katılımcıların %63'ü merkezi ve yerel yönetimlerin hayvanları uyutmadan soruna çözüm bulmaları gerektiğini ifade etmektedir. Katılımcıların %15'i ise sokak hayvanlarına zarar vermeksizin sorunu çözmenin mümkün olmadığını ve gerektiği hallerde sokak hayvanlarının uyutulabileceğini ifade etmektedir (KONDA, 2024). Sonuçlar, toplumun büyük çoğunluğunun yasaya dayanarak sokak hayvanlarının uyutulmasına karşı olduğunu gösterse de oranı az da olsa sokak hayvanlarının uyutulmasını destekleyenler de mevcuttur.

4. İNSAN-MERKEZCİLİK VE ÇEVRE-MERKEZCİLİK YAKLAŞIMLARI ÇERÇEVESİNDE TÜRKİYE'DE SOKAK HAYVANLARI

İnsanmerkezci yaklaşım (antroposentrizm), doğayı ve hayvanları insanın yararına hizmet eden unsurlar olarak görmektedir. Bu bakış açısına göre hayvanların değeri, insanlara sağladıkları fayda ile ölçülür. İnsanmerkezcilik çerçevesinde hayvan hakları, ancak insan çıkarlarıyla örtüştüğü ölçüde korunur. Örneğin, sokak hayvanları insanlara zarar veriyorsa veya kamu sağlığı açısından risk oluşturuyorsa, onların varlığı bir sorun olarak görülür. Türkiye'de 2024 yılında yürürlüğe giren 160 sayılı Hayvanları Koruma Kanunu'nda Değişiklik Yapılmasına Dair Kanun, insanmerkezci bir bakış açısıyla değerlendirilebilir. Kanun kapsamında, başıboş sokak hayvanlarının toplanması ve barınaklarda tutulması öngörülmüştür. İnsanmerkezci yaklaşımı benimseyenler için bu, insan güvenliği ve refahını önceleyen bir çözüm olarak görülebilir.

Çevremerkezci yaklaşım (ekosentrizm), doğayı ve içerisindeki tüm unsurları içsel bir değere sahip olarak kabul eder. Hayvanlar, sadece insanlara sağladıkları fayda açısından değil, doğanın bir parçası oldukları için değerlidir. Bu perspektiften bakıldığında, sokak hayvanlarının öldürülmesi veya zorla barınaklara kapatılması etik olarak kabul edilemez. Çevremerkezcilere göre, hayvanların da yaşama hakkı vardır ve insanlar, doğadaki diğer canlılarla birlikte uyum içinde yaşamalıdır. Bu bağlamda, kısırlaştırma ve doğal yaşam alanlarının korunması gibi insancıl yöntemler ön plana çıkar. Bu perspektifle bakıldığında 160 sayılı Hayvanları Koruma Kanunu'nda Değişiklik Yapılmasına Dair Kanun'un çevremerkezci bir bakışla hazırlanmadığı görülmektedir. İnsanların menfaati ile sokak hayvanları arasında kalındığında ötenazi bir çözüm olarak sunulmaktadır.

Kamuoyunda yapılan tartışmalar açısından değerlendirildiğinde insanmerkezci bakış açısına sahip vatandaşların 160 sayılı Kanun'a destek verdikleri, çözüm önerileri arasında "ötenazinin" de kabul edilebilir olduğunu savundukları görülmektedir. Ancak tartışmaları çevremerkezli bakış açısıyla değerlendirenlerce durum oldukça farklıdır. Çevremerkezciler, sokak hayvanları sorununa 160 sayılı Kanun'un öngördüğü "ötenaziye" gerek olmadığını, ötenazi yapılmaksızın merkezi ve yerel yönetimlerin bu sorunu çözmekle mükellef olduklarını savunmaktadır. Özetle Türkiye'de sokak hayvanları sorunu, insanmerkezciler ve çevremerkezciler tarafından farklı perspektiflerde ele alınmaktadır. İktidarın tutumunun insanmerkezcilere daha yakın olduğu görülmektedir.

5. SONUÇ

Bu çalışma, insanmerkezci ve çevremerkezci yaklaşımlar çerçevesinde Türkiye'de sokak hayvanları sorununa yönelik farklı perspektifleri analiz etmektedir. İnsanmerkezci bakış açısı, sokak hayvanlarının insanlara sunduğu fayda veya oluşturduğu tehdit üzerinden değerlendirilmesini savunurken, çevremerkezci yaklaşım hayvanların doğanın ayrılmaz bir parçası olarak kendi içsel değerleri olduğunu vurgulamaktadır. Türkiye'de 2024 yılında yürürlüğe giren 160 sayılı Hayvanları Koruma Kanunu'nda Değişiklik Yapılmasına Dair Kanun, sokak hayvanlarının toplatılması ve belirli koşullar altında ötenaziye tabi tutulmasını içermesi nedeniyle insanmerkezci bir politika olarak değerlendirilebilir.

Toplumsal tartışmalar ve kamuoyu araştırmaları, geniş bir kesimin bu düzenlemeye karşı çıktığını göstermektedir. Özellikle çevremerkezci yaklaşımı benimseyenler, hayvanların yaşam hakkının korunmasını ve daha insancıl çözümlerin geliştirilmesini savunmaktadır. Buna karşılık, insanmerkezci bakış açısını benimseyenler, halk sağlığı ve güvenliği gibi faktörleri ön planda tutarak sokak hayvanlarının kontrol altına alınması gerektiğini düşünmektedir.

Çalışmanın bulguları, Türkiye'de sokak hayvanları politikasına ilişkin kararların etik yaklaşımlar çerçevesinde şekillendiğini ve insanmerkezci politikaların daha baskın olduğunu göstermektedir. Ancak, çevremerkezci yaklaşımların toplumda giderek daha fazla kabul görmesi, gelecekte daha sürdürülebilir ve etik temellere dayanan çözümler geliştirilmesi gerekliliğini ortaya koymaktadır. Çıkarılan kanunların meşruiyetini halk desteğinden aldığı dikkate alınırsa sokak hayvanları sorununa yönelik yapılan düzenlemelerde kamuoyu desteğinden uzaklaşıldıkça sorunun çözümünden de uzaklaşılacağı unutulmamalıdır.

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The Impact of Artificial Intelligence on Organizational Communication: A Survey-Based Study

Rădulescu Cosmin-Sebastian[1]

[1]PhD student, Communication Sciences at the National University of Political Studies and Public Administration, cosmin.radulescu@comunicare.ro

Abstract: Artificial intelligence (AI) is increasingly transforming organizational communication by enhancing audience engagement, message personalization, and operational efficiency. This study aims to explore how AI-driven tools, particularly natural language processing and chatbots, are utilized in public relations and digital communication. Through a survey-based research approach, the study seeks to understand professionals' perceptions regarding AI's role in audience segmentation, message customization, and overall communication strategies. Additionally, it examines the relationship between media literacy and the effective use of AI in communication processes.

By investigating these aspects, the research intends to provide insights into both the opportunities and challenges associated with AI integration in communication. While AI offers efficiency and scalability, ethical concerns, data privacy, and the balance between automation and human authenticity remain critical considerations. The findings of this study will contribute to the broader discourse on AI's role in reshaping communication strategies, offering organizations guidance on optimizing AI adoption while maintaining transparency and trust.

Keywords: Artificial Intelligence, Organizational Communication, Public Relations, Digital Transformation, Natural Language Processing, Audience Segmentation, Media Literacy, Chatbots

1.Introduction

The rapid advancement of artificial intelligence (AI) has significantly transformed the field of communication and public relations, reshaping how professionals engage with audiences, personalize messages, and optimize strategic decision-making. AI-driven tools, including natural language processing models, automated content generation, and audience segmentation algorithms, have introduced new efficiencies in message dissemination and interaction management. As organizations increasingly integrate AI into their communication strategies, the need to understand its implications for professional practices becomes more pressing.

One of the critical aspects of AI adoption in communication is its relationship with media literacy and media locus of control, which influence how professionals assess, interpret, and apply AI-generated content. Media literacy levels determine the ability to critically evaluate AI-generated information, distinguishing between credible insights and algorithmic biases. Additionally, perceptions of control over media exposure, known as media locus of control, may shape the extent to which professionals trust or regulate AI-driven outputs. Furthermore, the accessibility and usability of AI technologies play a crucial role in their adoption, as professionals must navigate both the technical and ethical dimensions of AI implementation.

This study seeks to explore the interconnections between media literacy, media locus of control, AI software usage, perceived accessibility, and user satisfaction within the communication and public relations industry. By examining how these variables interact, the research aims to provide empirical insights into the efficiency, challenges, and adoption patterns of AI in communication strategies.

2.Literature review

Artificial intelligence (AI) has significantly transformed communication strategies, enabling organizations to optimize audience segmentation, personalize messages, and enhance efficiency in digital campaigns. The integration of AI in communication is particularly relevant in the context of marketing and public relations, where it contributes to the automation of content creation, data analysis, and audience engagement. As digital transformation continues to reshape organizational communication, understanding AI's role in this process becomes essential for practitioners and researchers alike.

The foundation of any communication campaign is built on strategic planning, which involves identifying the key challenges and opportunities within the target audience (Tichindelean, 2015). Strategy, in this sense, serves as the guiding principle for structuring communication efforts and precedes the formulation of objectives. A well-defined strategy enables the effective use of AI-driven tools, ensuring that digital campaigns are data-driven and

audience-oriented. In the context of digital transformation, AI facilitates the precise segmentation of audiences, allowing marketers to tailor content based on consumer behaviors and preferences.

One of the critical aspects of AI's integration into communication strategies is the enhancement of message personalization. AI-powered systems, such as machine learning algorithms and natural language processing (NLP), can analyze vast amounts of user data to generate customized content that aligns with audience interests (Hegner-Kakar, Richter & Ringle, 2018). This capability is particularly relevant in the field of content marketing, where AI tools assist in automating the generation of personalized messages and optimizing distribution channels to maximize reach and engagement.

The increasing reliance on AI in communication is also influenced by the rapid evolution of digital platforms and the proliferation of big data. Digitalization has accelerated the adoption of AI-driven communication tools that enable organizations to analyze consumer interactions and predict behavioral trends (Frost, Fox & Strauss, 2018). These tools facilitate automated decision-making, allowing communication professionals to refine their strategies based on real-time insights. By leveraging AI, organizations can not only streamline their message dissemination processes but also measure the effectiveness of their campaigns through advanced analytics.

Another dimension of AI in communication pertains to the transformation of audience engagement tactics. The emergence of AI-driven chatbots and virtual assistants has redefined how organizations interact with their stakeholders. These technologies provide instantaneous responses to customer inquiries, enhance user experiences, and improve the efficiency of communication processes. Moreover, AI's ability to conduct sentiment analysis enables organizations to assess public perception and adjust their messaging strategies accordingly (Hänninen & Karjaluoto, 2017). This capacity for real-time feedback and adaptive communication is a key advantage of AI adoption in public relations and digital marketing.

In addition to optimizing engagement and personalization, AI plays a crucial role in cost reduction and operational efficiency. AI-powered automation reduces the need for manual content creation and data analysis, allowing organizations to allocate resources more effectively. Research indicates that businesses utilizing AI in their communication strategies experience significant cost savings while maintaining high levels of audience engagement (Kotler & Armstrong, 2018). The financial benefits of AI-driven communication campaigns further reinforce the importance of integrating these technologies into modern strategic frameworks.

Despite these advantages, AI adoption in communication is not without challenges. Ethical considerations, data privacy concerns, and the potential loss of human authenticity in messaging remain key issues that practitioners must address. Transparency in AI-driven communication is essential to maintaining audience trust and credibility. As AI continues to evolve, the balance between automation and human oversight will be critical in ensuring that communication strategies remain ethical and effective.

Given the increasing reliance on AI in communication, this study aims to examine the specific ways in which AI is utilized in the implementation of communication campaigns, particularly in audience segmentation, message personalization, and efficiency improvement. By analyzing these aspects, the research seeks to contribute to a deeper understanding of AI's impact on communication strategies and provide practical insights for professionals in the field.

3.Research Methodology

Research Aim

The purpose of this study is to investigate the relationship between artificial intelligence (AI) applications in communication and public relations and key factors such as media literacy, media locus of control, AI software usage, perceived accessibility, and satisfaction with AI tools. The research aims to assess how communication and public relations professionals integrate AI technologies such as ChatGPT, how media literacy influences their ability to critically evaluate AI-generated content, and whether perceptions of control over media information affect AI adoption. Additionally, the study explores professionals' perceptions of AI accessibility and usability and their overall satisfaction with AI-driven tools in optimizing communication strategies.

Research Objectives

To address the research aim, the following objectives have been established:

Objective 1: Investigating the relationship between media literacy and AI software usage modalities of communication professionals.

Objective 2: Identifying the extent to which media locus of control influences AI software usage.

Objective 3: Identifying the relationship between AI software usage and the perceived accessibility of AI-driven communication tools among communication and public relations professionals.

Objective 4: Investigating the relationship between AI software usage and user satisfaction in communication and public relations.

Research Hypotheses

To guide the empirical investigation, the following hypotheses have been formulated:

H1: There is a significant positive relationship between media literacy and AI software usage among communication professionals. This hypothesis assumes that professionals with higher media literacy levels are more likely to effectively integrate AI applications into their communication strategies, critically assess AI-generated content, and optimize AI-driven tools for enhanced message precision.

H2: There is a significant positive correlation between media locus of control and AI software usage. This hypothesis assumes that communication professionals with a higher internal media locus of control—who perceive themselves as having greater influence over their media exposure—are more likely to adopt AI tools strategically, ensuring responsible and accurate content dissemination.

H3: There is a significant positive relationship between AI software usage and the perceived accessibility of AI-driven communication tools. This hypothesis assumes that the more frequently communication professionals use AI applications, the more they perceive these tools as accessible, user-friendly, and effective in optimizing communication workflows.

H4: There is a significant positive relationship between AI software usage and user satisfaction in communication and public relations. This hypothesis assumes that communication professionals who regularly engage with AI tools experience increased efficiency, reduced workload, and enhanced content customization, leading to higher levels of satisfaction with AI-driven communication processes.

The survey-based research method has been chosen for this study due to its ability to collect structured, quantitative data from a large sample of communication and public relations professionals. Since the study examines the relationship between media literacy, media locus of control, AI software usage, accessibility, and satisfaction, a quantitative approach is appropriate for identifying statistical associations between these variables. The survey method allows for the collection of self-reported data on AI adoption and its perceived impact, ensuring that insights are based on practitioners' real experiences. Additionally, using a standardized questionnaire ensures comparability across responses, which is essential for conducting statistical correlation analyses. Given that AI applications in communication are rapidly evolving, a survey provides an efficient means to capture current professional perspectives and adoption trends.

A non-probabilistic convenience sampling method has been employed for participant selection. This approach is justified by the need to access professionals actively working in communication and public relations, ensuring that the sample includes individuals with relevant expertise in AI applications. The research targets 227 communication and public relations professionals, including those working in corporate communication, public relations agencies, media relations, and digital marketing, thus reflecting diverse experiences in AI integration. The selection criterion ensures that participants have some degree of exposure to AI-driven tools in their professional activities, making them suitable for assessing perceptions of AI effectiveness, accessibility, and usability.

Data will be collected through an online survey platform, which ensures efficiency in response gathering and data processing. The sample size of 227 participants is sufficient for conducting non-parametric statistical analyses, including Spearman's rho correlations to assess relationships between ordinal variables and normality testing to determine the data distribution. These statistical methods allow the study to examine whether variables such as media literacy, media locus of control, and AI software usage are significantly correlated with AI accessibility and user satisfaction. By employing a structured survey design and targeted sampling approach, the research ensures reliable and interpretable findings regarding AI's role in modern communication practices.

4.Results

The results of this research provide a comprehensive analysis of the relationship between artificial intelligence (AI) applications and their impact on communication and public relations strategies. By examining key variables such as media literacy, AI accessibility, and user satisfaction, the findings offer valuable insights into how professionals integrate AI tools into their daily workflows. The statistical analysis, based on nonparametric correlation tests, highlights the extent to which AI adoption influences communication efficiency, message personalization, and overall strategic effectiveness.

Table 1. Normality statistics

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Media literacy	.300	227	<.001	.767	227	<.001
Media locus of control	.230	227	<.001	.798	227	<.001
AI software usage	.283	227	<.001	.772	227	<.001
Perceived accessibility	.499	227	<.001	.469	227	<.001
User satisfaction	.288	227	<.001	.791	227	<.001

a. Lilliefors Significance Correction

The normality test results presented in Table 1 indicate that none of the measured variables follow a normal distribution. Both the Kolmogorov-Smirnov and Shapiro-Wilk tests yield significance values (Sig.) below .001 for all variables, confirming significant deviations from normality. Specifically, media literacy (Shapiro-Wilk: .767, $p < .001$) and media locus of control (Shapiro-Wilk: .798, $p < .001$) demonstrate non-normal distributions, suggesting variability in participants' levels of media competence and their perceived control over information consumption. Similarly, AI software usage (Shapiro-Wilk: .772, $p < .001$) shows a significant departure from normality, which may indicate diverse patterns of AI adoption among communication professionals.

Moreover, perceived accessibility (.469, $p < .001$) exhibits the lowest Shapiro-Wilk statistic, implying a particularly skewed or kurtotic distribution. This finding suggests that respondents perceive AI accessibility in highly varied ways, potentially influenced by disparities in technological literacy or resource availability. Lastly, user satisfaction (.791, $p < .001$) also deviates significantly from normality, indicating diverse perceptions regarding the benefits and usability of AI-driven tools. Given these results, nonparametric statistical methods such as Spearman's rho correlation will be applied in further analyses to ensure accurate and reliable interpretations.

Table 2. AI software usage and media literacy

			Media literacy	AI software usage
Spearman's rho	Media literacy	Correlation Coefficient	1.000	.486**
		Sig. (2-tailed)	.	.000
		N	227	227
	AI software usage	Correlation Coefficient	.486*	1.000
		Sig. (2-tailed)	.000	.
		N	227	227

The results in Table 2 provide key insights into the relationship between media literacy and AI software usage among communication and public relations professionals, directly addressing the first objective of this study. The Spearman's rho correlation coefficient ($\rho = .486$, $p < .001$) indicates a moderate, statistically significant positive correlation, suggesting that higher levels of media literacy are associated with increased usage of AI-driven tools in professional communication settings.

This finding is critical in the context of AI adoption in public relations and communication, as it demonstrates that professionals who possess a stronger ability to critically evaluate digital content and media sources are more likely to integrate AI into their workflow. Given the increasing reliance on AI-generated content for audience engagement, sentiment analysis, and automated messaging, media literacy emerges as a facilitating factor rather than a barrier to AI adoption. This supports the assumption that communication professionals who are proficient in navigating media environments may have greater confidence in leveraging AI applications such as ChatGPT, understanding both their capabilities and limitations.

The moderate strength of the correlation indicates that while media literacy is an important predictor, other factors such as organizational policies, technological infrastructure, and professional experience may also play a role in shaping AI usage patterns. Future research could explore whether targeted training programs in AI ethics and critical media analysis further strengthen this relationship, ensuring that communication professionals can maximize the benefits of AI while mitigating potential risks related to misinformation and algorithmic biases.

Table 3. AI software usage and media locus of control

			Media locus of control	AI software usage
Spearman's rho	Media locus of control	Correlation Coefficient	1.000	.399**
		Sig. (2-tailed)	.	.000
		N	227	227
	AI software usage	Correlation Coefficient	.399*	1.000
		Sig. (2-tailed)	.000	.
		N	227	227

The correlation analysis presented in Table 3 examines the relationship between media locus of control and AI software usage, addressing the second research objective. The Spearman's rho coefficient ($\rho = .399$, $p < .001$) reveals a moderate positive correlation, indicating that professionals with a stronger sense of control over media information tend to engage more frequently with AI-driven tools in communication and public relations.

This relationship suggests that individuals who perceive themselves as active agents in filtering, interpreting, and managing media content are more inclined to adopt AI applications in their professional activities. A higher media locus of control likely fosters confidence in using AI tools, as these professionals may feel more capable of critically assessing AI-generated outputs and integrating them into strategic communication processes. Given that AI systems rely on vast datasets and algorithmic decision-making, a well-developed media locus of control could help professionals navigate potential biases and ensure ethical content generation.

Table 4. AI software usage and perceived accessibility

			Perceived accessibility	AI software usage
Spearman's rho	Perceived accessibility	Correlation Coefficient	1.000	.511**
		Sig. (2-tailed)	.	.000
		N	227	227
	AI software usage	Correlation Coefficient	.511*	1.000
		Sig. (2-tailed)	.000	.

		N	227	227

The correlation analysis in Table 4 examines the relationship between AI software usage and perceived accessibility of AI-driven communication tools, addressing the third research objective. The results indicate a moderate-to-strong positive correlation (Spearman's rho = .511, $p < .001$), suggesting that professionals who frequently use AI tools in communication and public relations perceive these technologies as more accessible.

This finding implies that as individuals engage more with AI applications, they develop a greater familiarity and comfort with the technology, leading to an enhanced perception of its accessibility. Frequent users may find AI tools easier to navigate, more intuitive, and more seamlessly integrated into their workflows, reinforcing the idea that technological adoption is often accompanied by increased confidence and perceived ease of use. Additionally, exposure to AI functionalities, such as automation, content personalization, and data analysis, may lead professionals to recognize the practical advantages of these tools, thus shaping their perception of accessibility.

From an industry perspective, the results highlight a potential feedback loop in AI adoption: professionals who already utilize AI tools are more likely to view them as user-friendly and accessible, which may encourage continued usage and deeper integration into communication strategies. Conversely, those who perceive AI tools as less accessible may be less inclined to engage with them, leading to a potential digital divide in AI adoption among communication professionals. Future research could explore whether training programs or organizational support structures influence accessibility perceptions, ensuring that AI-driven innovations benefit a broader range of professionals in public relations and digital communication.

Table 5. AI software usage and user satisfaction

			User satisfaction	AI software usage
Spearman's rho	User satisfaction	Correlation Coefficient	1.000	.526**
		Sig. (2-tailed)	.	.000
		N	227	227
	AI software usage	Correlation Coefficient	.526*	1.000
		Sig. (2-tailed)	.000	.
		N	227	227

The correlation analysis presented in Table 5 examines the relationship between AI software usage and user satisfaction in communication and public relations, addressing the fourth research objective. The results indicate a moderate-to-strong positive correlation (Spearman's rho = .526, $p < .001$), suggesting that professionals who engage more frequently with AI tools tend to report higher levels of satisfaction with their use.

This finding suggests that increased familiarity and interaction with AI-driven tools contribute to a more favorable user experience. As professionals integrate AI into their daily workflows, they likely develop a better understanding of its functionalities and benefits, leading to higher levels of satisfaction. AI-powered tools may enhance efficiency, streamline repetitive tasks, and improve content personalization, all of which contribute to a positive user perception. Moreover, the automation of labor-intensive processes, such as audience segmentation and message optimization, allows communication professionals to focus on strategic and creative aspects of their work, further reinforcing satisfaction.

From a broader perspective, this correlation highlights the importance of AI literacy in maximizing the benefits of AI adoption. Users who actively engage with AI tools may be more adept at leveraging their full potential, while those with limited exposure may not experience the same advantages.

5.Discussion

The discussion of results focuses on testing the four research hypotheses by analyzing the statistical findings and interpreting them in relation to existing theoretical perspectives. The relationship between media literacy, media

locus of control, AI software usage, perceived accessibility, and user satisfaction is explored, highlighting how artificial intelligence is integrated into communication and public relations practices.

The first hypothesis, which postulated a significant positive relationship between media literacy and AI software usage among communication professionals, was supported by the findings. The correlation analysis indicated that individuals with higher media literacy levels are more likely to effectively utilize AI-driven tools in their communication workflows. This suggests that media literacy plays a crucial role in AI adoption, as professionals who possess the ability to critically evaluate information are better equipped to discern the strengths and limitations of AI-generated content. This aligns with theoretical perspectives on digital literacy, which argue that individuals with higher levels of media literacy can navigate digital environments more effectively, identifying credible sources and mitigating the risks of misinformation. AI-based applications in communication rely on algorithmic processing to generate responses, making it essential for professionals to have the skills necessary to assess AI-generated messages critically. The ability to evaluate the relevance, accuracy, and potential biases of AI-driven content ensures that communication professionals use AI tools responsibly, integrating them in a way that enhances rather than compromises the quality of communication strategies.

The second hypothesis, which suggested a significant positive correlation between media locus of control and AI software usage, was also confirmed. The results indicated that professionals with a strong internal media locus of control—who believe they have the ability to regulate their media exposure and information processing—are more likely to adopt AI strategically. This finding underscores the importance of personal agency in technology adoption. When professionals perceive themselves as having control over their media environment, they are more inclined to use AI proactively rather than passively accepting algorithm-generated content. This aligns with the theoretical assumption that individuals with an internal locus of control are more likely to take initiative in filtering, verifying, and refining information rather than relying on external factors. The implications of this finding are particularly relevant for AI-driven public relations and communication strategies, where ethical considerations and content credibility are critical. Professionals who actively engage with AI tools while maintaining a high level of scrutiny over content accuracy are more likely to enhance the effectiveness of AI-driven campaigns. By leveraging AI to support rather than dictate communication strategies, these professionals ensure that AI-generated content aligns with organizational goals and ethical standards.

The third hypothesis, which posited a significant positive relationship between AI software usage and the perceived accessibility of AI-driven communication tools, was also supported by the data. The correlation analysis showed that frequent AI users tend to perceive AI applications as more accessible and user-friendly. This finding suggests that the more professionals engage with AI tools, the more confident they become in navigating these technologies, which in turn reduces barriers to adoption. Perceived accessibility plays a crucial role in determining the extent to which AI is integrated into communication strategies, as ease of use is a key factor influencing technology adoption. When AI applications are perceived as intuitive and seamless to use, communication professionals are more likely to incorporate them into their workflows. This also reinforces the importance of continuous training and skill development in AI literacy. The study findings indicate that AI accessibility is not just a matter of technical usability but also of professional experience and exposure. Professionals who use AI tools more frequently develop greater familiarity with their functionalities, making AI integration a natural extension of their communication strategies.

The fourth hypothesis, which suggested a significant positive relationship between AI software usage and user satisfaction, was confirmed by the findings. The data indicated that communication professionals who frequently use AI applications report higher levels of satisfaction with AI-driven communication tools. This supports the idea that AI adoption contributes to improved efficiency, enhanced message customization, and a reduced workload, leading to a more positive user experience. AI applications, such as ChatGPT, facilitate content generation, streamline information processing, and support decision-making, which enhances productivity in communication and public relations roles. When AI tools effectively assist professionals in managing their tasks, they are perceived as valuable assets rather than disruptive technologies. The relationship between AI usage and satisfaction also highlights the importance of practical experience in shaping perceptions of AI's effectiveness. Professionals who integrate AI into their daily workflows are more likely to appreciate its benefits and develop strategies for optimizing its use. Additionally, the findings indicate that satisfaction with AI tools is linked to their ability to support creativity and strategic thinking rather than merely automating repetitive tasks. AI's role in communication extends beyond automation; it enhances decision-making processes, refines content strategies, and personalizes audience engagement efforts.

6.Conclusions

The results of this study provide a comprehensive understanding of the relationship between artificial intelligence (AI) usage in communication and public relations and key variables such as media literacy, media locus of control, perceived accessibility, and user satisfaction. The analysis confirms a significant positive correlation between media literacy and AI software usage, indicating that professionals with a higher capacity for critical evaluation of media content are more likely to integrate AI applications effectively. This suggests that media literacy facilitates a more informed and strategic use of AI tools, allowing professionals to discern and refine AI-generated content while mitigating the risks of misinformation.

The relationship between media locus of control and AI software usage also reveals important implications. The positive correlation suggests that individuals with a high internal locus of control over media exposure demonstrate greater engagement with AI-driven technologies. This finding indicates that those who perceive themselves as active agents in controlling the flow of information are more inclined to utilize AI applications in a deliberate and analytical manner, reinforcing the role of cognitive autonomy in the adoption of emerging technologies.

Another key finding concerns the association between AI software usage and perceived accessibility. The positive correlation underscores that frequent users of AI applications tend to perceive these tools as more accessible and user-friendly. This suggests that sustained interaction with AI technologies leads to increased familiarity and ease of use, which may contribute to more seamless integration of AI in communication practices.

Lastly, the study highlights the link between AI software usage and user satisfaction. The positive correlation confirms that professionals who engage more frequently with AI-driven tools report higher levels of satisfaction, likely due to perceived benefits in efficiency and task optimization. This supports the notion that AI applications, when effectively integrated into professional workflows, can enhance productivity and streamline communication processes.

Overall, the findings align with the study's objectives, demonstrating that AI adoption in communication and public relations is influenced by both cognitive and perceptual factors. Media literacy and media locus of control shape the way professionals interact with AI-generated content, while accessibility and satisfaction perceptions reinforce continued usage. These insights contribute to a deeper understanding of the factors that drive AI integration in communication practices, providing a foundation for future research on optimizing AI implementation in professional settings.

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Entrepreneurship and Innovation in Albania Public Policy Literature Review

PhD candidate Arjola Mersini[1] **Prof. Dr. Ermira Qosja[2]**

[1]University "Aleksandër Moisiu" Durrës, arjola.mersini@gmail.com

[2]University "Aleksandër Moisiu" Durrës, eqosja@yahoo.com

Abstract: Entrepreneurship and innovation are key factors for Albania's economic development, especially in the context of young people, who often face barriers to starting businesses. The government has implemented supportive policies to stimulate the development of start-ups and encourage innovative ideas. However, major challenges remain in terms of financial support, institutional capacity and supporting infrastructure.

Policies that promote innovation include financing research and development, creating regulatory frameworks that favour innovation, and building the right infrastructure for start-ups and small enterprises. Albanian government has adopted programs such as "Start-Up Albania" that aim to facilitate access to finance for young entrepreneurs, emphasizing the importance of technology and digitalization (Start Up Albania, 2023). Supportive policies that include easy access to finance and mentoring have a direct impact on the successful development of start-ups and SMEs (OECD, 2020).

This paper examines the impact of public policies to support entrepreneurship and innovation in Albania over the last decade. The paper focuses on how support measures, such as start-up financing and R&D support, have helped young people create new businesses. The objective is to assess the effectiveness of these policies and identify barriers that hinder the further development of entrepreneurship.

Support policies for entrepreneurship in Albania have helped create opportunities for young people, however, they still face challenges and barriers in financing and infrastructure. Financial support for start-ups has influenced the creation of new businesses and innovative incentives. These interventions aim to create a suitable entrepreneurial environment by exploiting the potential in terms of growth and employment. All these strategies should focus on creating supportive policies for young people and women.

Keywords: Entrepreneurship, Innovation, Public Policies, Albania, Youth,

1. Introduction

Innovation, which means the creation and implementation of new ideas into products and services, and entrepreneurship, as the process of creating new businesses and developing them, are key factors in increasing competitiveness and improving the productive capacity of an economy (Ziemnowicz, 2020). Through new support policies for small and medium-sized enterprises (SMEs), the Albanian government has aimed to improve the business climate and increase the integration of new technologies (INSTAT, 2023). According to the Global Entrepreneurship Monitor (GEM), the percentage of young people involved in entrepreneurship in Albania has increased in recent years, indicating that Albania has considerable potential for further developing its entrepreneurial ecosystem.(GEM, 2022).

Policies that promote innovation include funding research and development, creating regulatory frameworks that favor innovation, and building the right infrastructure for start-ups and small enterprises. The Albanian government has adopted programs such as "Start-Up Albania" that aim to facilitate access to financing for young entrepreneurs, emphasizing the importance of technology and digitalization (StartUp Albania, 2023).Supportive policies that include easy access to financing and mentoring have a direct impact on the successful development of start-ups and SMEs (OECD, 2020).

Through the development of an innovative ecosystem, Albania can expand its capacity to generate value-added products and services, helping to diversify the economy and reduce dependence on traditional sectors (European Commission, 2022). The technology sector in Albania has experienced significant growth, supported by programs such as "Digital Innovation Hubs" that aim to create a favorable environment for innovation and technological development (European Commission, 2021).

This study aims to analyse the impact of public policies and institutions in supporting entrepreneurship and innovation in Albania, with a particular focus on young people and advanced technologies. By examining the development of the entrepreneurship ecosystem over the last decade, this research aims to identify the successes and challenges of the policies followed, as well as to provide recommendations for their improvement, in order to contribute to the country's economic development through innovation.

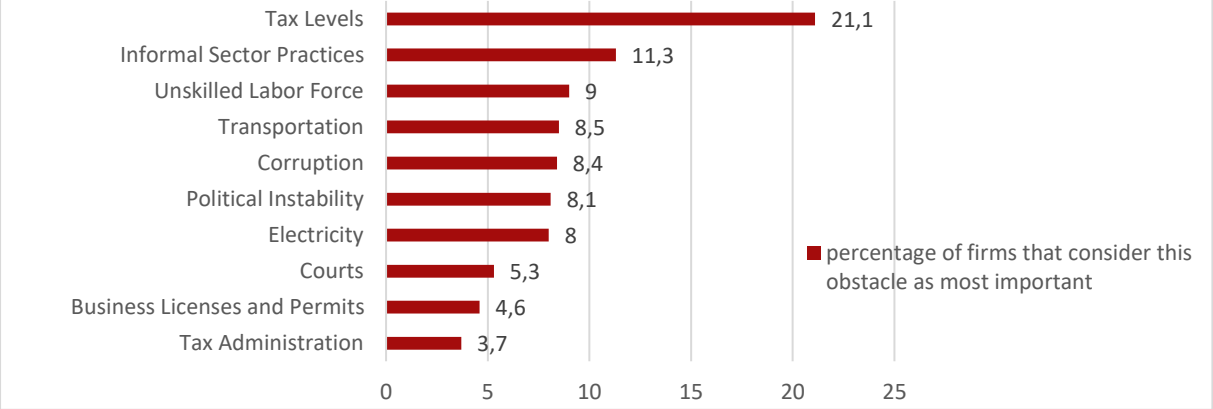
For this conference, a hypothesis has been proposed that will be tested to understand the impact of public policies and institutions on supporting entrepreneurship and innovation in Albania, with a special focus on young people.

Hypothesis: Public policies that support entrepreneurship have a positive impact on increasing innovation and the creation of start-ups by young people in Albania.

2. Literature Review, Reports and Public Policy

Young people face particular challenges in the field of entrepreneurship and innovation, but they also have significant opportunities to contribute to economic development through new ideas and technologies (Florida, 2002). Governments provide support to Small and Medium Enterprises (SMEs) through various measures, including tax incentives, credit provisions, social welfare programs, and financial assistance (Saif et al., 2024). Lack of financing is a commonly reported obstacle but it is not always a limiting factor in the success of businesses (Cormier et al., 2021).

Chart 1: Obstacles in the business environment (top 10)



Source:(World Bank, 2019)

Despite positive developments, Albania's business environment still faces several structural obstacles to strengthening competitiveness and fostering growth. According to the World Bank's 2019 Enterprise Survey, the main obstacles to the business environment include the level of taxes, the level of informality, the unskilled workforce, and shortcomings in transport infrastructure (World Bank, 2019).

Although some of the most important and prestigious organizations in the world: CBO, OECD, US Department of State and EU, have given Albania very high ratings in digital governance, there is still much to be done regarding digital skills education and the gender gap in the ICT sector (Djindi et al., 2023). In 2021, only 55% of small and medium-sized enterprises (SMEs) in EU countries reached at least a basic level of adoption of digital technologies. Businesses are increasingly digitalizing, but the use of advanced digital technologies remains low. Although 34% of enterprises now rely on cloud computing (in 2021), only 8% use AI (in 2021) and 14% big data (in 2020) (Djindi et al., 2023).

Table 8: The appearance of Albania in the Global Competitiveness Index 2019 - Albania

indicator	Value	MARKS	RANKINGS
Innovative skills	-	29.8	110
Interaction and diversity 0-100	-	32.5	114
Workforce diversity 1-7 (highest)	4.0	49.7	115
Development situation of clusters 1-7 (highest)	2.8	30.4	133
International joint inventions per million pieces.	0.10	2.9	84
Multi-stakeholder collaboration 1-7 (highest)	3.8	47.1	57
Research and Development 0-100	-	17.2	126
Scientific publications points	57.3	60.2	128
Patent applications per million pieces	0.22	3.6	89
Research & development spending % GDP	0.2	5.1	98

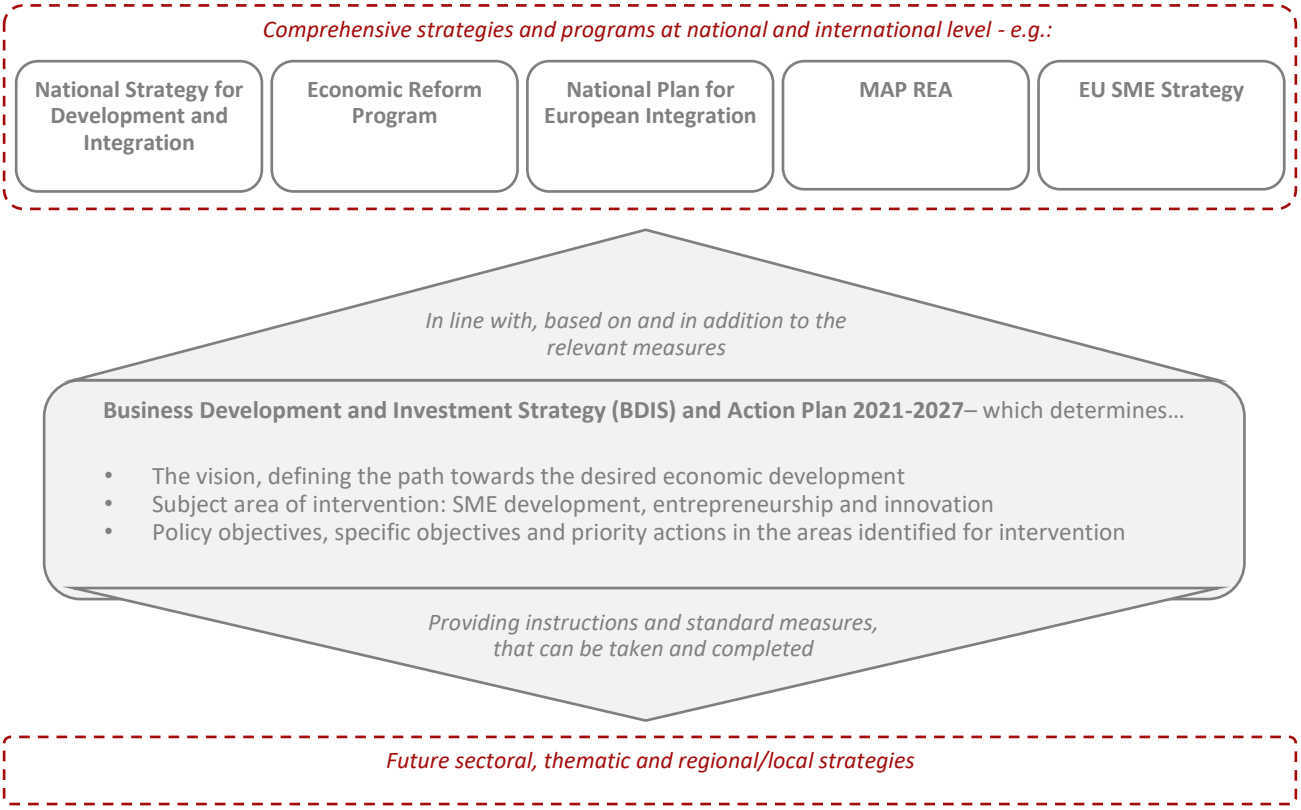
Dominance of research institutions 0-100 (highest)	0.00	0.0	117
COMERCIALIZATION	-	49.2	95
Buyer Sophistication 1-7 (highest)	3.1	34.5	107
Applications for commercial macros per million pieces	379.36	63.9	81

Source:(Global Competitiveness Report, 2019)

One of the reasons for the low innovation dynamics in Albania compared to the Western Balkans region may be related to the low expenditure on Research and Development (R&D). According to Table 1, R&D expenditure is at 0.2% of GDP, comparable to Bosnia and Herzegovina and lower than in Montenegro (0.4%), North Macedonia (0.4%), Serbia (0.9%) and the EU average (2.19%).(Global Competitiveness Report, 2019)Around 0.1% of the population worked in research in 2018, which is less than a third of the EU average.(European Commission, 2019). The few research and development activities are concentrated in a limited number of universities and (large) companies and focus on, among others, natural sciences, bioeconomy, humanities and gas and (combustion) engine technology. The focus on these areas is reflected (among others) in academic publications and patents granted in Albania.

Since 2021 there is zero tax for small businesses in Albania (Jajanka, 2020). In recent years, the Albanian government has undertaken several reforms to create a more favourable environment for new entrepreneurs and investors. The Law on Start-ups, adopted in 2022, has been an important step in this direction, providing fiscal incentives for new entrepreneurs and easing some of the bureaucratic obstacles that entrepreneurs encounter when registering their businesses. Furthermore, the creation of Start-up Funds and the promotion of projects supported by international donors have created opportunities for Albanian entrepreneurs to obtain financing for their innovative projects (INSTAT, 2023). These policies have been focused mainly on the technology and services sectors, where growth has been most visible.

The role and purpose of the new Business Development and Investment Strategy (BDIS) within the relevant strategic framework



This call will consider funding projects coming from all fields of economy, science and technology, giving priority to startups (Ibrahimaj, 2024):

The green sector includes industries, activities and innovations that aim to:

• Reducing environmental impact through sustainable use of resources.

• Mitigating climate change by reducing greenhouse gas emissions and switching to renewable energy sources.

• Promoting circular economy practices such as recycling, reusing materials and minimizing waste.

• Restoring ecosystems and promoting biodiversity.

The digital start-up support sector refers to industries and activities focused on technology and digital innovation. It focuses on:

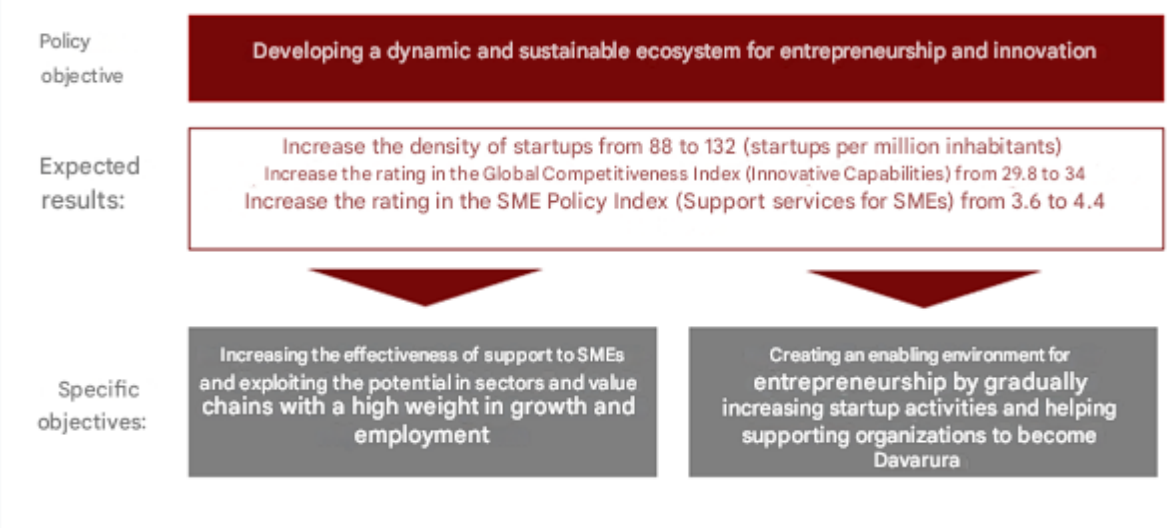
• Development of digital infrastructure, including high-speed internet, 5G networks and cloud services.

• Data-driven industries that leverage AI, big data, and machine learning.

• Digital transformation of traditional industries, increasing productivity and competitiveness.

• Fostering innovative ecosystems, including startups and technology businesses.

Specific objectives and expected results of the intervention area "SME development, entrepreneurship and innovation"



Taking into account the different needs, the main focus of the first strategic objective is on developing and exploiting the potential for innovation and growth, while the second objective addresses the entrepreneurship and startup ecosystem in more depth. Across the entire area of intervention, a particular emphasis is placed on promoting women's entrepreneurial skills and creating a favourable climate for increasing the number of women entrepreneurs and the size of existing businesses run by women.

Finally, to unleash the potential of smart specialization and reach the 'critical mass' for autonomous development processes it is necessary to explore new ways to focus and collaborate in value chains involving all actors - from startups to large companies, from local SMEs to international investors, from academia to research, from public support institutions to chambers and trade associations.

In this context, the table below provides an overview of the priority actions foreseen in this area of intervention of the new BDIS. Further details (objectives and KPIs, main features and steps, responsibilities and resources required) can be found in the action sheets in the annex.

Table 2: Overview of priority actions in the intervention area "SME development, entrepreneurship and innovation"

Priority actions	Summary description
Competition-based entrepreneurship support scheme	• Developing existing/donor-supported initiatives, such as IDEA, which combine grants with support through training and mentoring • Assistance to passionate and ambitious entrepreneurs to realize their business ideas, expanding target groups
Startup and Innovation Program	• Strengthening support structures (including incubators and accelerators), capacities and collaboration within the ecosystem • Promoting the ecosystem/entrepreneurship and attracting talent locally and internationally • Improving access to finance for startups by developing existing / donor-supported initiatives (e.g. EU Innovation) • Creating a legal framework for venture capital, business angels and crowdfunding.
International integration of the startup ecosystem	• Developing a regional initiative for startups, integrating startup organizations not only within the region but also in EU countries • Focusing, among other things, on joint support for internationalization and acceleration services for startups

Initiative for improving the value chain based on competitiveness	• Providing grants to consortia, educational and research institutions for collaborative capacity-building projects • Includes a two-stage competition to focus on sectors and value chains with the highest potential, based on the Smart Specialization Strategy
Increasing access to finance for MSMEs	• Redesigning existing schemes for SMEs by creating a Single Fund • Development of a central online platform to improve information provision and application processes • Introducing additional support schemes, such as loan guarantees. A guarantee instrument of 50 million euros will be created for manufacturing in cases of order changes to cover switching costs.
Entrepreneurial Skills Program for SMEs	• Complementing financial support with targeted technical assistance and capacity development measures • Expanding training in close cooperation with chambers of commerce, associations and other partners

Link to sectoral and cross-sectoral strategic documents (FOR THE APPROVAL OF THE NATIONAL STRATEGY FOR THE DEVELOPMENT OF INNOVATIVE ENTREPRENEURSHIP AND THE ACTION PLAN FOR ITS IMPLEMENTATION)

The new Investment and Business Development Strategy for the period 2021 – 2027

This strategy provides the main orientation of the Albanian Government for medium-term economic development, focusing mainly on the development of micro, small and medium-sized enterprises, as well as investments. The planning of measures to promote entrepreneurship and innovation is included in the Specific Objective 'Development of SMEs, entrepreneurship and innovation' of this strategy.

(i) Increasing the density of startups from 88 to 132 (startups per million inhabitants);

(ii) Increase in the rating in the Global Competitiveness Index (innovative capabilities) from 29.8 to 34.

The National Strategy for Science, Technology and Innovation (2027) specifically aims to engage innovative enterprises in cooperation processes with scientific research structures and scientific research schemes in Europe such as Horizon Europe, Digital Europe, EUREKA, etc.

Albania's Digital Agenda 2021 - 26 emphasizes developments in ICT and digital infrastructure to support startups. According to the digital agenda, the government will look at opportunities to create innovative environments that support the creation of various technological platforms that enable innovation and growth of the ecosystem for businesses and startups.

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Migration, Wages, and Unemployment: A Gravity Model Analysis of Workforce Mobility in the Western Balkans

Elma Çali[1] **PhD. Emi Malaj**[2]

[1] PhD candidate, University of Tirana, Department of Economics and Albanian Institute of Statistics (INSTAT), elma_cali.festudentdr@unitir.edu.al

[2] University of Vlora, Department of Economics, emi.malaj@univlora.edu.al

Abstract: The large-scale migration from Western Balkan countries to European destinations highlights the need to identify the key drivers of this mass movement. This study analyzes migration flows during the 2012–2023 period by implementing the gravity model, a widely used framework in migration research. Drawing on existing literature, the model incorporates core gravity determinants, such as the relative size of countries and geographical distance, along with key economic indicators, including GDP per capita, unemployment rate, and wage differentials. The study applies the Pooled OLS method, identified as the most suitable estimation technique. The findings confirm a strong relationship between the selected variables, aligning with previous empirical studies. The positive impact of wage differentials and unemployment levels in the Western Balkans underscores the need for targeted policy interventions aimed at improving labor market conditions, increasing wages, and enhancing overall living standards to address the economic drivers of migration.

Key words: migration, wages, unemployment, gravity theory, Western Balkans

1. INTRODUCTION

International migration is increasingly shaping global challenges, with over 117 million individuals displaced worldwide and an estimated 281 million international migrants (IOM, 2024). In 2023, migration to OECD countries reached record levels for the second consecutive year, with 6.5 million permanent migrants arriving, alongside a 30% rise in asylum seekers, with 2.7 million new applications registered (OECD, 2024). In light of these global trends, the Western Balkan countries (Albania, Kosovo, North Macedonia, Bosnia and Herzegovina, Montenegro, and Serbia) are similarly affected by migration flows. Historically influenced by migration, these countries have been shaped by a range of demographic, political, economic, and social factors. In recent years, they have faced significant challenges, including increasing numbers of displaced persons, asylum seekers, and economic migrants. The search for better job opportunities, including higher salaries and improved working conditions, along with the desire for a higher standard of living, is a major reason for labor migration, contributing to the population decline in the Western Balkans. This is especially true for young people who struggle with unemployment, poverty, and social exclusion. At the same time, the labor force from the Western Balkans meets the growing demand in EU countries, where aging populations and vacant jobs create a need for more workers (De Silva, 2024). This underscores the need for coordinated, human-centered approaches to manage migration flows and ensure long-term integration and stability.

In this context, the gravity model, long used to analyse the movement of goods, services, capital, and people, can effectively explain the labor migration patterns between the Western Balkans and EU countries. The simplest gravity model formulations focus on bilateral migration flows, emphasizing key determinants such as the relative size of countries (often measured by population or GDP) and the geographical distance between them (Ravenstein, 1885; Lee, 1966). However, migration is influenced by a wide range of additional factors, including economic inequalities, labor market conditions such as wage differentials, job availability, and skill demand as well as political stability, social networks, and other structural elements. Extended gravity models, which incorporate these factors, offer more accurate predictions of migration flows, reflecting the complex dynamics of real-world migration (Ramos, 2016).

The paper is structured into five sections. The next section emphasizing theoretical and empirical studies on migration determinants, particularly labor market inequalities and the application of the gravity model. The third section details the research methodology, followed by the fourth section, which presents the empirical results. Finally, the study concludes by summarizing key insights derived from the results.

2. LITERATURE REVIEW

In the last decade, research on the determinants of migration has surged due to a variety of global factors. Economic integration, political instability, and environmental changes have heightened the need to understand migration flows. Advancements in data collection and analysis, alongside growing attention to the links between migration and development, have further driven this research. The COVID-19 pandemic has also reshaped migration patterns, adding urgency to the analysis of migration's social, economic, and political impacts. Together, these factors have significantly expanded the scope of migration research, helping policymakers address both opportunities and challenges related to global mobility.

Despite the many factors influencing migration, labor market conditions remain a crucial determinant. The availability of jobs, wage levels, and overall employment opportunities in both sending and receiving countries significantly impact migration flows. As economic conditions continue to evolve, labor market factors will likely remain a central consideration in shaping migration patterns.

Since the Neoclassical Theory of Migration, which is considered the most fundamental and influential contribution to the study of international migration, this phenomenon has been conceptualized as a balancing mechanism in the global distribution of resources. According to this theory, migration results from individual rational decision-making, where people move from countries with a surplus labor force and low wages to countries facing labor shortages and offering higher wages. This movement functions as a self-regulating process aimed at optimizing the distribution of the two primary factors of production: labor and capital (Lewis, 1954; Ranis & Fei, 1961; Todaro, 1969).

Thereafter, Black et al. (2011) highlight that net income is an important factor leading to migration, and highlight the fact that if economic growth is rapid, then income differences tend to be the strongest drivers of migration. Differences in wages and incomes between countries are the main determinants of migration decision-making, while economic migration serves as a powerful mechanism for reducing global poverty (Borjas, 2015; Dustmann & Görlach, 2016).

In addition, short- to medium-term changes and fluctuations in macroeconomic conditions, especially GDP growth and a country’s business cycle, are also important factors in migration, as they directly affect employment opportunities, income levels and economic well-being. GDP per capita in destination countries has a very strong, consistent and positive impact on migration destination choice (Docquier et al., 2014; Beine et al., 2019; Borjas et al., 2019). As a result, GDP growth in origin countries tends to reduce migration, while GDP growth in destination countries is expected to increase migration flows.

From other perspective, Baumann (2015) theorized that migration is not directly affected by unemployment itself, but rather occurs when unemployment shocks cause people to reassess their expectations about unemployment rates, which then leads to labor redistribution to restore economic equilibrium. Testing this theory with U.S. state-level data (2000-2010), Baumann employed progressively sophisticated econometric models (from basic OLS to panel models with fixed and random effects), ultimately demonstrating that the impact of unexpected unemployment shocks on migration is more than 25 times greater than that of anticipated unemployment shocks.

Most recently, in their study, Gara and Fetai (2024) reveal that migration and high unemployment rates have been persistent challenges in Western Balkans countries over the 17-year period from 2005 to 2021. The authors state that the unemployment rate is the primary driver of workforce migration from these countries, with political factors also playing a significant role. Based on the study's findings, it is recommended that Western Balkans countries implement long-term policies to generate employment opportunities, such as attracting investments, while also considering wage increases as a measure to retain their workforce.

3. DATA AND METHODS

A number of studies have applied the gravity model to analyze migration flows, taking into account factors such as economic size, wage differentials, and geographic distance (Reina et.al., 2024; Moraga & Molina, 2024; Devi & Sudarsan, 2021; Beine et al., 2016; Ortega & Peri, 2013; Lewer & Van den Berg, 2008). The impact of economic factors, particularly those related to the labor market, on migration flows will be evaluated using the gravity model. The model includes key determinants such as the relative size of countries and geographical distance, which form the foundation of the gravity model. Based on the literature and previous studies, the analysis will

be further expanded to incorporate additional variables, providing a more comprehensive assessment of migration determinants.

The general formula for the gravity model in migration studies is:

$$M_{ij}=G\frac{Pi^{\alpha}Pj^{\beta}}{Dij^{\gamma}}$$

in which: M_{ij} refers to migration flow from country *i* to country *j*; P*i* (P*j*) refers to the population (or GDP) of origin country *i* (or destination country *j*); D_{ij} is distance between *i* and *j;* G is a proportionality constant that is context specific (dependent on the geography, time dimension, etc.) and *α, β, γ* are elasticity parameters representing the impact of economic size and distance.

For econometric estimation, the model is typically log-transformed into a linear regression equation:

$$\ln M_{ij} = \ln G+\alpha\ln P_i+\beta\ln P_j-\gamma\ln D_{ij}+\varepsilon_{ij}$$

where ε_{ij} represents the error term.

To enhance the model, researchers often include additional variables and the extensions form of the gravity model for migration is:

$$\ln M_{ij} = \ln G+\alpha\ln P_i+\beta\ln P_j-\gamma\ln D_{ij}+\delta X_{ij}+\varepsilon_{ij}$$

where X_{ij} represents other factors influencing migration, such as: wage differentials, unemployment rates, etc.

The analysis is further expanded by applying an extended gravity model equation for migration flows from the Western Balkans to key European destinations. The analysis covers the period from 2012 to 2023, utilizing data from both international databases (World Bank[1], OECD[2], Eurostat[3], ILO[4], CEPII GeoDist[5]) and national statistical databases of the respective countries' official statistics.

The dependent variable of the study is migration stock in destination country from origin country at year t (*migstock*) as different researchers consider migration stock data to be more reliable than migration flow data (Malaj & De Rubertis, 2017; Grogger et al., 2011; Ortega et al., 2009). The following are the independent or explanatory variables such as: population in origin country (*pop_o*) and destination country (*pop_d*) at year t, and their geographical distance (*dist*) between countries which serve as the fundamental components of the gravity model. GDP per capita in country of origin (*gdpc_o*) and destination (*gdpc_d*) at year t, both capture economic differences between countries. These variables influence migration flows by reflecting income disparities, wage opportunities, and living standards, which act as push and pull factors in migration decisions. Considering labour migration, which is the dominant type of migration in the Western Balkans, two additional determinants are incorporated: the unemployment rate difference between the origin and destination countries (*dif_unemp*), and the average wage difference between the destination and origin countries (*dif_wage*). These variables further capture the economic disparities that influence migration flows. The gravity model for migration flows between Western Balkan countries is expected to reveal several key relationships consistent with established literature: GDP in origin countries should exhibit a negative coefficient as economic growth typically reduces emigration pressure; conversely, GDP in destination countries should show a positive effect by attracting migrants to better economic opportunities; population variables in both origin and destination countries are expected to display positive coefficients, with larger origin populations generating more potential migrants and larger destination countries offering greater absorption capacity; geographic distance should demonstrate a negative relationship with migration flows due to increased transportation costs and information barriers; wage differentials (destination-to-origin) should produce a positive coefficient as higher relative wages in destination countries incentivize migration; and unemployment differentials (origin-to-destination) should similarly show a positive effect as higher joblessness in sending countries compared to receiving countries drives emigration.

The model is implemented using the Pooled Ordinary Least Squares (OLS) method, identified as the most suitable estimation technique. This approach aligns with standard empirical practices in gravity modeling, where the multiplicative form of the model is transformed by applying natural logarithms, resulting in a log-linear

[1] https://data.worldbank.org/

[2] https://data-explorer.oecd.org/

[3] https://ec.europa.eu/eurostat

[4] https://www.ilo.org/

[5] https://www.cepii.fr/

specification estimated through OLS. The methodological framework is based on the study by Silva and Tenreyro (2006) and further supported by Martinez-Zarzoso (2013), ensuring the robustness and reliability of the estimation process.

4. MODEL RESULTS

The results strongly support the **gravity model** in explaining migration flows in the **Western Balkans**. The statistical significance of the estimated coefficients, indicated by their p-values (<0.05), confirms that the included variables have a meaningful impact on migration flows. Specifically, the low p-values (mostly 0.000) suggest strong evidence that GDP per capita, population size, distance, wage differences, and unemployment rate differences are significant determinants of migration in the Western Balkans.

The Adjusted R-Squared (0.769) indicates that approximately 76.9% of the variation in migration flows is explained by the independent variables in the model. This is a high explanatory power, suggesting that the model effectively captures the key economic and demographic drivers of migration (tab.1).

Tab. 1 Gravity model estimates

Variable	Equation Coefficients	Sig.*
Constant	-5,90	0.000
pop_o	1,26	0.000
pop_d	1,14	0.000
dist	-1,71	0.000
gdpc_o	-1,36	0.000
gdpc_d	0,89	0.014
dif_unemp	0,23	0.005
dif_wage	1,13	0.000
R-square	0,774	
Adjusted R-square	0,769	

* $p < 0.05$

Economic differences, labor market conditions, and geographic proximity all play crucial roles in shaping migration patterns. The findings suggest that reducing economic disparities and improving labor markets in origin countries could mitigate emigration trends, while wage and employment opportunities in destination countries continue to be strong pull factors.

5. CONCLUDING REMARKS

This study provides a robust framework for analyzing migration flows in the Western Balkans, offering valuable insights for policymakers and researchers. Addressing economic inequalities, labor market imbalances, and institutional weaknesses remains key to managing migration sustainably.

Higher GDP per capita in the destination country, wage differentials, and unemployment rate disparities act as strong pull factors, while lower economic development in origin countries and high unemployment rates serve as push factors driving migration outflows. Governments in Western Balkan origin countries must implement targeted policies to boost economic growth, create jobs, and raise wages to alleviate the economic pressures driving emigration. Encouraging foreign investments, improving infrastructure, and implementing labor market reforms—such as vocational training programs, wage subsidies, and entrepreneurship support—can strengthen domestic employment opportunities and reduce the incentive to migrate.

Moreover, this study may serve for further research in migration studies. While the gravity model effectively captures economic and demographic determinants, future research should integrate additional socio-political variables such as political stability and governance quality, corruption perception levels or poverty indicators and social inequality.

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Assessment of the manager to educate employees as a factor for more successful work

Emanuela Esmerova[1] Ivan Ramov[2] Saso Lazaroski[3]

[1]MIT University, Skopje, Faculty for Economy, Republic of North Macedonia, emaesmerova@yahoo.com

[2]MIT University, Skopje, Faculty for Economy, Republic of North Macedonia ivanramov1@gmail.com

[3]Magister-Saso Lazaroski. Power plants of North Macedonia sas34laz@yahoo.com

Abstract: Professional training is the final part of the human resources development process. Training is a rationally planned systematic learning of work behavior, specific to certain work tasks. The aim of our research was to assess the opinion of managers in the application of development processes and human resource management. 260 respondents were surveyed with 70% from a large sector. Questionnaires were used to assess the opinion of managers on organizing training for them and for employees. By analyzing the data, it was seen that very few of the managers pay attention to the training and monitoring of the experiences of the most successful managers. Some of them believe that what is required today is not learning and knowledge, but resourcefulness. To the survey question: What do you think about human resources? They had the highest percentage and points in relation to the maximum 300 points, those who never work less, are bribeable (22%) always, work to the maximum (36%), work to attract people (54%). Continuing education is a valuable way to enhance skills, advance career, and stay updated on the latest trends and developments in the field. However, before we enroll in any courses, programs, or certifications, we need to assess our current level of knowledge, skills, and abilities, and identify our learning goals and needs. Self-assessment tools can help us do that by providing us with feedback, insights, and guidance on our strengths, weaknesses, interests, values, and preferences. Conclusions: Our research showed that the largest percentage of managers work very little in attracting new workers, and the trainings in the organizations make the lower levels of managers up to 70%, hire professionals for training only 10%.

Keywords: development, human resources, education.

Introduction

Professional training or training is the final part of the human resources development process because it leads to the training of the individual for the successful performance of his work in enterprises. In that sense, training is a rationally planned systematic learning of work behavior, specific to specific work tasks. Hence, it can be concluded that a well-organized training is a process that is aimed at acquiring only the essential and necessary knowledge, skills and skills needed to perform a certain job.[1]

Personal development represents progress in the realization of individual abilities and opportunities, progress that is partly the result of learning in education, and partly contributes to the mastery of knowledge and skills.[2]

From the recognition of the needs for training, we move to the recognition of the needs for learning, that is, the development is the "property" of the one who learns and has such a need, not the one who trains and tries to satisfy that need. All this contribution is certainly of great importance to those who define the needs and the way in which those needs are met.

Current thinking is that needs are best developed in a partnership between the individual and the enterprise and that the methods for meeting those needs are limited to formal courses, but a wide range of on-the-job development methods should be allowed, as well as distance learning or online learning approaches, with built-in components of value systems with real advantages that will give movement and active involvement of human resources. Also in recent times there is a change in the type of capabilities that are focused in development activities. Some authors, for example, determined: a transition from being interested in technical abilities to the development of personal abilities, independent management and attitudes.[3]

The focus on current work, although it remains at a high level, there is a greater pressure on the development of human resources, which is oriented towards the future of the organization and represents a constant process of enriching and expanding the knowledge, skills and behavior of human resources in order to perform more efficiently and effectively. on the work of the specific workplace. [4]

The development is also defined as the extension of the training of employees to perform existing work and tasks in a new way and in general to perform changes.[5,6]

The aim of our research was to assess the role of managers in the application of development processes and human resource management to master the training of employees.

The sample for this research is representative, the respondents were chosen randomly and adequate to the period of the research. The sample uses the principle of randomness in selecting respondents. All statistical units are randomly selected, that is, all units had an equal chance of being selected. All the results obtained from the survey of a part of the statistical units (employees and managers declared through their calls) refer to the whole table. We formulated the questions and the proposed statements from the survey questionnaires after analyzing the most frequently used questionnaire models in the investigated problem: human resources management through the assessment of applied training as a factor for continuous development of employees.[7]

For the purposes of this research, 260 respondents were processed. Out of the total number of large enterprises in the territory of Rs. Macedonia 20% are large enterprises, 43% are medium-sized enterprises and 37% are small enterprises, basically 80% of the enterprises are from the sector of small and medium-sized enterprises and this realistically shows the current situation in the total mass, that is, the situation of total active enterprises in R. Macedonia.

Regarding the main sectors in the industry, the largest number of enterprises are from the trade and services sector 75%, production 20% and finally the construction sector with 5% of the total number of enterprises, and from this it can be concluded that even according to this criterion a clear and realistic picture is obtained that the sample reliably shows the situation in the total economy in RN Macedonia.

Table 1 The respondents by gender

Respondents	% respondents by gender
Female	44
Male	56

In the research, the gender structure of the respondents is approximately similar, the male population is represented by 56%, and the female population by 44%. The respondents in terms of gender do not have a significant difference and can be analyzed as a homogeneous group because T=1.96, p>0.01.

Table 2 Age structure of the respondents

Respondents	20-25 years	26-35 years	36-45 years	45-55 years	56-65 years
Managers	4%	26%	39%	36%	9%
Employees	6%	30%	34%	19%	10%

It can be seen from the table 2, that the largest number of respondents Managers are from 26-45 years, 65%, and from employees from 26-45 years ols are 64%. This age group together with age 20-25 are 70% of the population. This is showing that population is yang and have capacity for innovation learning and computer technology.

3. Results

3.1. Education and training of managers in enterprises

From the conducted survey of managers, it was concluded that very few of them pay attention to training, learning, following the experiences of the most successful managers. Some of them usually have the courage to say that today it is not learning and knowledge that is required, but the ability to manage in the environment. Also, from the conversations, some admit that during the working day they cannot stop to take a breath from the numerous problems and they have no time left for reading. Some managers point out that in addition to other daily duties and activities, at certain times they read or listened to various programs in the field of management.

In that sense, there were two questions in the survey:

1. Do you read magazines or listen to shows in the field of human resource management?

2. Have you attended seminars, courses or any other forms of lectures and exercises in the field of management?

The answers are shown in the following tables:

Table 3 Managers' interest in personal continuing education

Description of activity	Yes	No	Rare
1) Do you read magazines or listen to shows in the field of human resource management	60%	28%	12%
2) Have you attended seminars, courses or other organized forms of teaching and exercises in the field of human resources management	70%	28%	2%

The table shows that the percentage of reading magazines, listening to shows about human resources is high, with 60%, and 28% are not motivated. The percentage of attendance at seminars, courses, trainings, lectures and exercises in the field of human resources is 70%, T=6.51,p<0.01, significant.

Figure 1 Managers' interest in personal continuing education

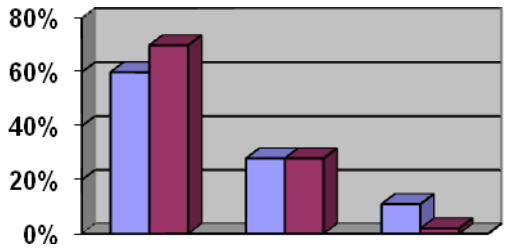


Table 3 clearly shows that, in most cases, the surveyed managers pay more attention to their retraining in the field of management. What are the reasons for that? In the conversations with some of the surveyed managers, it was said that it is good to attend a seminar and they do attend, but their work responsibilities did not allow them to do so more often according to their work responsibilities. During this research, a large number of managers paid a lot of attention to the expertise from separate areas, and to the professional attitude of the management. Those managers who have professionally understood their function and are distinguished by successful management and by developing good interpersonal relations.

3.2. Assessment of the work qualities of the managers

In order to form a more realistic picture of the way of management of some of the managers who were examined, a survey was used with the question: what do you think about people?

The answers received are summarized in the following table.

Table 4 How employees see the managers' interest in managing production

Description of opinion	Ever %/point	Sometimes %/point	Never %/point
1)They are very easily bribed	32%(32)	33% (33)	35% (35)
2)They work as hard as they can	57%(57)	17% (17)	26% (26)
3)They work to attract people	15% (15)	82% (82)	3% (3)
Total points	104	132	64
% of maximum 300 point	34	44	22
Total activity significance	T=10 p<0.01 significant	T=8.1 p<0.01 significant	T=12.18 p<0.01 significant

From the table 4, We can see that the highest percentage and points are following:

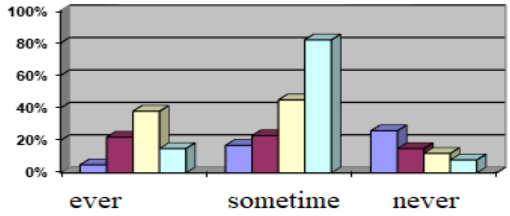
The most of them 34%, ever do thinks 1-3, are very easily for bribed, 32%,and sometimes 33%, total=66%, T=11,p<0.01, significant,

They work as hard as they can ever 57% and sometime 17%, total=74%, T=,p<0.01, significant.

They work to attract people, ever 15%, and sometimes 82%, is with the highest percentage 97%,

The most of activities managers do with 44% sometimes.

Figure 2 Views of managers from people who want to manage human resources



3.3. The planning of human resources training by the manager in the enterprise

Taking into account that the planning of human resources training is a function of every manager and should be carried out continuously, a survey and interview research was carried out, in order to perceive the conditions in the enterprises in relation to the performance of this function.

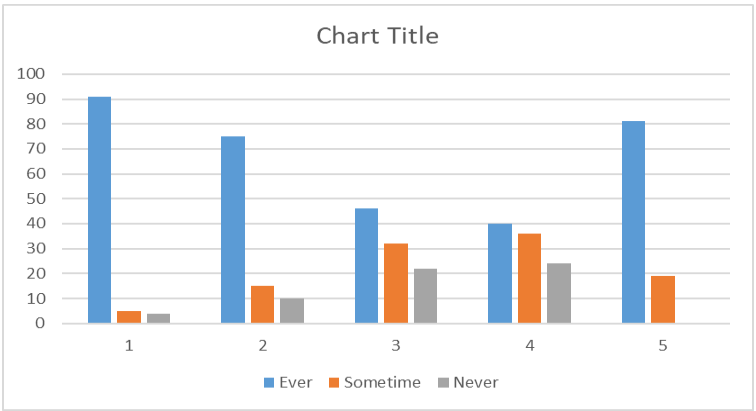
Table 5 In which periods the surveyed managers in the enterprises plan they own duty

Planning	Ever	Sometime	Never
1.Today	91%	5%	4%
2.Tomorrow	75%	15%	10%
3.In near future	46%	32%	22%
4.In the far future	40%	36%	24%
5.As a manager I am ready every day	81%	19%	0%
Max.point 500	333	107	60
% of max.points	66.6	21.4	12

The table 5 is showing that the majority of managers always plan the working tasks with 66.6%, and T=5.85,p<0.01. This calculation show us that managers have high level of readiness. The results is showing in figures 3.

It can be seen from the table that the surveyed managers in the largest number of cases plan mainly for the current or next period, and in a smaller number of cases for the near and distant future. From the conversations with some of the managers, it was established that they make a work plan every day, ie. they plan short-term from today to tomorrow, and they make global plans for the future. Also, they emphasized that, with these unstable economic conditions, it is difficult to plan for the long term, there is only some vague vision for the future.

Figure 3 Planning of managerial duties



The human resources planning must have continuity, for that managers must have their own vision depending on changes, be inclined to adaptation, changes and reconstructions. In table 6 is showing organizing way of training.

Table 6 Ways of organizing human resource training

Who manages the training	Ever	Sometime	Never
Themself	18%	16%	66%
By coworkers	78%	20%	2%
By special couch and training office	10%	26%	64%

From the table,6 it is clearly seen that the majority of human resources training are carried out by managers through their colleagues, with 78%, most of them did not make it themselves 66%, and only 10% of them included or organized education by special training professional office.

4. Discussion

The organization of operations, with its contribution to providing better working conditions and achieving more productive results, is an important factor in the modern economy. The basic purpose and role of the operating companies consists in the aspiration of the members of the organizational unit to enable them to rationally perform and train the individual functions, thereby achieving better results in the operation. The very anticipatory role makes the company flexible, it allows in specific conditions, under the influence of its own structure, the relationships that rule in it, as well as the mutual interaction, the environment, to create new values that will ensure stable growth and development and increase the possibilities for absolute efficiency. It is certain that true training management implies teamwork, consultation, evaluation of thinking and suggestions from all parties involved.[7]

Continuing education is a valuable way to enhance skills, advance career, and stay updated on the latest trends and developments in field. However, before we enroll in any courses, programs, or certifications, we need to assess our current level of knowledge, skills, and abilities, and identify our learning goals and needs. Self-assessment tools can help us do that by providing us with feedback, insights, and guidance on our strengths, weaknesses, interests, values, and preferences. [8]

In today's dynamic business environment, human resource management plays a crucial role in the success of any organization. From attracting and retaining top talent to ensuring compliance with labor laws, HR professionals are faced with numerous challenges. Staying up-to-date with the latest trends and best practices is essential for HR managers to effectively navigate these challenges. [9]

Human resource management (HRM) encompasses a wide range of activities aimed at managing an organization's most valuable asset – its people. It involves recruiting, hiring, training, and developing employees to ensure they have the skills and knowledge necessary to contribute to the organization's goals. Additionally, HRM includes creating policies and procedures that promote a positive work environment and address employee concerns.[10]

A well-executed HRM strategy can lead to increased employee productivity, higher job satisfaction levels, and improved overall organizational performance. In contrast, neglecting HRM can result in high turnover rates, low employee morale, and legal issues. The importance of business strategy, we suggest that an organization can achieve dynamic competitive advantages, only by effective business strategies that can help an organization to achieve its desired goals. [11]

Investing in employee development programs is essential for building a skilled workforce that can drive organizational growth. These programs can include training workshops, mentorship programs, leadership development programs, tuition reimbursement initiatives, and other learning opportunities. By investing in employee development programs, organizations demonstrate their commitment to helping employees grow professionally while improving overall business performance. The importance of employee development programs has been evolving as businesses continue to change and employees continue to have different motivations. Understanding what motivates employees to continue working in a company can help managers have a more successful future. [12]

Human resources is the backbone of any successful organization. It involves managing the most important asset of any business – its people. As businesses grow, it becomes increasingly important to have a strong and

competent HR team that can handle the complex challenges of recruitment, employee retention, performance management, and legal compliance. This is where taking a human resources course can be invaluable for businesses looking to succeed.[13,14,15]

CONCLUSIONS

Our research, carried out in the largest part of a target group of service activities, showed that managers do not show a difference in gender in terms of representation, and the most represented are relatively in the most productive years of 26-45 years. Managers are constantly being educated, in order to improve the work in the organization, but they show interest in doing it for the entire staff, to follow the news from the market and legal regulations. Employees of the organizations rated their managers as being significantly susceptible to bribery, working hard, and striving significantly to attract new investment and customers. Second-line managers are engaged in staff education, while training from specialized trainers is used insignificantly. Employee performance reviews are one of the best ways for an employer to show their appreciation for their staff. It's also an excellent way to gauge how employees are able to contribute to the business. And its best benefit – it is an avenue for rewards and recognition of the business' top employee performance and thus, also an instrument for augmenting both employee morale and productivity.

The evaluation process usually involves both the manager and staff in scrutinizing and justifying employee performance metrics together.

Also included in these evaluations are the 'intangibles' – performance metrics that aren't based on any quantifiable indicators per se; but rather are observable behaviors and competencies required for an employee to do the job well.

Employee appraisals are also one of the tasks that get relegated to the sidelines most of the time. Measuring performance of employees takes up a fair amount of time and effort on both the manager's and the employee's part.

if an organisation is to develop in today's highly competitive environment, it cannot do so without continuous training and development of its employees. The benefit to the individual can be assessed by a measurable degree of his knowledge, mastering a certain operation, etc. Evaluating the effectiveness of training is not easy, because very often we work with quantities that are difficult to quantify, and therefore difficult to measure. The prerequisite is the precise definition of educational goals and ensuring the controllability of educational results (training). This article aims to find factors influencing evaluation of effectiveness of employee training and development. The data was obtained from a questionnaire survey in which 207 organisations operating in the Czech Republic participated.

The results show that when evaluating the effectiveness of employee training, organisations prefer methods based on subjective evaluation by an evaluator (direct supervisors, colleagues), but also on their own self-evaluation regarding the number of training days. Due to the coronavirus pandemic, current human resources (HR) trends and priorities for 2021 have changed significantly. The systematic process of evaluating employee training effectiveness depends on the business sector (p-value 0.022), on the fact that the organisation is or is not a part of a larger group (p-value 0.000), on (non)existence of an HR department (p-value 0.000), and on the organisation size (p-value 0.000).

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The Policy of Exchange Rate Regime and Trade in Western Balkan Countries

Ph.D Enida Zhugri (Istrefi)[1] **Ph. D (Cand.) Jonida Lamcja (Methasani)[2]**

[1]PhD, Lecturer, Department of Finance and Accounting, Business Faculty, "Aleksander Moisiu" University of Durres, Durres Albania

[2]PhD (cand), Lecturer, Department of Finance and Accounting, Business Faculty, "Aleksander Moisiu" University of Durres, Durres Albania

Abstract: Exchange rate regimes has an impact on economic development in a different ways. It affects nominal elements like relative pricing or financial depth as well as real factors like investment and growth, which in turn affects development objectives like income distribution and output growth. Furthermore, exchange rate regimes, influences aspects like trade and financial fragility indirectly through the expected distribution of the real exchange rate. It also partially explains why the euro was adopted, which is an extreme example of a fixed exchange rate arrangement, or why floating exchange rates are preferred in the absence of financial dollarization. Importantly, in economies where nominal volatility leads agents to utilize the exchange rate as an implicit unit of account, exchange rate pegs have been routinely deployed as a nominal anchor to manage inflation. This paper will be based on a descriptive analysis of secondary data obtained from the World Bank, the financial institutions of the Western Balkan countries, etc. The analysis aims to analyses how the exchange rate policy affects the level of trade of Western Balkan countries with EU countries.

Keywords: *exchange rate regime, floating exchange rate, fixed exchange rate, economic growth, Western Balkan countries*

JEL classification: *F0, F43, F45*

Introduction

It is thought that the choice of exchange rate regime influences the volume of trade between countries. Compared to a flexible exchange rate regime, currency unions and currency pegs decreases exchange rate volatility and increase price transparency in international trade. Because of their shared turbulent past and potential for EU membership, Western Balkan nations provide a interest point for examining how the exchange rate regime affects exports to the Eurozone. Using panel data for exports from the six Western Balkan countries to the early Eurozone members, a gravity model of trade is used to empirically estimate the relationship between exchange rate regimes and exports. *Given the wide range of exchange rate policies found in this small region, the Western Balkans are an ideal place to research the potential effects that a chosen exchange rate regime may have on trade.* The region also largely shares the same history, challenges of ethnic tension, and the prospect of becoming EU members, making it possible to focus on the effects of exchange rate policy on trade.

In general, the purpose of the exchange rate system is to promote the stability of the monetary environment, which is defined by low rates of inflation and a stable value of the national currency (Domaç, Peters & Yuzefovich 2001). On the focus of the study are the following South-eastern European countries (SEECs), sometimes known as the "West Balkans": Bosnia and Herzegovina (BiH), the Republic of North Macedonia, Albania, Serbia, Kosovo and Montenegro.

This paper is divided according to the following sessions: in the first part, a brief overview of some of the main macroeconomic indicators of the countries of the Western Balkans will be presented; in the second part, according to a descriptive analysis, we will look at how the fluctuation of the exchange rate affects the progress of the exports of these countries; also in this part we will look at the connection between the exchange rate fluctuations in these countries and the impact that this change has on foreign trade; in the last part of the paper we have conclusions drawn from the analysis. *According to exchange rate regime theory, nations that adopt or peg their major trading partner's currency will export more goods to that partner than nations with flexible exchange rates.* Exchange rate risk will be mitigated or eliminated, which will benefit trade. Since prices in both trading countries are expressed in the same currency and the exchange rate regime is seen as more credible, currency unions are theoretically preferable to pegs (Nardis and Vicarelli, 2003). *Thus, two theories are formulated. First, exports are positively correlated with a currency that is anchored to the euro rather than a floating exchange rate. Secondly, the adoption of the euro has a stronger positive correlation with exports than does a currency peg.*

Two distinct exchange rate regime (ERR) variables are added to the gravity model of trade in order to test the validity of the empirical case of the Western Balkans and provide an answer to the research question. Serbia and

Albania are used as a reference group because they have flexible exchange rate policies. The study will find associations rather than causal effects between export levels and the various exchange rate regimes because the Western Balkan countries' exchange rate regimes lack time-series variation, which prevents full control of unobserved heterogeneity.

Literature review

According to a study by Rose and Wincoop (2001), national currencies sometimes become a barrier to foreign trade. According to this study, the use of a common currency led to an increase in the level of trade by almost 400%. On the other hand, Glick and Rose (2001) studied the impact of currency unions or the use of a national currency on foreign trade. This study focused on more than 150 countries over a 50-year period. Its results were in line with many other researchers, and emphasized that those countries that were part of currency unions had higher trade values than countries that used their own national currencies. According to Rose (2000), the use of a common currency is the best hedge against exchange rate risk. He also points out that integration into a common currency area is likely to increase the volume of trade.

Another study, Klein and Shambaugh (2006), found that the use of a fixed exchange rate improves the level of foreign trade and increases it by 35% more.

Cieślik et al. (2012), in their study include Slovakia and Slovenia in the analysis and use fixed effects, random effects, and Hausman-Taylor in the analysis. The results showed that even though both countries were part of the Eurozone, the fixed exchange rate affected the growth of foreign trade, albeit at low rates.

Another study by Rajkovic et al. (2020), which included all Western Balkan countries except Kosovo, study the relationship between foreign trade and the exchange rate regime in these countries. According to the analysis, the countries that use the euro (as in the case of Montenegro) as their official currency have had higher trade deficits. However, the study concludes that when confronted with an external shock, nations that use their own currencies are unable to significantly alter their trade deficit through their exchange rate. According to the study's findings, Western Balkan and CEE nations that used fixed exchange rates adjusted to the global economic crisis more quickly. Increasing exports rather than imposing import restrictions helped them improve their trade balances.

McKinnon (1963), argues that small countries with a developing economy are more protected from financial shocks if they use a fixed exchange rate regime. In this situation, the volatility of the exchange rate is likely to weaken the domestic currency's ability to perform monetary functions if a nation allows it to fluctuate against the currency of its major trading partner.

When a country uses a fixed exchange rate with its main trading partner, this reduces transaction costs, reduces exchange rate risk, and leads to increased economic efficiency Jurzyk and Fritz-Krockow (2004). The results of this study remain consistent with a fixed exchange rate regime or a pegged exchange rate regime, and thus a country's position in foreign trade may improve.

On the other hand, a flexible exchange rate regime, although it increases the uncertainty in exchange rate fluctuations, allows the country to have autonomy in its monetary policies. If the national currency is undervalued as a result of an increase in the exchange rate, this will lead to an increase in the country's exports, thus reducing the trade deficit and making the country a better exporter.

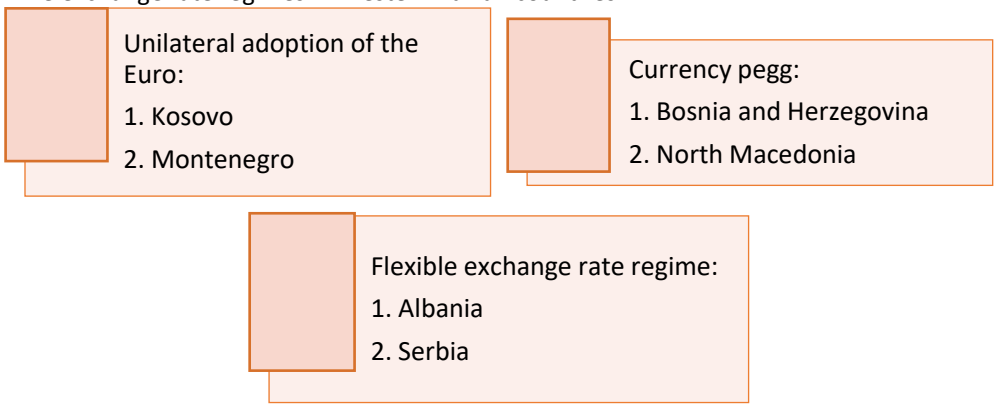
By comparing studies by different authors, we come to the conclusion that the adjustment of the exchange rate regime is one of the most important macroeconomic policies of the country. The theoretical part of the paper is based on the examination of whether it is better to have a fixed or floating exchange rate against the country's best trading partner, in order to increase exports. The idea of maintaining a fixed exchange rate is mostly supported, because this would avoid the risk of exchange rate fluctuations and would increase the country's economic stability as well as increase foreign trade. The theory of a common currency or currency union is an element that brings about the risk of exchange rate depreciation, increases price transparency between different countries and increases trade levels between the countries of the union.

Currency Exchange Systems in the Western Balkans

Regarding exchange rate policies, the Western Balkan nations followed distinct paths toward economic integration with Europe after gaining their independence. Bosnia and Herzegovina and North Macedonia have a

fixed exchange rate to the euro, while Kosovo and Montenegro use the euro as their official currency. According to Dabrowski and Myachenkova (2018), Albania and Serbia have flexible exchange rate regimes with frameworks for targeting inflation. Table 1 shows the exchange rate regimes according to whether or not they have a euro-anchor. The following sections provide more details on the three different exchange rate regimes used by the WB6 nations.

Table 1. The exchange rate regimes in Western Balkan countries



Unilateral adoption of the Euro

A unilateral currency union occurs when a nation adopts another nation's currency without that nation's permission or agreement. When a nation adopts another's currency, it gives up its ability to stabilize the market and becomes only a passive partner (Ageloni et al, 2004). According to this definition, Kosovo and Montenegro unilaterally adopted the euro (European Commission, 2023c). Kosovo's adoption of the euro has resulted in macroeconomic stability and low inflation that is consistent with the Eurozone. Given that more than 95% of the balance sheet of the banking industry is expressed in euros, there is also more trust in banks in Kosovo. *According to Fabris et al. (2004), Montenegro's adoption of the euro has improved business conditions by establishing predictability and credibility for monetary policy. Since Montenegro adopted the euro, its long-term inflation rate has roughly followed that of the Eurozone, with a few minor variations for specific years.*

The peg currency regime

A currency peg occurs when the value of one currency is managed to remain fixed at a specific level in respect to another. The degree of tightness of the fixed exchange rate and the size of the foreign exchange reserves that central banks must maintain are two different ways that currency pegs can be implemented. *North Macedonia and Bosnia and Herzegovina both have fixed exchange rates, but they are anchored to the euro in different ways.* The convertible mark (KM) is distributed by the central bank (CBBH). The CBBH fixed the exchange rate of 1.955830 KM = 1 EUR in 2001, tying the KM to the euro (CBBH, 2021). Since its adoption, the fixed exchange rate has not changed (CBBH, 2023). According to the CBBH, the KM's euro-peg is responsible for carrying out monetary policy objectives including low inflation and economic growth (CBBH, 2021). On the other hand, North Macedonia's fixed exchange rate system is less strict than Bosnia and Herzegovina's currency board system. In terms of exchange rate targeting, the National Bank of the Republic of North Macedonia (NBRNM) continues to operate under a fixed exchange rate regime. The goal exchange rate is set at 61 MKD = 1 Euro, and it has been kept at parity for the last 20 years. The initial goals of the fixed exchange rate regime were to reduce inflation and boost economic expansion. It now serves as a tool for the North Macedonian economy's faster nominal convergence with the Eurozone.

Features of independent exchange rate system (floating)

A floating exchange rate regime, is one that is not fixed to any one currency but rather is set by the supply and demand of the currency on the foreign exchange market. A managed float exchange rate is one that is flexible and driven by supply and demand, but is also, to some extent, regulated by a central bank or government that intervenes in the foreign exchange market. Serbia and Albania both have flexible exchange rate policies. On the other hand, Serbia runs a managed float. The Bank of Albania upholds a system of freely fluctuating exchange rates (Bank of Albania, 2018). According to Della Valle et al. (2018), the BoA has largely met its 3% inflation target.

In order to preserve price and financial stability and reduce excessive short-term exchange rate volatility, the National Bank of Serbia may make market interventions in foreign exchange. NBS, 2023a.

Macroeconomic development on Western Balkan countries on exchange rate system view

As we have seen in the theoretical part of the literature review, a country with a flexible exchange rate regime gives greater independence to the authorities to design and implement monetary policy. On the other hand, the flexible exchange rate regime is associated with the risk of inflation and the risk of devaluation of the national currency.

In this part of the paper we intend to answer the questions if "in WBc case foreign trade is safer if a country keeps its exchange rate unchanged with the currency of the partner country". *In this paper, we will try to answer this issue based on the descriptive analysis of the data.*

Due to weak growth in the European Union (EU), that is a major trading partner for the Western Balkans, economic growth in the region of WBc slowed to 2.6 percent in 2023 compared to 3.4 percent in 2022. The growth rate in EU countries for 2023 was 0.5%, less than in WB countries that face an average growth around 2.98% for 2023. Thus, the global macroeconomic environment, which had become cloudy due to post-pandemic supply chain frictions and a widespread spike in (commodity) prices that had not been seen in a long time, was primarily responsible for the slowdown in economic activity. Russia's war in Ukraine has made matters worse, which has led to a tightening of financial conditions at the same time.

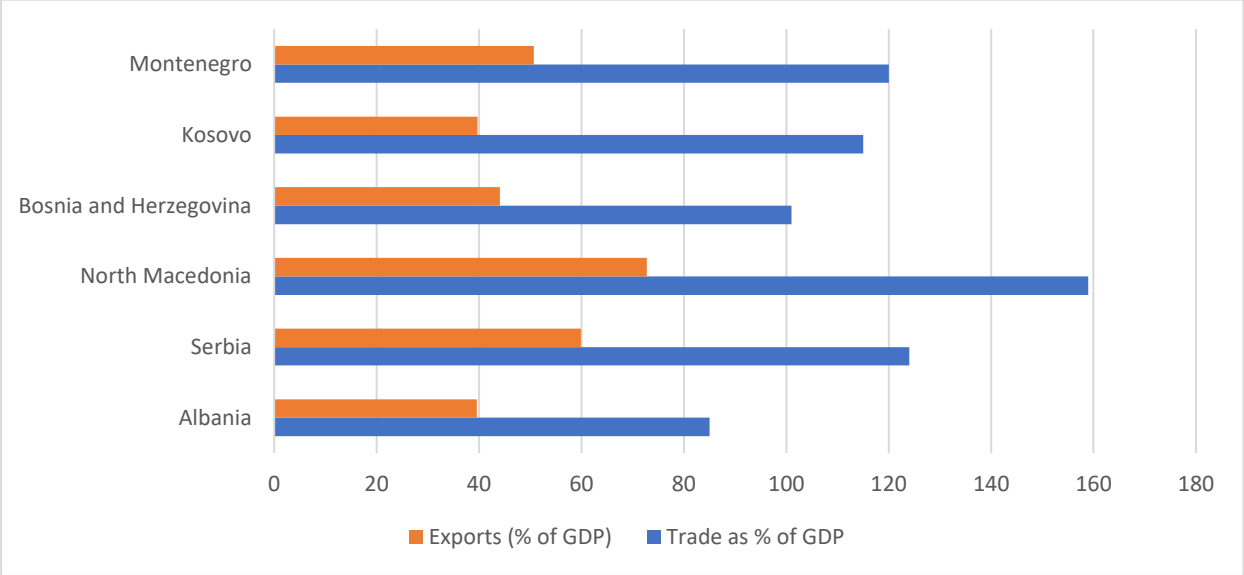
Table 2. Macroeconomic development in WB countries 2023

Country	Country GDP per capita (US $)	Inflation (annual %)	GDP growth (annual %)	Current account (% of GDP)	Exports (% of GDP)	Imports (% of GDP)	Trade Balance	Trade as % of GDP
Albania	**8,367.8**	**6.7**	**3.4**	**-0.9**	**39.6**	**44.9**	**-5.3**	**85**
Serbia	**11,361**	**12.4**	**2.5**	**-2.6**	**59.9**	**64.4**	**-4.5**	**124**
North Macedonia	**8,146.5**	**9.4**	**1**	**0.7**	**72.8**	**86.3**	**-13.5**	**159**
Bosnia and Herzegovina	**8,426.1**	**2.1**	**1.7**	**-2.8**	**44.1**	**56.9**	**-12.8**	**101**
Kosovo	**5,943.1**	**4.9**	**3.3**	**-7.6**	**39.7**	**70.5**	**-30.8**	**114,6**
Montenegro	**12,016.9**	**8.6**	**6**	**-11.5**	**50.7**	**69.3**	**-18.6**	**120**
EU-27 countries	**40,824**	**6.3**	**0.5**		**52.7**	**49**	**3.7**	**102**

Source: World Bank (2023)

Countries that have a fixed exchange rate with the European currency are not affected by the effects of exchange rate fluctuations and tend to have higher trade values with countries in the region or EU countries (the case of Bosnia and Herzegovina and North Macedonia). Kosovo and Montenegro also have this advantage and stability in protection from exchange rate fluctuations, which have the same currency as the countries they import and export.

Table 3. The level of Trade, Imports and Exports as percentage of GDP for 2023



Source: World Bank Indicators, 2023

The table 3 shows that among the Western Balkan countries in 2023, North Macedonia had the highest ratios of imports to GDP and exports (Eurostat, 2023). The economic landscape of the region is influenced by the export and import dynamics of Serbia, Bosnia and Herzegovina, Albania, Montenegro, and Kosovo, all of which showed differing degrees of activity (Eurostat, 2023). ***Exports*** have increased significantly thanks to free access to the EU internal market made possible by SAAs and autonomous trade preferences (Ognjenović and Branković, 2012). With the EU accounting for more than two-thirds of the region's total trade, the EU is the Western Balkan countries' most important trading partner. Over the past ten years, exports to the EU have increased by more than 145% (European Commission, 2022).

According to the data obtained from the World Bank for the 6 countries of the Western Balkans for 2023, it is noted that the countries that have a fixed regime with the euro (North Macedonia and Bosnia & Herzegovina) or that have adopted the European currency (Kosovo and Montenegro) have a higher level high level of exports compared to Serbia and Albania, which have a flexible exchange rate regime with the euro. The highest level of exports for 2023 was recorded in North Macedonia with 72.8% of GDP, followed by Serbia with 59.9% of GDP and Montenegro with 50.7% of GDP. Kosovo and Montenegro have the highest level of imports compared to the other countries of the Western Balkans, also marking the lowest values of the current account deficit, respectively 7.6% and 11.5%. Since these two countries have the euro as their official currency and are not affected by exchange rate fluctuations, they are more predisposed to conduct economic relations with countries that use the same currency in our case, the EU.

Table 4. Western Balkan Countries export and import shares with main partners

Export shares		Import shares	
European Union - 27 countries (from 2020)	69.2	European Union - 27 countries (from 2020)	54.1
Other Western Balkan Countries	14.9	Other Western Balkan Countries	8.9
Russia	2.9	China	10.5
Turkey	2.0	Turkey	5.9
China	1.8	Russia	3.9
Other	9.1	Other	16.7
World	100.0	World	100.0

Source: https://ec.europa.eu/eurostat/statistics (European Union 2023)

The European Union is the largest trading partner of WBc, representing 69.2% of exports and 54.1% of imports, according to Table 4, which lists the company's main trading partners (Eurostat, 2023). With 15% of exports and 8.9% of imports, regional trade within the Western Balkans is important, but there is no denying the EU's economic clout.

Figure 1

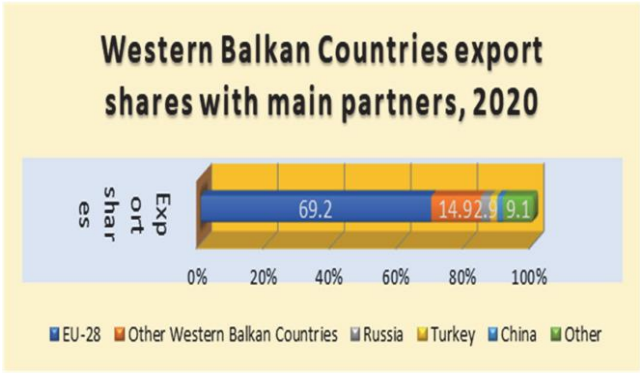
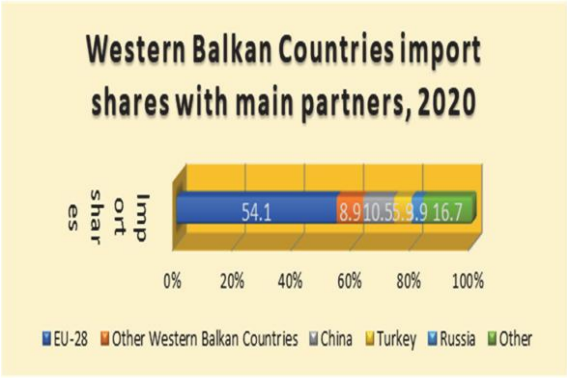


Figure 2



Source: WB, 2023

Eurostat (2023), conclude that export and import shares are graphically depicted in Figures 1 and 2, providing detailed information on intraregional and extra regional trade dynamics These results are in line with Besimi and Hyseni's (2020) research, which emphasizes the value of visual aids in clarifying intricate trade patterns and their consequences for local economic growth. The majority of Western Balkan nations show a positive trend in exports and imports as a percentage of GDP, indicating greater trade openness and participation in international markets.

Conclusions

Researchers are still working on the aforementioned descriptive analysis of the volume of trade, imports, and exports in the Western Balkan nations. The exchange rate regimes that each Western Balkan nation follows have a significant impact on how well their economies are doing, and their central banks use them as a tool to encourage economic expansion. However, it should be mentioned that the effects of the exchange rate regime vary from one nation to another during specific times. Despite adopting the euro, Kosovo and Montenegro have not seen any improvement in their economic conditions. These two nations' economies have grown stronger in recent years, which has contributed to an increase in international trade.

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Financing Challenges For Dairy Farms In Kosovo: An Analysis Of The Current Financial System

Fjolla GASHI[1*] **Albana JUPE**[2]

[1*]PHD, Agricultural University of Tirana, Department of Finance/Accounting, Tirana, Albania

gashifjollapr@gmail.com, ORCID: 0009-0000-9999-0419

[2]Lecturer, Agricultural University of Tirana, Department of Finance/Accounting, Tirana, Albania

albanajupe@ubt.edu.al, ORCID:

Abstract: This study provides an analysis of the financial situation of dairy farms in Kosovo based on data collected through field interviews with farmers using a well-structured questionnaire. The analyses are descriptive in nature and include farmers' demographic characteristics, farm structure, main sources of finance and access to their use. The results of the study highlight numerous challenges in accessing finance on dairy farms, but also the great potential for the development of the sector if these challenges are addressed. The main focus was on the problems in accessing bank loans as the main source of financing for agricultural investments. The results showed that limited loan and challenges such as high interest rates and strict credit criteria have forced farms to use other sources of financing, which are considered informal. Another major challenge was access to government spending, particularly the difficult conditions for obtaining grants and low subsidy values. Despite these challenges, the dairy sector has significant potential for growth and development, including through the use of best management practices that can improve farm productivity and efficiency. Finally, the study makes recommendations for improving access to finance, including the restructuring of loan conditions, education and training of farmers and the restructuring of informal sources of finance. The aim is to support long-term investments and ensure the sustainable development of dairy farms in Kosovo.

Keywords: dairy farms, descriptive analysis, sources of financing, challenges of financing, Kosovo.

1. INTRODUCTION

Agriculture in Kosovo plays a very important role in creating employment opportunities and income through import substitution and free access to the EU market (MAFRD, 2017). It is characterized by small businesses, low productivity and a weak advisory service and contributes around 6.9 % to Kosovo's gross domestic product and 5.2 % to employment (World Bank Group, 2021). The dairy sector is of particular importance to Kosovo's economy, as it contributes to the production of basic foodstuffs and offers opportunities for employment and rural development. However, the sector faces major challenges, especially in terms of financing and the availability of new technologies. Total milk production in 2022 was 276 thousand tons, 1% lower than in 2021 due to the lower number of dairy cows. The dairy sector is mainly focused on products from dairy cows (97%) and small ruminants such as sheep and goats (3%). Domestic production does not meet the population's needs, meaning that the trade balance remains negative at 36.7 million euros (MAFRD, 2023). The contribution of the dairy industry to Kosovo's GDP is estimated at around 132 million euros or 2.48% of GDP (Zeka & Hapciu, 2017). Despite the good potential for the development of livestock farming in Kosovo, milk production is still mainly concentrated on small farms, as the number of semi-commercial and commercial farms remains low (MAFRD, 2015).

Small farm sizes, low productivity, low production levels, lack of technology and insufficient financing of the agricultural sector are the main obstacles to its development. Although agriculture continues to play an important role in the country's economy, its contribution to GDP and employment has declined compared to previous years (World Bank Group, 2021) To support sustainable agricultural development, continuous investment is essential, including the purchase of agricultural inputs, machinery, livestock and other investments (European Fund for South-Eastern Europe, 2019). The funds provided by the government for agricultural development are insufficient (Gashi, 2017). Nevertheless, agricultural loans make up 2.1% of the bank portfolio and 19.5% of the portfolio of microfinance institutions (MAFRD, 2022), that agriculture is the least credit-supported sector in the country. Agricultural loans should be structured to suit the nature of the sector, including short-term loans to finance operating costs, medium-term loans for agricultural machinery and long-term loans to finance land (Adebayo & Adeola, 2008).

Despite the importance of the dairy sector to the local economy, access to sustainable and long-term sources of finance remains a challenge. Some farmers are forced to rely on informal sources of finance, which can lead to

instability and dependency and hinder the sustainable development of farms. Rural credit as a formal source of finance can not only remove financial bottlenecks, but also encourage the adoption of new technologies that would be slower to be accepted in other circumstances (Mohsin, Ahmad, & Anwar, 2011).

International studies have identified a variety of approaches and strategies to improve the financial situation and sustainable development of the agricultural sector, including the dairy sector. Different countries use different strategies to provide farmers with better access to finance and other financial service. According to a group of authors (Yadav, Wadkar, Singh, & Thakur, 2022) a study conducted in Asia emphasized the importance of bank loans and suggested policy intervention to create a robust financing system. Another study looking at European Union countries (Pereira Domingues Martinho, 2022), suggests that policymakers take action within the policy framework, with a focus on diversifying loans and reducing interest rates. In one study (Ali Shah, 2023) creative strategies, including digital lending platforms, are being used to improve access to finance. Similarly, another study on agricultural growth in Africa (Jambo & Traub, 2023) recommends that governments shift their spending priorities and allocate more resources to areas with growth potential.

The aim of this study is to analyze the current situation of dairy farms in Kosovo, to investigate how farmers can gain better access to sustainable financing and to identify ways to improve financial policy.

2. MATERIALS AND METHODS

2.1. Study zone and sample size

The area and sample size were determined on the basis of national data on the number of dairy farms in the country, production and contribution to the dairy sector (Kosovo Agency of Statistics, 2023), (MAFRD, 2023). The sample included a total of 136 dairy farms in several municipalities of Kosovo, such as Pristina, Lipjan, Shtime, Drenas, Skenderaj and Podujeva.

2.2. Type of data and data collection

This study used a research approach based on field data collection from dairy farmers in different regions of Kosovo. The data collection was based on a well-structured questionnaire divided into three sections. The first section contains questions on farmers' demographic data (age, gender, education), the second section contains questions on the sources of financing and the challenges farmers face in using them, and the third which is also the final section, contains questions on the economic/financial situation of the farms.

The questionnaire was generally used to collect information on the financial resources used, while a greater focus was placed on analyzing the conditions and difficulties in obtaining loans as well as government support through government spending such as subsidies and grants.

The data was collected through direct interviews with local farmers over a period of three months. After data collection, the xdata was prepared in such a way that it was suitable for the development of analyses as a basis for the presentation of results and conclusions.

2.3. Statistical tools

The Statistical Package for the Social Sciences (SPSS) program was used to carry out descriptive analyses, including analysis of the demographic characteristics of farmers, analysis of the structure of farms and analysis of the financial situation of farms, such as access to sources of finance and their nature.

3. RESULTS AND DISCUSSION

The study covered 136 dairy farms spread across six regions of Kosovo. Through the evaluation of the collected data, various analyses were conducted, including the demographic characteristics of the farmers, the structure of the farms, the sources of financing and a more in-depth analysis of bank loans, as these are considered the main source of investment in the farm. The analyses include the frequencies and percentages of participation of all variables included.

Table 9: Demographic characteristics

GENDER		AGE		EDUCATION	
	F-P		F-P		F-P
male	124-91.2%	**18-30**	17-12.5%	**elementary**	34-25%
female	12-8.8%	**31-50**	68-50%	**high school**	84-61.8%

		over 51	51-37.5%	**university**	18-13.2%
total	**136-100%**		**136-100%**		**136-100%**

F-Frequency; P-Percent

Source: Authors' own calculation based on primary data collected

A simple demographic analysis shows that 91.2% of farmers are male and only 12 or 8.8% are female, which highlights the physical difficulties that this profession entails and the gender inequality in farming by women. Despite the low percentage of female participation, as long as there are farms led by women, efforts should be made to give them space to increase this percentage. The low percentage in the 18-30 age group is not a very positive result, indicating that the new generations are oriented towards activities other than agriculture. However, about 50% of them are between 31 and 50 years old, which indicates a significant weight in the active age group. In terms of education, 61.8% of respondents have completed secondary school, 25% have only attended elementary school and 13.2% have completed tertiary education. Although about 84% of respondents have above average general education, the need for training programs to improve the financial and operational knowledge of farmers, especially those with less basic education, is pointed out.

Table 10. Farm structure

FARM SIZE		NO OF COWS		AVERAGE DAILY YIELD PER COW		ACTIVITY OF FARM	
	F-P		F-P		F-P		F-P
0>1ha	3-2.2%	**1-6**	37-27.2%	**6-12L**	9-6.6%	**0>1years**	5-3.7%
1-3ha	16-11.8%	**7-12**	57-41.9%	**13-19L**	106-77.9%	**1-5years**	24-17.6%
4-6ha	34-25%	**over 13**	42-30.9%	**over 20L**	21-15.5%	**6-10years**	39-28.7%
over 7ha	83-61%					**over 11years**	68-50%
total	**136-100%**		**136-100%**		**136-100%**		**136-100%**

F-Frequency; P-Percent

Source: Authors' own calculation based on primary data collected

An analysis of the farm structure reveals considerable differences between the respondents in terms of farm size and productivity. The majority of farms (61%) managed over 7 hectares, while only 2.2 % operated on less than 1 hectare. This could be a positive result, as larger farms have more opportunities for investment and better resource management than smaller farms, which may face greater challenges in increasing efficiency. In terms of herd size, 41.9% of farms had between 7 and 12 cows, and 30.9% had more than 13 cows. The average daily milk yield per cow showed that 77.9% of farms produced 13-19 liters per day, while only 15.5% achieved over 20 liters. These differences highlight the potential for productivity improvements through better management practices and the opportunities to increase productivity in the future using the sources of finance available on the market.

Regarding the active years of the farm, 50% of them have been active for more than 11 years, which indicates that half of the farms have a long history and have been consolidated over long periods of time, which offers opportunities for further development and increased productivity.

Table 11. Sources of financing

FINANCIAL RESOURCES		
	Frequency	Percent
LOANS	64	46%
NON-BANK LOANS	5	3.6%
EQUITY	103	74.1%
SUBSIDIES	130	93.5%
GRANTS	6	4.3%
REMITTANCES	25	18%

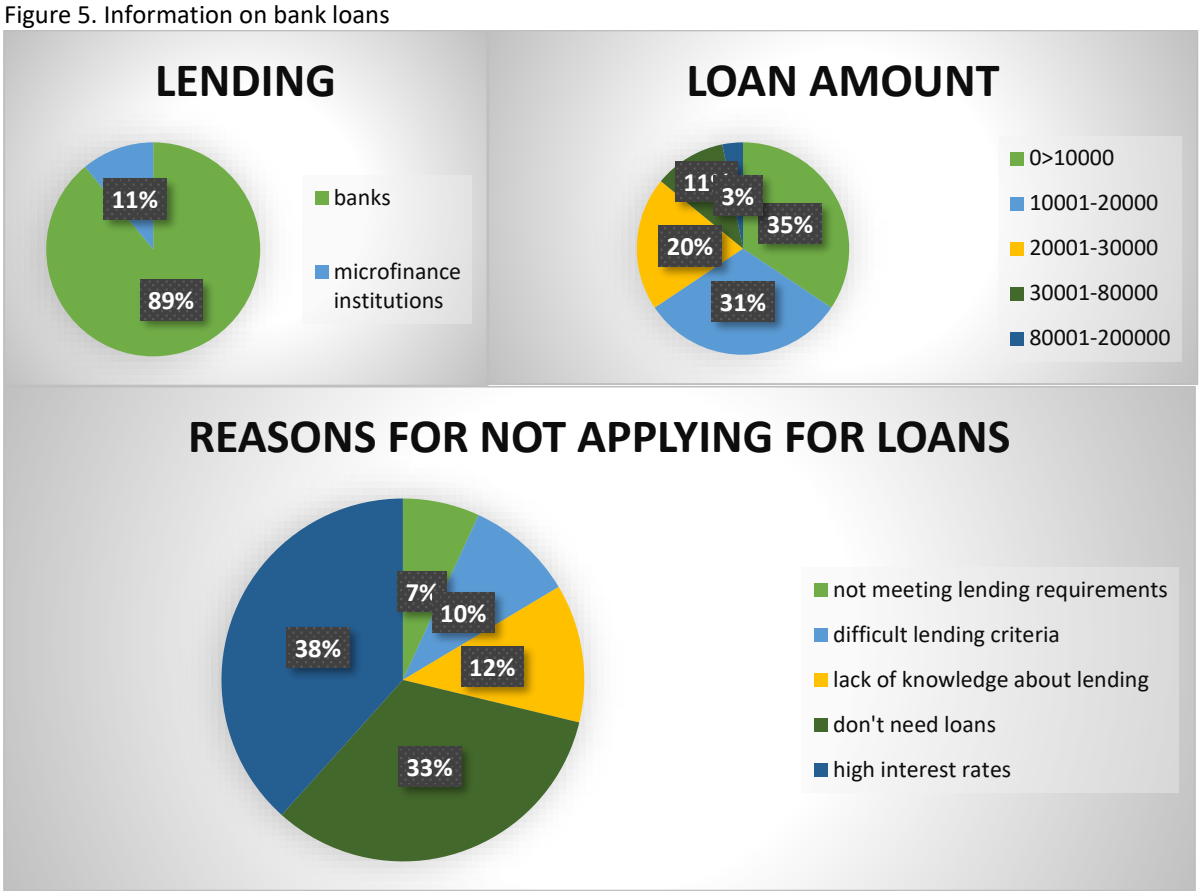
Source: Authors' own calculation based on primary data collected

The results show that farmers use various sources of finance to support their agricultural activities. Equity is very important, 74.1% of farmers use it to support their activities. The majority of farmers, 93.5%, benefit from subsidies, which are generally seen as short-term support and are not sufficient for long-term sustainable investments. Compared to these sources, the proportion of bank loans, which are considered the main source of

financing, is lower, with only 46% of farmers applying for loans. This percentage decrease can be explained by high interest rates and strict loans conditions, indicating the need to restructure credit policies to create more favorable conditions for farmers. The share of non-bank loans (3.6%) and grants (4.3%) is very low, indicating a great inequality in access to finance and development opportunities for farmers, especially for those who cannot access bank loans. Furthermore, farmers claimed that the criteria for obtaining grants are very difficult. Remittances supported 18% of farms, highlighting the inability to find financial resources from the domestic financial system. Although they provide financial support, remittances as an informal source can create dependency and do not provide opportunities for long-term development.

These findings highlight the limited role of financial institutions in promoting agricultural development and the need to provide farmers with more accessible loans and financing options.

Figure 5. Information on bank loans



Source: Authors' own calculation based on primary data collected

As in other sectors of the economy, loans are a key element for the development of agriculture, but the difficulties farmers face in accessing them can hinder the growth and development of this sector. However, agriculture in Kosovo remains a sector with limited loan availability and challenging access criteria. The questionnaire includes detailed questions about loans, including the institutions from which farmers apply for credit, the loan amounts, and the reasons why they do not apply for loans.

According to the responses from the interviewed farmers, 89% had applied for loans at commercial banks, while only 11% had applied to microfinance institutions. Regarding the loan amounts, 35% of farmers had applied for loans of less than 10,000 euros, while only 3% had applied for loans ranging from 80,000 to 200,000 euros. Additionally, 31% of farmers had applied for loans between 10,000 and 20,000 euros, and 20% for loans ranging from 20,000 to 30,000 euros.

Of the group of interviewees, 72 farmers were not loan applicants and provided various reasons for not using bank loans, instead turning to informal financial sources. Notably, 38% of them cited high interest rates as the main reason for not applying, 33% stated they did not need the loan, 12% lacked sufficient information about the application procedures, 10% believed the loan criteria were too strict, and 7% said they did not meet the application requirements.

In conclusion, these results indicate that high interest rates and strict loan conditions are the main barriers for local farmers, highlighting the need to restructure credit policies in order to create more favorable conditions for the agricultural sector in Kosovo.

4. CONCLUSIONS AND RECOMMENDATIONS

This study provides a general overview of dairy farms in Kosovo, aiming to identify trends and challenges in financing the agricultural sector.

The demographic analysis revealed that the majority of farmers are male, highlighting gender inequality within the sector. It was also observed that most farms are managed by older farmers, with only a small proportion run by young farmers. This trend suggests a decline in younger generations entering farming. Additionally, the low educational level of more than half of the farmers indicates a clear need for training in management and financial techniques.

The analysis of farm structure revealed that most farms are larger than 7 hectares, with the number of cows ranging between 7 and 12. The average daily production per cow is between 12 and 19 liters, and most farms have been operational for more than 11 years. The results were positive, indicating that agriculture in Kosovo has the potential to adopt best agricultural practices to increase productivity and efficiency, as well as improve access to financial resources.

The analysis of financial resources also highlighted the importance of bank loans for the development of the agricultural sector. Although equity and subsidies make up the largest share, they, along with remittances, grants, and non-bank loans, remain informal and insufficient sources for long-term investments. While informal sources can lead to dependency and instability, bank loans remain the most formal and suitable option for long-term investment and the continued development of the dairy sector in Kosovo. Despite the numerous challenges, the main constraint to better access to loans are the high interest rates and strict lending criteria.

The conclusions offer the opportunity to make recommendations, which in this study are as follows:

Restructuring the lending policy and increasing the share of agricultural loans in the overall bank portfolio;

Training and educational support for farmers, particularly in relation to record keeping and best farming practices;

Long-term support for investments is needed so that informal sources, such as subsidies, are not only used to cover temporary expenses but also to support long-term investments;.

In this way, expectations are focused on creating a more favorable environment for the development of the dairy sector and increasing its sustainability in Kosovo.

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The tourist product through the eyes of the consumer: Generalizations from practice

Dr. Lyubov Ivanova [1]

[1]lubov.ivanova@swu.bg, South-West University "Neofit Rilski" Faculty of Economics, Department of Tourism, Blagoevgrad

Abstract: The tourist product is a complex combination of goods and services, the value of which is determined not only by the supply, but also by the perception of the final consumer - the tourist. This study aims to analyze the tourist product from the consumer's point of view, by comparing its characteristics to the goods offered on the traditional market. For that purpose, a SWOT analysis will be conducted to reveal the main advantages, weaknesses, opportunities and threats to the tourist product in comparison to the goods. The methodological approach includes on-site analysis based on a quantitative study by surveying tourists during their trip. The aim of the study is to identify the key factors shaping the consumer estimation of the tourist product, as well as the ways in which tourists evaluate the realization of the offers on the tourism market. The results of the study are expected to contribute to a better understanding of the tourist product as an object of consumption, by highlighting its specificities in the context of the tourist market. The study will provide a focused understanding for a better strategic planning and management of the tourism services with the aim of increasing the consumers' satisfaction.

Keywords: tourist product, consumer's point of view, on-site analysis, travel.

1. INTRODUCTION

Tourism plays a fundamental role in global economic development, influencing consumer flows, investments, employment and infrastructure changes. An important contribution in this process has the tourism product and its main characteristics. The United Nations World Tourism Organization (UNWTO) defines a tourism product as a combination of tangible and intangible elements, including natural, cultural, and created resources, attractions, facilities, services, and activities that create a holistic visitor experience. Not like traditional goods, the consumption of products in tourism have to follow a different approach rather than in the determined scope of the physical attributes of other products when compared with goods offered in traditional markets. Due to their specificity the quality estimation has to include the consumer's perspective. By identifying the key determinants of consumer value and satisfaction, the research provides insights into the strategic development of tourism services.
The main research questions include the analysis of the defining components of a tourism product revealed in a real situation, e.g. due to on-site observation and its integrated SWOT discussion in view of the 6 A perspective.

2. LITERATURE REVIEW

The tourism product is a complex and changeable variables in each tourism form. It main feature is to offer a service that differs significantly from traditional goods due to its intangible nature, perishability and heterogeneity (Middleton et al., 2009; Kotler, 2017). According to the UNWTO (2021), a tourism product is defined as:

"A combination of tangible and intangible elements, such as natural, cultural, and man-made resources, attractions, facilities, services, and activities around a specific center of interest, forming the core of the destination marketing mix and creating an overall visitor experience."

This definition reveals the complex nature of the products in tourism, which cannot be consumed without services, infrastructure, and destination-connected experiences. However, existing research (Albrecht & Haid, 2023) argues that the tourism product is not merely what is offered but how it is perceived and experienced by tourists. This nature-based approach is critical when evaluating tourism products in a competitive market and thus contributing to better decision making in srategic marketing (Yaneva, 2020)

One of the most widely used frameworks in tourism studies to analyze the composition and effectiveness of tourism offerings is the Six A's of Tourism model (Buhalis and Spada, 2000). This concept introduces the 6 key components: Attractions, Activities, Accommodations, Amenities, Accessibility, and Ancillary Services. In their general view, they shape the tourist experience holistically. This framework is widely accepted, since its applicability in modern tourism requires. Anyway, this paper aims to assess some of the possible modifications

and critical reassessments, particularly in light of development of digital tools in tourism, sustainability, and not lately changing sustainability expectations trough intercultural dialogue (Kiryakova-Dineva & Chankova, 2022) and better managing consumer experiences (Sorrentino, 2020).

3. DISCUSSION

The Six A's provide a foundational approach to understanding tourism products. However, as tourism markets evolve, there is a need to adapt this model to contemporary consumer expectations, sustainability concerns, and digital innovations. Addressing these gaps will ensure that tourism products remain competitive and responsive to the changing global landscape.

The provides Table 1 presents the understanding of the Six A's into the framework of their challenges and criticism:

Table 1. Six A's into the framework of their challenges and criticism of tourism product

Component	Definition & Role	Challenges & Criticism
Attractions	Core elements that motivate travel (e.g., cultural sites, nature, events).	Visitor flow management, overcrowding, preservation efforts, authenticity
Activities	Experiences and engagements at the destination (e.g., guided tours, adventure activities).	Availability, accessibility, diversity, local engagement, tourist involvement.
Accommodations	Lodging options catering to diverse traveler preferences.	Service quality, cleanliness, price-value ratio, sustainability practices.
Amenities	Supporting services such as dining, shopping, and wellness facilities	Variety, service quality, affordability, contribution to local economy
Accessibility	Infrastructure facilitating tourist movement (e.g., transport, visa regulations	Efficiency of public transport, road conditions, pedestrian-friendliness, signage
Ancillary Services	Supplementary services like travel agencies, insurance, and tour guides	Availability of multilingual guides, online booking convenience, reliability

The next paragraph provides the assessment of the tourist product Tour guiding in Istanbul through the eyes of foreign visitors. In discussing their opinions and relating the framework given above some generalizations can be made. According to the made observation the result is, that Istanbul stands as an exemplary case of a destination that fits into the *Six A's model of travel*. This assessment exposes some of the challenges related to heavily-trafficked tourism areas. The first two component are the city's *Attractions and Activities*, which for the case of Istanbul are incomparable in richness and variety, appealing to nearly all segments of travel. Some of the existing challenges confirm the model in view of: overcrowding, price increases, and political constraints that can negatively impact the tourists' experiences. As a prominent world city, Istanbul has experienced political instability in the past from geopolitical tensions to regional conflicts. Certain parts of the Turkish government go to great lengths to provide security in some of the more touristic areas of Istanbul, but ongoing unrest and travel advisories may negatively shape tourists' perceptions and travel services.

The third component, *Accessibility* can be estimated as strong, with a multitude of ways to reach areas. Still, there is an issue for greater mobility by locals and tourists. Sustainable mobility solutions, such as pedestrian zones and a more robust public transit system, could help alleviate some of these issues. In regards of *Amenities* and *Accommodation*, Istanbul offers an extensive inventory of options from budget to luxury tourists. Furthermore, the language barrier posed by international travelers could present additional challenges in finding

their way and engaging with the local people, and this is the assessment of the last component, the Ancillary Services. Multilingual tour guiding, greater service provider proficiency in English, and a reliance on technology are strong features that always help facilitate these challenges.

4. CONCLUSION

As presented and discussed I this article, tourism products, including tour guiding, are inherently dynamic, influenced by changes in consumer preferences, technology, and socio-economic conditions. On-site assessments of the tourism product provide important information about the real-time experiences of the tourist, allowing a destination to improve how it provides services, plans for infrastructure, and markets itself.

Using the Six A's framework, and ultimately categorizing these products into a form of tourism product lifecycle, tourism managers can implement data-based policy and strategic interventions to manage the-quality and tourism experiences I na more sustainable way. Future research should examine the potential application of real-time analytics in on-site assessments so destinations can actively manage visitor behavior, and slightly adjust quality of service, while becoming more competitive.

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AI-Powered Logistics Optimization in Ports and Its Impact on International Trade

Dr. Ahmet AKTUNA[1]

[1]Tekirdağ Namık Kemal Üniversitesi, SBE, İktisat ABD Doktora Mezunu, ahmetaktuna@anadolu.edu.tr

Abstract: This study examines the transformative impact of Artificial Intelligence (AI) on logistics optimization within maritime ports and its subsequent effects on international trade. The research explores key AI applications, including the prediction of vessel arrival times (ETA), optimization of vessel traffic, and the reduction of operational logistics costs. The paper analyzes the role of AI in enhancing the overall efficiency of international trade by improving the speed, reliability, and transparency of supply chains. Furthermore, it investigates the challenges associated with AI implementation, such as high investment costs, cybersecurity risks, and the transformation of the workforce. Case studies from leading smart ports worldwide (e.g., Rotterdam, Singapore, Qingdao, Tianjin, Tanjung Priok) and from Turkey (Mersin International Port, DP World Yarımca, Asyaport, QTerminals Antalya) are presented with comparative data. The study concludes that AI-powered optimization is a critical strategic imperative for ports to maintain competitiveness and sustainability in the evolving global trade landscape.

Keywords: Artificial Intelligence, Smart Port, International Trade, Port Management.

1. INTRODUCTION

Approximately 80% of the global trade volume is transported by sea, making ports critical centers of the international supply chain (Humphreys, 2023). Increasing global trade and growing vessel sizes necessitate that ports invest in smart technologies to optimize operations, enhance efficiency, and reduce logistics costs (Unescap, 2021). Traditional port management often faces congestion due to capacity insufficiency, lack of planning, and coordination deficits (Özdemir et al., 2024). This leads to long waiting times, costly delays, and inefficient use of resources (Gürbüz et al., 2021).

The purpose of this article is to comprehensively analyze the potential of artificial intelligence (AI) technologies to optimize logistics processes in ports and the impact of this optimization on the efficiency of international trade. The research examines specific application areas of AI, the tangible benefits these applications bring, the challenges encountered, and their future potential. The size of the global smart port market highlights the strategic importance of the topic. Various market research reports predict that the market, valued at USD 3.24 billion in 2024, will reach USD 14.64 billion by 2030, growing at a compound annual growth rate (CAGR) of 29.8% (Grand View Research, 2024). This rapid growth demonstrates how crucial the proper adoption of these technologies is for the competitiveness of nations.

The "Smart Port" concept refers to a port ecosystem that uses Industry 4.0 technologies such as the Internet of Things (IoT), Big Data, Blockchain, and Artificial Intelligence in an integrated manner to maximize operational efficiency, sustainability, and security (Molavi et al., 2020). Within this ecosystem, artificial intelligence functions as a "brain" that analyzes the vast data from IoT sensors, learns operational processes, makes future predictions, and ensures the most efficient use of resources (Doğan, 2021). As stated by the OECD International Transport Forum, the phrase "Smart ports are the only ports that will survive" emphasizes that digital transformation is not a choice but a necessity (as cited in Bastuğ & Kendir, 2024).

2. Technological Evolution and Current State of Smart Ports

2.1. First Steps of Digitalization: From EDI to Port Management Information Systems

The digitalization journey of ports began in the 1980s with the emergence of Electronic Data Interchange (EDI) systems (Hapag-Lloyd, 2025). In the 1990s, with the acceleration of globalization, a global data sharing process began by establishing data networks between ports (Çetin & Yılmaz, 2022). A significant step in this field in Turkey was the launch of the Port Management Information System (LYBS) by the Undersecretariat for Maritime Affairs in 2010. This system enabled ships' entry and exit procedures to be carried out online, reducing bureaucracy and speeding up the process (Eyit et al., 2023).

2.2. The Milestone of Automation: The First Automated Terminals and Their Development

The next logical step in digitalization, the automation of physical operations, reached a turning point in 1993 with the commissioning of the ECT Delta Terminal at the Port of Rotterdam (Hapag-Lloyd, 2025; ITIF, 2024). This terminal earned the title of the world's first fully automated container terminal by using technologies such as unmanned cranes and automated guided vehicles (AGVs) (Golden, n.d.). While the increase in the number of automated terminals followed a linear trend between 1990 and 2010, this growth has increased exponentially in the last decade (PierNext, 2020).

2.3. Comparison of Semi and Fully Automated Terminals

Today, terminals are divided into semi-automated and fully automated categories based on their level of automation (PierNext, 2020). However, despite this rapid increase in investment, there is a significant contradiction regarding the realization of the efficiency gains promised by automation. A survey conducted by McKinsey reveals that while automation is expected to reduce operating expenses by 25% to 55% and increase productivity by 10% to 35%, current implementations have failed to meet these targets. The actual reduction in operating expenses has remained in the 15% to 35% range, while productivity has been observed to

decrease by 7% to 15% (McKinsey & Company, 2018). This situation creates a significant "investment paradox" for the industry.

3. The Central Role of Artificial Intelligence: The Nervous System of Smart Ports

3.1. Predictive and Prescriptive Analytics: ETA/ETD and Demand Forecasting

One of the biggest sources of inefficiency in port operations is the uncertainty in the estimated time of arrival (ETA) of ships. Artificial intelligence offers machine learning models that can make much more precise predictions than traditional methods by analyzing numerous variables such as weather conditions, sea currents, vessel characteristics, and port density (Zissis et al., 2024). A study has indicated that the "Just-in-Time" arrival application can reduce fuel consumption per voyage in container ships by up to 14% (IMO, 2020).

3.2. Operational Optimization Engines: Container Stacking and Resource Planning

The port yard is a dynamic environment where thousands of containers are constantly being moved. Stacking containers in a way that minimizes the number of future re-handling moves is a critical optimization problem. In this area, advanced AI techniques such as Deep Reinforcement Learning (DRL) are used (Tan et al., 2023). DRL agents learn the most efficient container placement and crane movement strategies through trial and error in a simulation environment, performing better than human planners or traditional algorithms (Tan et al., 2023).

3.3. Enhanced Situational Awareness: Computer Vision and Collision Avoidance Systems

AI-powered cameras and computer vision software are revolutionizing port operations. These systems can automatically read container identification numbers, detect damages on containers, and monitor the port area 24/7 to identify security threats (Ultralytics, n.d.). Additionally, AI Video Telematics solutions provide blind-spot information systems (BSIS) and collision warnings through smart cameras and sensors mounted on vehicles, preventing potential accidents (i-four.com, 2024).

4. Smart Port Case Studies from Around the World and Turkey

4.1. Leading International Ports and Performance Data

Many ports worldwide are undergoing a "smart port" transformation by integrating artificial intelligence and digital technologies into their operations. The

Port of Rotterdam has reduced vessel waiting times by an average of 20% with its "Pronto" platform (Wee, 2018). At the fully automated terminal in

China's Qingdao Port, crane productivity has reached 36.2 TEU per hour, exceeding traditional terminals by 20-30% (Anadolu Agency, 2022). Similarly, at

Tianjin Port, the integration of 5G and AI has increased operational efficiency by 20% while reducing energy consumption by 20% (Huawei, 2022). At

Indonesia's Tanjung Priok Port, AI-supported planning systems have reduced vessel waiting times from 2.4 hours to approximately 30 minutes (Maritime Fairtrade, 2024).

4.2. Smart Port Applications and Gains from Turkey

Operational efficiency increases are also being observed with smart port technologies in Turkey. At

DP World Yarımca Port, 100 containers can be scanned per hour thanks to autonomous equipment and digital systems, and the truck waiting time has been reduced from 60-90 minutes to 20-30 minutes with the Vehicle Reservation System (ARS) (Yorulmaz & Derici, 2023).

Mersin International Port (MIP) has reduced the time ships stay in the port from ~50 hours to the ~30-35 hour range through digitalization steps.

Asyaport has reached international standards by achieving a handling rate of 90-100 TEU per hour per ship through the use of technology.

QTerminals Antalya has reduced the average port stay of ships from over 30 hours to around 24 hours with digitalization.

Table 2: AI Applications and Performance Increases in Selected Smart Ports

Port	Prominent AI Application	Reported/Targeted Outcome
Rotterdam (Netherlands)	"Pronto" Platform (ETA Prediction)	20% reduction in vessel waiting times
Qingdao (China)	Fully Automated Terminal (A-TOS)	20-30% increase in crane efficiency (36.2 TEU/hour)
Tianjin (China)	5G-Supported Autonomous Trucks	20% increase in operational efficiency, 20% reduction in energy consumption
Tanjung Priok (Indonesia)	"MarineM" Planning Module	~80% reduction in vessel waiting time (from 2.4 hours to 30 min)
DP World Yarımca (Turkey)	Vehicle Reservation System (ARS)	~67% reduction in truck waiting time (from 90 min to 30 min)

5. The Multidimensional Impacts of AI-Powered Optimization

5.1. Economic Impacts: Efficiency Gains, Cost Reduction, and Statistical Evaluation

The most tangible impact of AI-powered optimization is the increase in economic efficiency. According to an analysis by the World Bank, raising a country's port efficiency to the level of the world's best practices can reduce maritime transport costs by up to 14% (Humphreys, 2023). The literature reports that AI applications can reduce logistics operation costs by 10-30% (McKinsey & Company, 2018). The

Port of Los Angeles aims for an 8% to 12% increase in efficiency by enhancing supply chain visibility with its "Port Optimizer" platform (Infrastructure Report Card, 2021).

5.2. Environmental Impacts: The Green Port Concept and Decarbonization Goals

Maritime transport is responsible for about 3% of global greenhouse gas emissions, and ports are centers where these emissions are concentrated (Transport & Environment, 2023). Artificial intelligence plays a key role in achieving "Green Port" objectives (Durlik et al., 2024). The digital vessel queuing system implemented at the ports of Los Angeles and Long Beach has reduced CO2 emissions per voyage by

16% to 24% by allowing ships to sail at slower speeds (Rhodes et al., 2025). AI can also optimize intra-port energy grids to maximize the use of renewable energy (Maersk, 2023).

5.3. Social Impacts: Workforce Transformation, New Competencies, and the Role of Unions

The proliferation of automation and AI has a profound impact on the structure of employment. On one hand, there are concerns about job losses in certain sectors. For example, a report estimates that automation eliminated **572 full-time jobs** at two terminals in the ports of Los Angeles and Long Beach in 2020 and 2021 (Economic Roundtable, 2022). On the other hand, this transformation creates new, higher-skilled job roles such as "automation systems technician," "data analyst," "robotics engineer," and "cybersecurity specialist" (The B.C. Maritime Employers Association, 2023).

6. Catalysts for Change: Global Crises and Geopolitical Dynamics

6.1. Lessons Learned from the COVID-19 Pandemic: Resilience and the Acceleration of Automation

The COVID-19 pandemic was an unprecedented stress test for global supply chains (Galanis, 2022). The pandemic revealed the fragility of processes dependent on human labor (Kim & Lee, 2022). Studies have shown that fully automated container terminals demonstrated much greater resilience during the pandemic compared to traditional terminals. Automated terminals were less affected by labor shortages, continued their operations without interruption, and even increased their profitability (Kim & Lee, 2022).

6.2. Geopolitical Tensions and Strategic Port Investments

Increasing geopolitical competition, particularly the tension between the US and China, is reshaping the nature of port infrastructure investments (ESCP Business School, 2024). Ports are now seen not only as commercial assets but also as tools of national security and strategic influence (ainvest, 2024). China's ownership or operational control in more than 129 port projects worldwide under the Belt and Road Initiative is the most prominent example of this strategy (Panda & Sahu, 2024). This makes port cybersecurity and the security of the technology supply chain a primary national security issue.

7. Implementation Challenges and Strategic Issues

7.1. High Investment Costs and Strategic Choices: "Greenfield" vs. "Brownfield" Projects

Transitioning to smart port technologies can require capital investments of billions of dollars. A comprehensive smart port project can cost over USD 200 million, with a payback period of up to 8-10 years (Mordor Intelligence, 2024). This investment can be more easily planned in "Greenfield" projects built from scratch, like Singapore's Tuas Port. However, most of the world's ports face the challenge of modernizing existing and operational infrastructure, defined as "Brownfield" projects (PortEconomics, n.d.).

7.2. Cybersecurity Risks and Data Governance

A hyper-connected and fully digitized port is an attractive target for cyber-attacks. According to a 2024 report by IBM, the global average cost of a data breach has reached USD 4.45 million (MarketsandMarkets, 2025). A ransomware attack could halt all port operations, causing millions of dollars in losses to the global supply chain (MAD Security, n.d.). Therefore, adopting modern cybersecurity architectures like "Zero Trust" and establishing a strong data governance structure is vital for the sustainability of smart ports (Logistop, n.d.).

7.3. The Need for Global Standardization: The Role of IMO and DCSA

Global standards are necessary for the different systems used by various ports, shipping companies, and logistics firms to "talk" to each other. Two organizations stand out in this field: on the regulatory side, the International Maritime Organization (IMO) has mandated the use of the "Maritime Single Window" system to standardize administrative processes in ports (IMO, 2025). On the industry side, the

Digital Container Shipping Association (DCSA), established by major container lines, publishes open-source standards for operational processes like Just-in-Time Port Call to ensure de facto compliance (DCSA, n.d.).

8. The Future Horizon: Autonomous Vessels and Generative AI

8.1. The Arrival of Autonomous Vessels: Integration Challenges and Opportunities

The ultimate goal of automation in maritime is the Maritime Autonomous Surface Ships (MASS) that can travel without human intervention (Bunkerist, 2021). However, the integration of these vessels into the port ecosystem presents both significant opportunities and serious challenges, including infrastructure requirements, legal gaps, and complex traffic management (Al-Dhuhli et al., 2024; Royal HaskoningDHV, 2024). When this integration is successful, it holds the potential to create a fully automated "dock-to-dock" logistics chain (Al-Dhuhli et al., 2024).

8.2. Generative AI: Revolutionizing Port Design and Logistics Simulation

The next phase of artificial intelligence, Generative AI (GenAI), has the ability not only to analyze existing data but also to create entirely new and original content, scenarios, and solutions by learning from this data (Cognizant, 2024). GenAI can automatically generate the most optimal new terminal layout plans according to changing trade routes or vessel sizes. It can also create highly realistic simulation scenarios to train both personnel and other AI models, and serve as intelligent assistants that allow managers to query complex databases in natural language (EY, 2024; Dataforest.ai, 2024).

9. CONCLUSION

This study has comprehensively addressed the optimization opportunities created by AI-supported smart port technologies in port logistics and their reflections on international trade. Both global examples and case studies from Turkey show that the integration of artificial intelligence applications into port operations provides tangible and measurable benefits. Increased efficiency, shortened waiting times, cost savings, and improved service quality prove that AI makes ports more competitive, sustainable, and resilient.

However, this technological revolution also brings significant challenges, such as high investment costs, workforce transformation, cybersecurity threats, and the need for global standardization. Consequently, the future of ports is digital, and at the center of this digital future is artificial intelligence. It is stated by various authorities that ports that fail to keep up with this transformation will fall behind in competition and may even become obsolete (Bastuğ & Kendir, 2024). Therefore, port operators and relevant public authorities, both globally and in Turkey, should prioritize smart port investments.

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ABSTRACTS

Cases as an object of study in the law of non-contentious civil procedure

Dr.Sc. Kastriote Vlahna[1]

[1] University of Prizren"Ukshin Hoti" Faculty of Law, Prizren, Kosovo,

Email: kastriote.vlahna@uni-prizren.com, https://orcid.org/0000-0001-6100-5794

Abstract: The subject of the law, whether a natural or legal person, if they want to create a right, extinguish or even change it, and in cases where the agreement of the parties is not enough, then based on a special law, a court decision is required, then the subjects turn to the court by submitting a request. In this case, the object for which the law of non-contentious procedure also determines are: loss and return of the capacity to act, declaration of a person missing, declaration of a person dead, request for permission to marry, request for the division of joint property between family members, and several other cases, for which special provisions are determined on the basis of which the court and the proposing and opposing party must act. In these cases, the greatest burden remains with the judge who initiates the procedure, develops it and finally makes the decision, specifically gives a response to the party in the request that he has submitted. In this case, based on the current practice developed in the court, we see that there is uncertainty in the application of the law of non-contentious procedure, which should be clarified that in the event that there are cases that are not defined in the law of non-contentious procedure, then we can use the law of contentious procedure. Thus, I will talk about this case and other cases during the presentation of this paper.

Keywords: procedure, law, development, court, proposer.

Main Sectors in Economic Development in Kosovo Based on Current Practice

Prof. Asoc. Dr. Drita Krasniqi[1]

[1] Associate Professor, at the University of Prizren "Ukshin Hoti";, Faculty of Economik, Pristina, Kosovo, Email: drita.krasniqi@uni-prizren.com,

Abstract: The economy of Kosovo, since the post-war period, has always been in recovery, more specifically, the governing bodies have always been in office with the sole purpose of strengthening the economic sector, since a well-developed state is seen in the economy it has. It was difficult to recover economically, especially after the global pandemic, and so the recovery and return to pre-pandemic levels come with differences between countries. Growth in Montenegro and Albania was stronger than expected in 2023, driven by a strong tourist season, among other factors, and may slow slightly in 2024. Thus, based on the last year, namely 2024, the state of Kosovo had a growth, specifically development in the economy, as predicted by the European Union Organization. The regional growth rate in 2024, although faster than in 2023, may be 0.1 percent lower than predicted by the World Bank in the previous edition of the report in April. The growth projection for 2025 has been kept unchanged at 3.5 percent. So more specifically, based on 2023, which was a not so successful year in economic development, economic growth was expected to accelerate moderately in 2024, reaching three percent in the face of the continued recovery in the European Union, the region's main trading partner, while lower inflation should help strengthen disposable incomes and support consumption, and such an increase occurred. Thus, the sectors that helped in economic growth were industry, trade, tourism, and for which in 2025 an even higher growth is expected compared to last year. Thus, regarding the topic in question, I will speak more extensively during the presentation of this paper.

Keywords: development, economy, importance, growth, sectors.

Challenge and the importance of economic management in Kosovo

LL.M. Dafina Vlahna[1]

[1] University of Pristina"Hasan Prishtina" Faculty of Law, Pristina, Kosovo, Email: dafinaa_55@hotmail.com, https://orcid.org/0000-0003-1977-4076

Abstract: One of the many challenges that Kosovo faced after the conflict was the choice of a monetary structure. Given the great rush for foreign exchange holdings and the disappearance of the Yugoslav dinar as a means of transaction, it was not surprising that in September 1999, by means of one of its first regulations "On the Currency Permitted for Use in Kosovo", UNMIK approved the use of the Deutsche Mark and other foreign currencies in Kosovo. In fact, it was the population of Kosovo who adopted the Deutsche Mark as its common currency. The UNMIK regulation simply identified the Deutsche Mark as the currency in which the budgets, financial records and accounts of public organizations, agencies and institutions, and UNMIK itself, would be formulated. At the same time, this regulation offered the parties to any contract or other voluntary transaction the freedom to denominate such a transaction in a currency widely accepted and approved by them. Furthermore, this rule removed all foreign exchange controls and restrictions on the possession, use or placement of any currency, in cash or in a bank account, located inside or outside the territory of Kosovo. The adoption of a monetary structure based on the use of the Deutsche Mark appeared to be a natural choice. The use of a stable currency was important in maintaining macroeconomic stability and played a crucial role in rebuilding people's confidence in the financial sector. It was also determined to provide significant support for an externally-driven development strategy, which was more of a necessity than a choice, given the size of the internal market. So I will talk more extensively about the importance and challenges that Kosovo went through with the introduction of the euro during the presentation of this paper.

Keywords: Challenges, importance, application, euro, Kosovo.

Removal and restoration of the capacity to act based on the non-contentious civil procedure law of Kosovo

Dr.sc. Kastriote Vlahna[1]

[1] University of Prizren"Ukshin Hoti" Faculty of Law, Prizren, Kosovo,

Email: kastriote.vlahna@uni-prizren.com, https://orcid.org/0000-0001-6100-5794

Abstract: One of the cases regulated by the non-contentious civil procedure law is the removal and restoration of the capacity to act. Based on the procedural law, it is emphasized that: in the procedure for removal of the capacity to act, the court determines whether the adult person, due to full or partial incapacity to judge, is able to take care of his or her rights and interests, and in accordance with this, fully or partially removes the capacity to act. In the procedure for restoration of the capacity to act, the court fully or partially restores the adult person's capacity to act if it determines that the causes that influenced its complete or partial removal have ceased. The procedure from paragraph 1 of this article must be completed as soon as possible and no later than 90 days, while the procedure from paragraph 2 of this article must be completed within 30 days from the day on which the proposal for the restoration of the capacity to act has reached the court. So in these cases, the procedure is initiated by the person who has a legal interest in removing the capacity to act from the person who in this case must appear as the opposing party, that is, as a counter-proposer. I will speak more extensively about the topic in question during the presentation of this paper.

Key words: procedure, capacity, removal of capacity, restoration, proposer.

The Importance of the Right of Preemption under the Property Law and Other Property Rights

Prof. Asoc. Dr. Bedri Bahtiri[1]

[1] Associate Professor, Department of Civile Law Sciences, at the University of Pristina "Hasan Prishtina";, Faculty of Law, Pristina, Kosovo, Email: bedri.bahtiri@uni-pr.edu, ORCID: https://orcid.org/0000-0002-8216-808X

Abstract: Being the owner of a right over an immovable property means using that right over a certain property but always to the extent permitted by law and with the possibility of limitation by law. So even though we may be the owner of the right of ownership over a certain property, we may have limitations by law when it comes to using the right of ownership. Thus, the limitation also appears in the right of co-ownership, in the case of two people being the owners of an immovable property and having their property divided into equal parts, but as long as the right of co-ownership exists, the right of preemption also exists. According to the Law on Property and Other Property Rights, it is emphasized that: An immovable property (or co-ownership in an immovable property) can be encumbered in such a way that a person has the right of pre-emption. This encumbrance can also be called a restriction of the right of ownership for the owner, since the owner, at the moment when he wants to alienate his property, whether to sell it, donate it or destroy it, must first ask the co-owner if he wants that property, that is, more specifically, to offer his property to the co-owner first, and if he does not accept it, then he has the right to alienate his property. The law then emphasizes that: the right of pre-emption can be created by law or by contract. The contractual right of pre-emption is created through an agreement between the owner of the property and the person who has the right of pre-emption. The right of pre-emption becomes valid against third parties if it is registered in the Register of Real Estate Rights. This means that if you are a co-owner, you have limited rights over the ownership right that you can create over a certain item. I will talk more about the importance of the right of pre-emption during the presentation of this paper.

Keywords: right, co-ownership, pre-emption, law, legal limitation

Challenges Affecting Economic Sustainability in the Country

Prof. Asoc. Dr. Drita Krasniqi[1]

[1] Associate Professor, at the University of Prizren "Ukshin Hoti";, Faculty of Economik, Pristina, Kosovo, Email: drita.krasniqi@uni-prizren.com,

Abstract: A country can be economically sustainable when the human, physical and financial resources available are used effectively to ensure economic growth and the well-being of its inhabitants. Economic growth does not happen by chance, but is a response, among other things, to the quality of public policies, especially those that affect investment, productivity, technological innovation and external effects. While increased production contributes to human development, high-quality growth requires equal access to opportunities for education, health and income generation for all citizens. The growth process is accompanied by a wide range of policies, including financial development, public infrastructure, regulatory framework, government intervention and industrial policies. Strong market-oriented reforms and the achievement of economic and political stability are key factors in economies in transition. Relying on resources is important, but the effective use of these resources to ensure sustainable development and increased well-being is even more important. The development process is linked to a multitude of policies, including: financing development and public infrastructure, the regulatory framework, government intervention and industrial policies. Strong, market-oriented reforms and economic and political stability have proven to be important factors, especially for economies in transition. All of the above can be said to be presented for the economy, specifically for economic development in Kosovo. So I will talk more extensively about the topic during the presentation of this paper.

Keywords: challenges, development, economy, growth, factors.

Public Finance and Public Finance Management According to Law and Practice in Kosovo

LL.M. Dafina Vlahna[1]

[1] University of Pristina"Hasan Prishtina" Faculty of Law, Pristina, Kosovo, Email: dafinaa_55@hotmail.com, https://orcid.org/0000-0003-1977-4076

Abstract: Public finance refers to the monetary resources available to governments and also the study of finances within government and the role of government in the economy. As a subject of study, it is the branch of economics that assesses the government revenues and expenditures of public authorities and the adjustment of one or the other to achieve desirable effects and avoid undesirable ones. The scope of public finance is considered to be threefold, consisting of the effects of government on: The efficient allocation of available resources; The distribution of income among citizens; and The stability of the economy. Economist Jonathan Gruber has presented a framework for assessing the broad field of public finance. Gruber suggests that public finance should be thought of in terms of four main questions: When should the government intervene in the economy? For which there are two central motives for government intervention, market failure and the redistribution of income and wealth. How can the government intervene? Once the decision to intervene is made, the government must choose the specific instrument or policy choice to carry out the intervention (for example, public insurance, taxation, or subsidy). What is the effect of these interventions on economic outcomes? A question to assess the direct and indirect empirical effects of specific government interventions. And finally, why do governments choose to intervene in the way they do? This question is primarily related to the study of political economy, theorizing how governments make public policies. I will discuss public finance in more detail in the presentation of this paper.

Keywords: finance, public, law, practice, development.

Human Capital and Climate Resilience: Fueling Sustainable Economic Growth in Sub-Saharan Africa

Alexia Raluca Turceniuc[1]

[1]Babeș-Bolyai University, Faculty of Economics and Business Administration, Cluj-Napoca, Romania

Abstract: This paper explores the critical role of human capital in driving economic growth across 58 Sub-Saharan African nations, emphasizing its multifaceted impact beyond just health. In the face of persistent economic challenges and the growing threat of climate change, this study examines how key aspects of human capital, such as life expectancy, unemployment, labor force participation, and mortality rates have the power to shape economic growth. Climate change exacerbates existing vulnerabilities, affecting labor productivity, health outcomes, and education, which in turn influence long-term economic prospects. Using panel data from 2000 to 2023 and employing Log-Log modeling with simple regressions, the analysis highlights the direct and indirect effects of human capital on economic prosperity. The findings reinforce the importance of strategic investments in human capital as a means to build resilience against climate-induced economic disruptions, reduce socio-economic disparities, and foster sustainable growth. By addressing inequalities in human capital and adapting to climate-related challenges, Sub-Saharan African nations can unlock new opportunities for inclusive development, reduce poverty, and enhance long-term prosperity. The study underscores the transformative power of investing in people, positioning human capital as a cornerstone of climate-resilient economic progress.

Medical professionals' needs for supervision - results of survey

Anna Angena[1] **Biruta Sloka[2]**

[1]University of Latvia, Anna.Angena@lu.lv, ORCID: 0000-0002-6558-1235

[2]University of Latvia, Biruta.Sloka@lu.lv, ORCID: 0000-0003-2129-053X

Abstract: Recent developments in politics, economy and environment have created additional challenges for medical institutions. Lack of medical personnel, employee turnover, leaving the profession, sick leaves and burnout have negative impact of health care organizations and patient outcomes. The availability of supervision for medical professionals is a critical component of the organizational culture within health care institutions. Supervision can have a positive effect on health care organizational and patient outcomes when conducted according to aims of the organization and needs of medical professionals. Aim of the paper is to prepare research based recommendations for possible steps for providing supervision sessions in health care institutions. Tasks of the current research: analysis of theoretical findings reflected in scientific publications and discussed research results, analysis of tendencies of the needs of medical professionals for successful supervision sessions, including the selection of a supervisor, payment for supervision sessions, inclusion of sessions during working hours. There are used representative data from authors survey conducted in health care organizations in Latvia, used different statistical analysis methods and statistical indicators: indicators of descriptive statistics, cross-tabulations, testing of statistical hypotheses with t-test and analysis of variance – ANOVA, chi-square test, as well as correlation analysis. The results of the study show that medical professionals prefer that supervision sessions are paid for by the workplace, they would be counted in working hours and seniority, and they themselves would have the opportunity to choose a supervisor.

Key words: burn-out, health care, medical professionals, organizational culture, supervision

Digitalisation and Economic Growth in the European Union: A Catalyst for Prosperity?

Cristina Criste[1] **Ciel Bovary[2]** **Oana-Ramona Lobonț[3]** **Luca Magda Mihaela[4]**

[1] West University of Timisoara, Faculty of Economics and Business Administration, Doctoral School of Economics and Business Administration, cristina.criste@e-uvt.ro, ORCID: 0009-0008-0631-5595

[2] West University of Timisoara, Faculty of Economics and Business Administration, Global Entrepreneurship, Economics and Management Programme, ciel.man00@e-uvt.ro, ORCID: 0009-0003-6465-9373

[3] West University of Timisoara, Faculty of Economics and Business Administration, Finance, Business Information Systems and Modelling Department, oana.lobont@e-uvt.ro, ORCID: 0000-0002-2942-3715

[4] "Victor Babes" University of Medicine and Pharmacy Timisoara, Faculty of Dental Medicine, Department of Pediatric Dentistry, luca.magda@umft.ro, ORCID: 0000-0002-1226-6645

Abstract: In an era defined by rapid technological advancements, digitalisation emerges as a pivotal force shaping economic landscapes. Digital technology has an untapped potential to revitalise and affect numerous aspects of the national economy, leading to substantial increases in innovation and higher well-being. This paper investigates the extent to which digital transformation, measured through the Digitalisation Composite Indicator, influences economic growth, proxied by Gross Domestic Product per capita, across the European Union (EU-27). Using data spanning 2017–2021, this study employs Principal Component Analysis (PCA) and Ordinary Least Squares (OLS) regression to assess the interplay between digital intensity and economic performance. Our findings showcase that before the Covid-19 pandemic, digitalisation levels were relatively low but accelerated as countries adapted to lockdown measures. Moreover, economies with higher levels of digitalisation consistently exhibit stronger growth trajectories. These insights highlight the urgent need for strategic convergence in digital policies across the EU-27, reinforcing the role of technological innovation as a cornerstone of sustainable economic prosperity.

Keywords: digitalisation, economic growth, composite indicator, European Union, digital transformation

Acknowledgement: This work was supported by a grant from the Romanian Ministry of Research, Innovation and Digitalization, the project with the title „Economics and Policy Options for Climate Change Risk and Global Environmental Governance" (CF 193/28.11.2022, Funding Contract no. 760078/23.05.2023), within Romania's National Recovery and Resilience Plan (PNRR) - Pillar III, Component C9, Investment I8 (PNRR/2022/C9/MCID/I8) - Development of a program to attract highly specialised human resources from abroad in research, development and innovation activities.

From Uncertainty To Vulnerability: The Development Of The Global Economy In The Context Of The Current Crises

Daniel BULIN, PhD[1]

[1]daniel.bulin@yahoo.com, Institute for World Economy – Romanian Academy

Abstract: The global economy is currently in a period of great uncertainty and complex challenges caused by the cumulative effects of recent shocks. This phase, unprecedented in recent decades, is characterised by overlapping crises fuelled by factors such as persistently high inflation, the prolongation of Russian aggression in Ukraine, the conflict in the Middle East, turbulence in the banking sector, rising real interest rates and high debt levels, including systemic problems related to sovereign debt and the slower recovery of the Chinese economy. Geopolitical tensions and geostrategic realignments are increasing the fragmentation of the global economy and favouring the emergence of geopolitical blocs and the consolidation of economic nationalism at the expense of the multilateralism that has underpinned socio-economic progress in recent decades. Based on the main analytical reports of international organisations (IMF, OECD, European Commission), but also on studies by private companies, the article proposes a qualitative analysis of the evolution of the world economy in the context of geopolitical and geostrategic changes. The main objective is to provide an overview of the global macroeconomic picture and to highlight the main challenges and structural differences between advanced and emerging economies. It also identifies vulnerabilities and risks that could affect the future development of the global economy and highlights the economic policy measures needed to address the current challenges.

Navigating The Challenges of CMR For Ev In The Clean Energy Transition

Daniel BULIN, PhD[1]

[1]daniel.bulin@yahoo.com, Institute for World Economy – Romanian Academy

Abstract: The rapid expansion of the electric vehicle (EV) industry marks a global transition to clean energy and is leading to a significant increase in demand for critical resources for the production of electric vehicle batteries and other green technologies that are fundamental to a low-carbon economy. Critical mineral resources (CMR) are the backbone of this transition to cleaner energy systems and advanced technologies. They are essential for the production of electric vehicles, batteries and renewable energy infrastructure to achieve ambitious sustainability goals. The article aims to assess the market for key mineral resources for modern industries and the transition to green technologies from the perspective of several dimensions: reserves, production, refining, trade and supply chains. The specific objectives are to analyse market vulnerabilities, challenges and opportunities as well as concentration risks and the balance between supply and demand. The results show that the vulnerabilities and challenges associated with CMR require a combination of innovation, strategic investment and international co-operation to secure the sustainable future that electric vehicles and renewable energy promise. As demand for CMR continues to grow, a strategic approach that combines diversification of supply sources, investment in local infrastructure and the development of alternative battery technologies is critical.

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Comparison of Local Agricultural Product Marketing Problems, Specific to Grow Cherry

Asst.Prof.Dr. Deniz Ünal Adıgüzel[1] **Prof.Dr. Süleyman Barutçu[2]**

[1]Pamukkale University, dadiguzel@pau.edu.tr, ORCID: 00002-6275-7434

[2]Pamukkale University, sbarutcu@pau.edu.tr, ORCID: 0000 0003 3898 0588

Abstract: Due to its geographical location and climate zone, Turkey has conditions that allow the cultivation of a large number of fruit and vegetable species. Based on the fact that a product produced, which constitutes the basis of marketing, must meet with the consumer, the fact that a wide variety of agricultural products can be grown requires that these products meet with the consumer. This necessity brings along the marketing problems of agricultural products.

At this point, the aim of our study is to examine the marketing problems of agricultural products and the importance and problems of marketing in the production of cherry fruit, which is one of the special products grown in our region, and to develop solutions.

For this purpose, consumer and producer factors of marketing, which are interdependent and at the same time act independently of each other, were analyzed. Face-to-face interviews were conducted with Honaz cherry producers seeking solutions in this complex structure. After the interviews, research data were obtained and the results obtained in the light of these data were compared with the results obtained in similar studies.

As a result, within the scope of the data and comparisons obtained, suggestions were made to increase the added value of cherry fruit, to sell it at higher prices and to increase the competitiveness of cherry producers.

Key Words: Marketing Problems of Agricultural Products, Cherry Fruit

Navigating The Digital Classroom: Tailoring Teaching Strategies For Actual Generations

Duşe Carmen Sonia[1]

[1]Prof. univ. dr. Carmen Sonia Duse, Teacher Education Department, Social and Human Science Faculty, Lucian Blaga University of Sibiu

Abstract: The study examines the distinct learning preferences and expectations of Generation Z and Generation Alpha students, with a focus on the intricate difficulties educators encounter as a result of generational difference. It emphasizes the significance of comprehending these inconsistencies in order to create efficient teaching methods. The key findings highlight the importance of instructors' technology expertise, personalized learning strategies, and collaborative teaching methods in creating inclusive and interactive learning environments. In the same time, the study offers useful information for educators, politicians, and organizations seeking to adjust instructional practices to foster meaningful learning experiences for Generation Z and Alpha in the digital age. This is an essential tool for individuals who want to understand and negotiate the changing educational environment influenced by the digitally- focused generations.

Keywords: Digital Education, Generational Dynamics, Pedagogical Adaptation, Personalized Training

Investment facilities in the Republic of Moldova within European context: types, targeted sectors and Foreign Direct Investment

Eduard Țugui[1]

[1]PhD-student, Academy of Economic Studies of Moldova; eduard.tugui@yahoo.com. ORCID: https://orcid.org/0000-0003-4623-0496

Abstract: The article highlights the investment facilities existing in the Republic of Moldova, implicitly the types of facilities and the targeted sectors, through the lens of the facilities existing in the European countries. Starting from the hypothesis that intra-European capital flows and the attraction of foreign direct investments are also determined by the investment facilities existing in European states, including in the European Union member states, the research uses the classification of the Organization for Economic Cooperation and Development (OECD) for the comparative analysis of the four types of investment facilities, namely: tax incentives; financial incentives; in-kind incentives; regulatory & non-financial incentives.

The capital inflows into the economy of the Republic of Moldova over the last decade, since the entry into force of the Moldova-European Union Association Agreement and the Deep and Comprehensive Free Trade Area (DCFTA), and the impact of investment facilities on the attraction of capital in the form of foreign direct investments are analyzed. Policy recommendations are also formulated to develop a coherent, transparent and efficient regulatory framework for investment facilities in attracting liabilities in the form of direct investments in the Republic of Moldova.

Key Words: Investment facilities, Capital flows, Foreign Direct Investment, European integration

Tourism in Albania: Challenges and Development Dynamics During 2020–2024

Phd.c. ELENA HARKA[1]

[1]Doctoral Student, "AleksandërMoisiu"University of Durrës, Albania, harkaelena@gmail.com

ORCID: 0009-0002-9123-5560

Abstract: Tourism in Albania has been a cornerstone of economic development, yet the period between 2020 and 2024 has tested its resilience like never before. This research delves into the profound challenges and transformative developments within the sector, emphasizing the interplay between global crises, domestic policy responses, and innovative recovery strategies. It evaluates the impact of the COVID-19 pandemic, geopolitical tensions, and fiscal reforms, particularly those related to Value-Added Tax (VAT) adjustments and support mechanisms for tourism-related enterprises. The study also investigates emerging trends in sustainable tourism, digital transformation, and the revitalization of Albania's cultural and natural assets.

Objective: This research aims to systematically analyze the key difficulties faced by the tourism sector, identify adaptive measures employed during this critical period, and assess their effectiveness in fostering long-term growth. The study seeks to provide actionable insights for policymakers, stakeholders, and researchers focusing on tourism resilience in emerging economies.

Method: Employing a mixed-methods approach, the research integrates quantitative and qualitative analyses. Quantitative data from national and international tourism statistics, including visitor arrivals, revenue trends, and employment impacts, are coupled with qualitative analyses of secondary sources such as government policy documents, industry reports, and academic literature. Comparative case studies are used to highlight successful recovery practices within Albania and similar contexts. Advanced analytical tools, including time-series analysis and trend forecasting, provide a robust understanding of the sector's trajectory.

Results: The findings reveal a multifaceted recovery process. During 2020 and 2021, international tourism plummeted due to pandemic restrictions, causing severe revenue losses and job cuts. However, domestic tourism gained prominence, aided by targeted campaigns and regional travel agreements. Fiscal reforms, including VAT reductions for accommodation and dining services, and financial support for SMEs, proved instrumental in stabilizing the sector. By 2023, Albania witnessed a remarkable rebound, driven by innovative practices such as the digitization of tourism services, the promotion of cultural heritage through virtual platforms, and a pivot towards eco-tourism. These measures not only mitigated losses but also enhanced Albania's competitiveness in niche markets.

Originality: This study offers an in-depth exploration of Albania's tourism sector during a uniquely challenging period. By integrating real-time data with policy analysis and highlighting the role of innovation and sustainability, it provides a comprehensive framework for understanding tourism recovery in emerging economies. The originality lies in its focus on Albania's specific context, bridging global recovery trends with local challenges and opportunities.

Key Words: (Albania, tourism resilience, COVID-19, fiscal reforms, digital transformation, sustainable tourism, cultural heritage, economic recovery)

Günümüzde Köleliğin Devam Eden Hali: Modern Kölelik

Prof. Dr. M. Engin Sanal[1]

[1]Trakya Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Çalışma Ekonomisi ve Endüstri İlişkileri Bölümü, menginsanal@trakya.edu.tr, ORCID: 0000-0002-6607-2723

Özet: Kölelik, çoğumuz tarafından geçmişte kalmış, tarihi bir kavram olarak algılansa da aslında günümüzde de karşılaştığımız ve modern kölelik olarak tanımladığımız güncel bir olgudur. Günümüzde insanlığın kaydettiği sosyal, ekonomik ve siyasal gelişmeler sonucunda, toplumsal normların her ne kadar köleliği imkânsız hale getirdiği düşünülse de kölelik farklı boyutlarda devam etmektedir. Günümüzde kölelik, köleliğin yasal ve meşru olduğu köleci toplum düzeninde olduğu gibi aleni bir şekilde yapılmasa da küresel bağlamda farklı toplumlarda, farklı şekillerde varlığını, azımsanmayacak sayı ve oranlarda devam ettirmektedir. Modern kölelik kavramı, iki temel boyuttan oluşmaktadır. Bunlar, zorla çalıştırma ve zorla evlendirmedir. Zorla evlendirme boyutuyla modern kölelik, kadınları daha fazla olumsuz yönde etkilemektedir. ILO ve Walk Free Foundation tarafından 2022 yılında yayınlanan bir araştırma sonucuna göre, dünyada erkek nüfusunun binde 5,8'i modern köle iken; kadınlarda bu oran binde 6,9'a yükselmektedir.

Modern köleliği daha da riskli hale getiren ise sadece yetişkin bireylerin değil, çocukların da modern köleliğe maruz kalmalarıdır. Yine ILO ve Walk Free Foundation tarafından yayınlanan iki rapora göre, modern kölelerin, 2016 yılı itibariyle dörtte birini çocuklar oluştururken 2021 yılı itibariyle bu oran yüzde 32,43'e yükselmiştir ve dünyada çocukların binde 5,2'si modern köledir. Ayrıca, üzülerek belirtmemiz gerekir ki dünyada modern kölelik, sadece çocuklar için değil; yetişkinler için de bir artış eğilimindedir. Bu durum, modern köleliği insanlığın çözmesi gereken önemli bir küresel sorun olarak karşımıza çıkarmaktadır.

Modern köleliğin, küresel bir sorun olması nedeniyle, bu konudaki uluslararası girişimler de artmıştır. Örneğin, ILO'nun 1930 tarihli zorla çalıştırmayı önlemeye yönelik 29 sayılı sözleşmesine ilişkin olarak, 2014 yılında kabul edilen bir protokol ile, zorla çalıştırmak amacıyla insan kaçakçılığının da dahil olduğu konularda daha güvenilir sayısal verilere ulaşılması ve bu verilerden yola çıkarak, modern kölelikle mücadeleye yönelik daha etkin politikaların oluşturulması amaçlanmaktadır. Ancak, modern köleliğin önlenmesi için sadece vaatlerde bulunmak veya yasal düzenlemeler getirmek yeterli değildir. Siyasal iktidarların yanında, topyekûn bir toplumsal bir mücadele verilmesi gerekmektedir.

Anahtar Kelimeler: Kölelik, Modern Kölelik, Uluslararası Çalışma Örgütü

Cumhurbaşkanlığı Hükümet Sistemi Sonrası Kamuda İnsan Kaynakları Politikaları: Cumhurbaşkanlığı Yıllık Programları Üzerinden Bir Analiz (2019-2025)

Öğr. Gör. Dr. Faruk YAHŞİ[1]

[1]Sakarya Uygulamalı Bilimler Üniversitesi, Geyve MYO, farukyahsi@subu.edu.tr, ORCID: 0000-0002-7069-2183

Özet: Türkiye'de Cumhurbaşkanlığı Hükümet Sistemi'ne geçişle birlikte, Cumhurbaşkanlığı Yıllık Programları yürütme gücünün kamu politikalarını belirlemede önemli bir referans noktası haline gelmiştir. Bu çalışma, Cumhurbaşkanlığı Hükümet Sistemi'nin uygulanmaya başlamasının ardından hazırlanan yıllık programları temel alarak kamuda insan kaynakları politikalarını analiz etmeyi amaçlamaktadır.

2019-2025 yıllarına ait Cumhurbaşkanlığı Yıllık Programlarında "Kamuda İnsan Kaynakları" başlığı altında yer alan politika ve hedefler analiz edilmiştir. Çalışmada doküman incelemesi yöntemi benimsenmiş, politika ve hedefler belirli kategorilere ayrılarak değerlendirilmiştir. İnceleme kapsamında işe alım, liyakat, performans yönetimi, eğitim, dijitalleşme ve esnek çalışma modelleri gibi temel konular ele alınmıştır.

Elde edilen bulgular, kamuda insan kaynakları politikalarının giderek daha performans odaklı hale geldiğini ve dijitalleşme ile veri temelli yönetim anlayışının önem kazandığını göstermektedir. Özellikle Kamu Personeli Bilgi Sistemi, Uzaktan Eğitim Kapısı ve Kariyer Kapısı gibi dijital sistemlerin yaygınlaştırılması dikkat çeken gelişmeler arasındadır.

Sonuç olarak, Cumhurbaşkanlığı Yıllık Programları çerçevesinde kamuda insan kaynakları politikalarının dönüşümü, performans yönetimi ve dijitalleşme gibi unsurlar üzerinden şekillenirken; uygulamada yaşanan zorluklar ve reform süreçlerinin sürdürülebilirliği konuları tartışmaya açıktır. Bu çalışma, gelecekte kamuda insan kaynakları reformları ve politikalarına yönelik akademik araştırmalar için bir temel oluşturmayı hedeflemektedir.

Anahtar Kelimeler: Kamu Yönetimi, Kamuda İnsan Kaynakları, İnsan Kaynakları Politikaları, Cumhurbaşkanlığı Yıllık Programları

Assessing The Performance Of Public Sector Participation In International Transactions

Flavian CLIPA[1] **Raluca Irina CLIPA**[2]

[1] "Ion Ionescu de la Brad" University of Life Sciences, Department of Agriculture, Iasi, Romania

ORCID ID: https://orcid.org/0000-0002-7310-6768, flavian.clipa@iuls.ro, +40 723245480

[2] "Alexandru Ioan Cuza" University of Iasi, Department of Economics and International Relations, Iasi, Romania

ORCID ID: https://orcid.org/0000-0002-0214-9568, riclipa@gmail.com, +40 722 517915

Abstract: The increasing responsibility of states in the field of financing public infrastructure, against the backdrop of budget deficits doubled by economic recession, increasingly calls for recourse to international financing. Among them, the infusion of foreign private capital is becoming a viable alternative to the weakening of the national budgetary effort. Consequently, the legal constructs of such collaborations between the public sector and foreign capital require an independent and pertinent assessment of the actual functioning. Given the possibility of the occurrence of divergent interests, the issue of reporting the results obtained to the resources involved arises, given the manifestation of increased interest by stakeholders. Infrastructure investments carried out by commercial companies with mixed shareholding are projected over a medium to long time horizon, so that the evaluation from the point of view of efficiency requires significant resources, specialists from various fields, a set of well-defined objectives and indicators, along with the structuring of this evaluation on various institutional levels, at the macro and micro economic levels. In this context, some studies analysing the performance of financing with European funds of such investments draw attention to the fact that although such contractual constructs are used when public authorities expect higher returns than traditional procurement procedures, no relevant analyses have been carried out on the opportunity of such an option. At the same time, the respective reports also foresee a series of deficiencies for the member states in the sense that in some cases the competition was distorted, allowing only contractors with high financial potential to participate, it was opted for the extension of the execution terms and the escalation of the contract price due to insufficient preparations, registering consistent gaps between the forecasted and the actual final demand level. In this context, our approach aims to articulate a paradigm of how pertinent assessments of the performance of public sector participation in international financing transactions can be carried out, formulating recommendations for overcoming any potential impediments.

Key words: performance, public-private sector, international financing

The changing elbowroom of pricing decisions in the turbulent environment of our times

Gábor Rekettye[1] **Gabor Rekettye Jr.[2]**

[1]Dr. Gábor Rekettye is Professor Emeritus at the University of Pécs

[2]Dr. Gábor Rekettye is Professor at the International Business School, Budapest

Abstract: Unit production and distribution costs constitute the lower border of the elbowroom of pricing decisions, while the acceptance of the customers sets the upper limit of them. Globalisation, technological development and digital revolution in the first two decades of this century, contributed to the reduction of unit costs while customers were willing to pay more for the better and updated products. So, the scissors between the two borders were opening. The third decade, however, started with the pandemic followed by global inflation. The landscape of economic piecing activity has changed. The situation was topped by local wars and armed conflicts, which had a global effect on the pricing environment. The study intends to analyse these changes and show their effects on pricing.

Literature review of uncertainty risk in finance

Gabriela-Mihaela MUREȘAN[1] **Ana-Maria COLȚA[2]** **Gavril-Claudiu SABADÂȘ[3]**

[1] Finance Department, Faculty of Economics and Business Administration, Babes Bolyai University, Cluj-Napoca, Romania,Corresponding author: gabriela.muresan@econ.ubbcluj.ro

[2] Finance Department, Faculty of Economics and Business Administration, Babes Bolyai University, Cluj-Napoca, Romania,

[3]Agricultural Technological High School – Beclean, Romania

Abstract: Risk and uncertainty perceptions are essential to financial operations. Our study seeks to clarify the differences between the phenomenon of risk and the concepts of uncertainty and probability. This bibliometric study detected pertinent trends in the literature regarding financial uncertainty risk. A co-occurrence analysis of keywords, authors and publications was conducted to discern evolutionary trends in conjunction with cluster analysis and thematic analysis. Researchers often employ surveys to assess individuals' uncertainty.

Furthermore, requesting respondents to assign grades is one of the most straightforward methods for evaluating risk perceptions. In numerous instances, ordinal data is not simply cross-section or time series but is pooled or panel. However, we observed a deficiency of longitudinal studies on this subject.

Keywords: bibliometric analysis, uncertainty, mapping, VOSviewer, Web of Science.

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The Impact of Artificial Intelligence on Labour Force and Gini Coefficient: An Assessment of some EU/OECD Countries

Dr. Hacı Bayram İRHAN[1]

[1](Dr.), Niğde Ömer Halisdemir University, Zübeyde Hanım Faculty of Health Sciences, Department of Social Work, , bayram.irhan.ieu@gmail.com, Orcid no: 0000-0002-4945-966X

Abstract: The question of this study is:" How will the Gini coefficient[1] be affected by the use of AI (Artificial Intelligence) in a technological society?". Therefore, the discussion of the article focuses on the relationship between AI, labour force, employment and the Gini coefficient. The aim of this article is to contribute to the literature on the labour force transformation and income distribution effects of AI, where there are study gaps.

The novelty of this study lies in distinguishing between HWF (Human Workforce), SHWF (Skilled Human Workforce), AIWF (AI Workforce), AISHWF (AI Skilled Human Workforce), and AINSHWF (AI Non-Skilled Human Workforce) in AI-oriented technology society.

The study examines the relationship between artificial intelligence and the Gini coefficient in some EU/OECD countries, predicting that increased AI employment, especially in the medium and long term, will prevent the Gini coefficient from rising by spreading wage-income growth among AISHWF. It proposes reducing the Gini coefficient in a technologically advanced society affected by AI's algorithmic impact by increasing AISHWF through Active Labour Market Policy (ALMP).

Keywords: AI, Skill, Labour Force, Employment, Gini Coefficient

[1] The Gini index is the most widely applied measure of inequality in the literature of Economics due to its connection with Lorenz curves, which give an intuitive and graphical representation of possible inequality. The Gini coefficient measures the inequality of a country's income distribution. The value ranges from 0 to 1, with 0 meaning equality (everyone has the same income) and 1 meaning complete inequality (a single person has all the income).

Sağlık Sektörünün Ekonomik Kalkınmaya Etkisi Üzerine Bir İnceleme

Öğr. Gör. Havva ARABACI [1] **Dr. Öğr. Üyesi Duygu YÜCEL**[2]

[1]Trakya Üniversitesi / Edirne Sosyal Bilimler Meslek Yüksekokulu, Muhasebe ve Vergi Bölümü
arabacih@hotmail.com, ORCİD: 0000-0003-0212-6590

[2]Trkya Üniversitesi, Edirne Sosyal Bilimler Meslek Yüksekokulu Muhasebe Vergi Bölümü, duyguyucel@trakya.edu.tr
Orcid: 0000-0002-2665-6732

Özet: Kalkınma kavramı yalnızca ekonomik genişlemeyi değil aynı zamanda toplumsal ve yapısal değişimleri de içermektedir. Kalkınma, ülkelerin ekonomik, siyasal ve sosyal yapılarını değiştirerek insanların refah düzeylerinin artırılması olarak tanımlanmaktadır. Kalkınma, genel olarak bir ülkenin milli gelir düzeyindeki sürekli artışa bağlı olarak ekonomik, sosyal ve siyasal yapısında meydana gelen değişiklikleri kapsayan bir süreçtir. Ekonomik kalkınmanın belirleyicilerini ekonomik, siyasi ve idari, yasal ve kurumsal, sosyo-kültürel faktörler olarak sıralamak mümkündür. Teknolojik ve ekonomik gelişmelerin yaşandığı günümüzde sağlık sektörü ve bu sektörde yapılan harcamalar ülke ekonomilerinde önemli bir yere sahiptir. Sağlık sektörü hem gelişmiş hem de gelişmekte olan ülkelerin ekonomilerine önemli katkı sağlamaktadır.
Bu çalışmada sağlık sektörünün ekonomik kalkınmaya etkileri teorik olarak incelenecektir. Buna göre sağlık hizmetlerinin ekonomik kalkınma açısından önemi ve sağlık sektörünün ekonomik kalkınmaya etkileri açıklanacaktır.

Anahtar Kelimeler: Sağlık Sektörü, Kalkınma, Ekonomik Kalkınma.

A Study on the Impact of the Health Sector on Economic Development

Abstract: The concept of development includes not only economic expansion but also social and structural changes. Development is defined as increasing the welfare of people by changing the economic, political and social structures of countries. Development is generally a process that includes changes in the economic, social and political structure of a country due to the continuous increase in its national income level. It is possible to list the determinants of economic development as economic, political and administrative, legal and institutional, and socio-cultural factors. In today's world where technological and economic developments are taking place, the health sector and the expenditures made in this sector have an important place in the national economy. The health sector makes a significant contribution to the economies of both developed and developing countries.
In this study, the effects of the health sector on economic development will be examined theoretically. Accordingly, the importance of health services in terms of economic development and the effects of the health sector on economic development will be explained.

Key Words: Health Sector, Development, Economic Development.

The Financial EKG of an Entity. Behavior and Performance under Conditions of Uncertainty

Ionut-Adrian LAZAR[1] **Andreea-Roxana DANCI[2]** **Gabriela-Mihaela MURESAN Ph.D.[3]**

[1] Babes-Bolyai University, Faculty of Economics and Business Administration, Department of Finance, Cluj-Napoca, Romania, e-mail: ionut.adrian.lazar@stud.ubbcluj.ro, ORCID: https://orcid.org/0009-0006-4287-9350

[2] Babes-Bolyai University, Faculty of Economics and Business Administration, Department of Finance, Cluj-Napoca, Romania, e-mail: andreea.roxana.danci@stud.ubbcluj.ro, ORCID: https://orcid.org/0009-0003-8310-8833

[3] Babes-Bolyai University, Faculty of Economics and Business Administration, Department of Finance, Cluj-Napoca, Romania, e-mail: gabriela.muresan@econ.ubbcluj.ro, ORCID: https://orcid.org/0000-0001-6715-7406

Abstract: The continuous evolution of the economic landscape highlights the necessity of comprehensive approaches to assessing the financial health of an entity. In a period of global uncertainty generated by the COVID-19 pandemic and the outbreak of war at Romania's borders, assessing a domestic company's financial health has become essential for long-term stability. This study aims to develop a multidimensional model, referred to as the "financial EKG", which integrates quantitative financial indicators through a detailed assessment of assets, sources of financing, sales, and financial performance from 2019-2023, with qualitative assessments of ethical behavior and decision-making. The objective is to bridge gaps in the literature by exploring the interplay between financial performance, ethical behavior, and decision-making processes in corporate entities. The practical methods used include the analysis of liquidity, solvency, resource management, and profitability, relating to an assessment of bankruptcy risk using well-known models such as Canon-Holder and Robu-Mironiuc. In addition, we conducted a qualitative analysis at an early stage, which complements the existing specialized literature. We surveyed experts in the financial accounting field to get a complete picture of the issue studied.

Keywords: financial analysis, profitability, bankruptcy risk, qualitative analysis, uncertainty.

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Beyond the Big Cities: Effective Methods for Enhancing Tourism in Lesser-Known Urban Areas

Irina Manolescu[1] **Mihai Talmaciu[2]**

[1]Alexandru Ioan Cuza University of Iasi, Romania, irina.manolescu@gmail.com, https://orcid.org/0000-0002-1869-1343

[2] Alexandru Ioan Cuza University of Iasi, Romania, mtalm@uaic.ro, https://orcid.org/0000-0001-8957-5991

Abstract: Tourism in large cities brings many advantages to tourism stakeholders and communities; however, its secondary effects are increasingly emerging. Overtourism is affecting more and more communities, and residents' reactions to counteract it do not focus solely on reducing tourist numbers through specific regulations but also target tourists directly, making their experience negative. Dispersing tourist flows by promoting small towns as tourist attractions is becoming an effective method not only for oversaturated cities but also for areas seeking to attract more visitors and diversify their offerings. This paper aims to highlight methods through which tourist attractions considered *hidden gems* in small urban areas, though currently having an insignificant impact on tourist flows, could be more intensively promoted to bring more visitors to these regions. From a methodological perspective, the approach is qualitative, analyzing best practices and promotional projects for non-traditional tourist areas. Creating networks and themed routes, developing integrated tourism products, and enhancing offerings to provide an attractive tourist experience are methods that have been practically applied in these areas. The use of vouchers for tourists from major cities, offering free entry tickets to various attractions in smaller towns in the region, also represents an effective method to increase visitor numbers and assess the competitiveness of these attractions, particularly in cultural tourism. The analysis focuses on the North-East region of Romania, which is dominated by a few major tourism hubs but has a diverse tourism offer that could become more visible.

Keywords: hidden gems, tourism projects, small town tourism.

Economic Development In Albania Related Analyses With The Consumer Protection

Iris Manastirliu[1]

[1]Doctoral Student, "Aleksandër Moisiu" University of Durrës, Albania, irismanastirliu@gmail.com, ORCID: 0009-0009-2782-7626

Abstract: This paper discusses the implementation of policies to ensure consumer protection, improve education, and support their rights with the focuses on the importance of consumer protection and the daily problems faced. The law for consumer rights includes such as health, economic interests, compensation, education, and representation in decision-making bodies. The study analyzes common problems and citizens' information and satisfaction levels, aiming to provide concrete suggestions for consumer protection. The objectives are related to general knowledge on consumer protection, management, and functional task performance.

The consumer in the market faces the goods and services, which are offered in the traditional way, in different trading units, trading centers, etc. Considering the fact that consumers need to know their rights and the Consumer Protection Agency focuses its work on sensitization, counseling, information, orientation, awareness and alternative solutions to problems, as a special structure of local self-government. This makes it possible to prevent and violate their rights as a consumer.

Regarding the implementation and enforcement of consumer protection policies, reference is made to the competent implementing structures, market surveillance issues, legal protection and mechanisms for resolving disputes outside the judiciary, etc. At the and the paper indicates the recommendation of the purpose of this research study is to analyze consumer protection issues, citizens' information and satisfaction levels, and general knowledge on consumer protection, management, and functional task performance.

Key words: consumer, interest, protection, management, law, environment.

European Approach to The Human Rights Issues of Very Large Online Platforms and Search Engines

Dr. Joó Patrik Zsolt

[1] Pécsi Tudományegyetem/University of Pécs, drjoopatrik@gmail.com, 0009-0007-9242-8117

Abstract: As a result of developments in recent years, online platforms have become an indispensable part of modern societies and everyday life, shaping political, cultural, and economic spheres alike. The survivors of the 2002 "dot-com bubble"—the contemporary tech giants such as Google, Meta, and Amazon—have continuously expanded their influence. Gradually, through their immense economic power, they have transcended the free market and politics, establishing themselves as unavoidable actors, commonly referred to as "gatekeepers." In response to this phenomenon, the Digital Services Act (DSA) introduced the categories of "Very Large Online Platforms" (VLOPs) and "Very Large Online Search Engines" (VLOSEs), imposing additional obligations on these entities. The operation of profit-driven, advertising-based platforms that mainly rely on secret, algorithmic decision-making is often problematic from the perspective of fundamental rights. Freedom of expression, access to information, and the right to privacy are particularly vulnerable in this context. The aim of this study is to examine the human rights implications of VLOPs and VLOSEs, as well as the relevant provisions of EU regulations designed to safeguard these rights. The research includes an analysis of EU regulations, a review of significant legal proceedings to date, and a partial examination of the relevant academic literature. It remains challenging to draw definitive conclusions, as the practical effectiveness of these regulations is still unfolding before our eyes.

Keywords: DSA, Freedom of Expression, Human Rights, VLOP-VLOSE

The role of income in the context of lifelong learning for older adults

Kate Lase[1] **Biruta Sloka**[2]

[1] University of Latvia, kate.cipane@gmail.com, ORCID: https://orcid.org/0000-0002-2267-8096

[2]University of Latvia, biruta.sloka@lu.lv, ORCID: http://orcid.org/0000-0003-2129-053X

Abstract: The relationship between income and lifelong learning among older adults is complex and multifaceted, potentially influencing access to educational opportunities and overall well-being. Lifelong learning enhances older adults' employability and income potential, contributing to poverty reduction and improved health outcomes. However, financial constraints often limit access to educational opportunities, highlighting the need for supportive policies.

This study aims to investigate how income affects participation in lifelong learning among older adults, exploring both the economic benefits and the psychological well-being that arises from continued engagement in educational activities.

Research methods used in preparation of the paper: scientific publication and previous conducted research results analysis, aanalysis of Central Statistical Bureau of Latvia data and Eurostat data, as well as OECD materials which are prepared using indicators of descriptive statistics (indicators of central tendency or location - arithmetic mean, mode, median), indicators of variability (indicators of dispersion - range, standard deviation and standard error of mean), cross-tabulations and analysis of variance - ANOVA are used.

The research reveals that higher income levels significantly increase participation in lifelong learning, leading to improved cognitive function and social integration. Additionally, it highlights the importance of financial support mechanisms and flexible learning programs in promoting equitable access to education for older adults with lower incomes.

Keywords: Adult education, aging population, lifelong learning, older adults

Topic; The impact of global crises on developing economies - Recovery strategies with a focus on the Republic of Kosovo

PhD. Kushtrimi Uka[1]

[1]INTEREX Company- Pristina, Kosovo, Email; ukaa.kushtrim@gmail.com

Abstract: Developing economies, particularly small and open-market economies such as the Republic of Kosovo, are inherently vulnerable to global crises. The impacts of the COVID-19 pandemic, inflationary pressures, the energy crisis, and geopolitical uncertainties have exacerbated economic instability and posed significant challenges for domestic market recovery. This study critically examines the repercussions of these crises on Kosovo's economy, focusing on key sectors such as labor markets, fiscal stability, foreign investments, trade, and industrial development.

Through a comprehensive policy analysis, this paper evaluates the effectiveness of economic recovery mechanisms implemented by both domestic and international institutions, including fiscal and monetary policies, international financial assistance, and the role of foreign direct investments (FDI). Furthermore, the study provides strategic recommendations for enhancing crisis management frameworks and strengthening Kosovo's economic resilience against future disruptions. The findings underscore the necessity of economic diversification, improving the business climate, and developing long-term strategies that will enhance the adaptability and sustainability of Kosovo's economy in the face of global shocks.

Keywords: Global crises, economic recovery, fiscal policy, monetary policy, foreign investments, economic development, Kosovo, developing markets, economic stability.

Integration of Muslim immigrants in Europe: challenges and opportunities

Laura Diaconu (Maxim)[1]

[1] Professor, PhD., Department of Economics and International Relations, Faculty of Economics and Business Administration, "Alexandru Ioan Cuza" University of Iasi, Romania, e-mail: lauradiaconu_07@yahoo.com, ORCID: https://orcid.org/0000-0001-5745-3850

Abstract: As Europe continues to experience high levels of immigration, particularly from Muslim-majority countries, the process of social, cultural and economic integration presents both challenges and opportunities for both immigrants and host societies. Therefore, the purpose of the present paper is to investigate the multifaceted dimensions of Muslim immigrants' integration in Europe, focusing on the socio-economic, cultural and political hurdles they face, as well as the potential benefits and opportunities that successful integration could bring to European communities. Our results show that the challenges of integration are primarily rooted in the intersection of cultural differences, religious practices and socio-economic disparities. One of the most prominent challenges is the tension between the Islamic cultural and religious identity of immigrants and the predominantly secular, Christian-influenced values of many European countries. These cultural and religious differences often lead to misunderstandings, discrimination and stigmatization of Muslim communities, further complicating the integration process. From an economic perspective, Muslim immigrants often face significant barriers to integration, such as lower employment rates, higher levels of poverty and limited access to quality education. These economic challenges are exacerbated by discrimination in the job market and systemic inequalities within educational systems. However, the integration of Muslim immigrants also presents significant opportunities for the European societies. The influx of Muslim immigrants can enrich cultural diversity and promote greater social understanding, fostering pluralism and tolerance. Immigrants bring with them a wealth of traditions, languages and perspectives that can enhance the social fabric of European communities. Furthermore, Muslim immigrants contribute to Europe's economy through their labor in key sectors such as healthcare, construction and services. With proper integration, they can also play a pivotal role in addressing demographic challenges, such as an aging population and labor shortages.

Keywords: Muslim immigrants, challanges for integration, opportunities for integration, European states.

The strain of rising prices: Implications for households' financial well-being

Laura Diaconu (Maxim)[1]

[1] Professor, PhD., Department of Economics and International Relations, Faculty of Economics and Business Administration, "Alexandru Ioan Cuza" University of Iasi, Romania, e-mail: lauradiaconu_07@yahoo.com, ORCID: https://orcid.org/0000-0001-5745-3850

Abstract: Rising prices, particularly in essential goods and services, have become a significant concern for households globally. As inflation rates surge, many households face diminishing purchasing power, particularly among lower and middle-income groups, who allocate a larger share of their income to necessities such as food, housing and energy. These rising costs often force households to adjust their spending behaviors by cutting back on discretionary expenses or finding ways to stretch their budgets. Therefore, this economic pressure leads to changes in consumption patterns, with many households prioritizing basic needs while sacrificing long-term investments or savings goals. In addition to shifts in consumption, households often experience heightened levels of economic and financial insecurity. The erosion of disposable income due to increased prices can lead to the depletion of savings, the accumulation of debt or reliance on credit to manage daily expenses. Furthermore, since the households that were already vulnerable before the price hikes are disproportionately impacted, the existing inequalities increase. Considering these aspects, the present paper explores the financial strain resulting from increasing costs of living and its implications on household financial well-being. The study aims to provide insights into the multiple dimensions through which inflation and price hikes affect household economic security, focusing on consumption patterns, savings behavior, debt accumulation and overall financial stress.

Keywords: inflation, financial well-being, economic insecurity, household budget.

Analyzing the Impact of Various Fuzziness Levels on Predictions in Fuzzy Regression Analysis and Comparing the Fuzzy Predictions with Least Squares Predictions

Dr. Öğr. Üyesi Leyla İŞBİLEN[1]

[1]This study was produced from the author's master's thesis. The title of the thesis is; "Bulanık Regresyon: Türkiye'de 1980-2004 Döneminde Kayıt Dışı Ekonominin Bulanık Yöntemlerle Tahminine İlişkin Bir Uygulama". İstanbul University, Social Sciences Institute, Year: 2005, Thesis Advisor: Prof. Dr. A. Karun Nemlioğlu.

Abstract: This study has two main purposes; the first is to analyze the impacts of different fuzziness levels on parameter estimates in Fuzzy Regression Analysis, and the second is to show that Fuzzy Regression Analysis can produce more accurate predictions than Least Squares Regression Method when there is not enough data. The application was carried out with real data through a model taken from the literature. The dependent variable of the model is; GDP (representing economic growth), and the independent variables are; education expenditures, inflation rate and the unemployment rate. These are the variables of the model included in the work of Öztürk, Kalaycı and Korkmaz published in 2017. Although there is no problem in accessing data regarding these variables, it was studied with a particularly small number of data to demonstrate the superiority of Fuzzy Regression Analysis over the Least Squares Regression Method. As it is known, when there is not enough data, the Least Squares Regression Method suffers from assumption distortions. The data are annual data for the period 2012-2022 and were obtained from the World Bank. RStudio and LINGO were used for the predictions of the models.

Keywords: Least squares regression method, Fuzzy regression, fuzziness level, economic growth.

Farklı Bulanıklık Düzeylerinin Bulanık Regresyon Tahminleri Üzerindeki Etkilerinin Gösterilmesi ve Bulanık Tahminlerin En Küçük Kareler Tahminleri ile Karşılaştırılması

Özet: Bu çalışmanın iki temel amacı bulunmaktadır; birincisi, farklı bulanıklık düzeylerinin Bulanık Regresyon Analizi tahminlerini nasıl etkilediğini analiz etmektir. İkincisi, yeterli veri olmadığında Bulanık Regresyon Analizinin En Küçük Kareler Regresyon Metoduna göre daha doğru tahminler ürettiğini ortaya koymaktır. Uygulama, literatürden sağlanan bir regresyon modeli üzerinden gerçek veriler kullanılarak gerçekleştirilmiştir. Modelin bağımlı değişkeni; GSMH (ekonomik büyümeyi temsilen), bağımsız değişkenleri; eğitim harcamaları, enflasyon ve işsizlik oranıdır. Bu değişkenler; Öztürk, Kalaycı ve Korkmaz'ın 2017 yılında yayınlanan çalışmalarında yer alan modelin değişkenleridir. Bu değişkenlerle ilgili verilere ulaşmada herhangi bir sorun olmamasına rağmen, Bulanık Regresyon Analizinin En Küçük Kareler Regresyon Metoduna karşı üstünlüğünü göstermek amacıyla özellikle az sayıda veri ile çalışılmıştır. Bilindiği üzere yeterli veri olmadığında En Küçük Kareler Regresyon Metodu varsayım bozulmalarına uğramaktadır. Çalışmanın verileri 2012-2022 dönemine ait yıllık verilerdir ve Merkez Bankası'ndan sağlanmıştır. Parametre tahminleri RStudio ve LINGO ile elde edilmiştir.

Anahtar Kelimeler: En küçük kareler regresyon metodu, Bulanık regresyon, bulanıklık düzeyi, ekonomik büyüme.

ÇALIŞMANIN BİLGİSAYAR KODLAMALARI

Tablo 1. LINGO ile h=0.5 Bulanıklık Düzeyinde Bulanık Regresyon Modelinin Tahmin Edilmesi

Bulanıklığı minimize etmeyi amaçlayan amaç fonksiyonu

```
min=11*c0+28.452*c1+26.01*c2+26.315*c3;
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Kısıt Denklemleri

```
a0+2.004*a1+2.496*a2+2.22*a3+0.5*c0+2.004*0.5*c1+2.496*0.5*c2+2.22*0.5*c3>=27.504;
a0+2.004*a1+2.496*a2+2.22*a3-0.5*c0-2.004*0.5*c1-2.496*0.5*c2-2.22*0.5*c3<=27.504;
a0+1.837*a1+2.39*a2+2.27*a3+0.5*c0+1.837*0.5*c1+2.39*0.5*c2+2.27*0.5*c3>=27.588;
a0+1.837*a1+2.39*a2+2.27*a3-0.5*c0+1.837*0.5*c1-2.39*0.5*c2-2.27*0.5*c3<=27.588;
a0+2*a1+2.47*a2+2.29*a3+0.5*c0+2*0.5*c1+2.47*0.5*c2+2.29*0.5*c3>=27.568;
a0+2*a1+2.47*a2+2.29*a3-0.5*c0+2*0.5*c1-2.47*0.5*c2-2.29*0.5*c3<=27.568;
a0+2.06*a1+2.47*a2+2.33*a3+0.5*c0+2.06*0.5*c1+2.47*0.5*c2+2.33*0.5*c3>=27.485;
a0+2.06*a1+2.47*a2+2.33*a3-0.5*c0-2.06*0.5*c1-2.47*0.5*c2-2.33*0.5*c3<=27.485;
a0+2.095*a1+2.43*a2+2.39*a3+0.5*c0+2.095*0.5*c1+2.43*0.5*c2+2.39*0.5*c3>=27.491;
a0+2.095*a1+2.43*a2+2.39*a3-0.5*c0-2.095*0.5*c1-2.43*0.5*c2-2.39*0.5*c3<=27.491;
a0+2.396*a1+2.38*a2+2.39*a3+0.5*c0+2.396*0.5*c1+2.38*0.5*c2+2.39*0.5*c3>=27.479;
a0+2.396*a1+2.38*a2+2.39*a3-0.5*c0-2.396*0.5*c1-2.38*0.5*c2-2.39*0.5*c3<=27.479;
a0+2.804*a1+2.374*a2+2.394*a3+0.5*c0+2.804*0.5*c1+2.374*0.5*c2+2.394*0.5*c3>=27.381;
a0+2.804*a1+2.374*a2+2.394*a3-0.5*c0-2.804*0.5*c1-2.374*0.5*c2-2.394*0.5*c3<=27.381;
a0+2.63*a1+2.414*a2+2.62*a3+0.5*c0+2.63*0.5*c1+2.414*0.5*c2+2.62*0.5*c3>=27.358;
a0+2.63*a1+2.414*a2+2.62*a3-0.5*c0-2.63*0.5*c1-2.414*0.5*c2-2.62*0.5*c3<=27.358;
a0+2.694*a1+2.231*a2+2.576*a3+0.5*c0+2.694*0.5*c1+2.231*0.5*c2+2.576*0.5*c3>=27.303;
```

a0+2.694*a1+2.231*a2+2.576*a3-0.5*c0-2.694*0.5*c1-2.231*0.5*c2-.576*0.5*c3<=27.303;
a0+3.366*a1+2.18*a2+2.48*a3+0.5*c0+3.366*0.5*c1+2.18*0.5*c2+2.48*0.5*c3>=27.432;
a0+3.366*a1+2.18*a2+2.48*a3-0.5*c0-3.366*0.5*c1-2.18*0.5*c2-2.48*0.5*c3<=27.432;
a0+4.565*a1+2.172*a2+2.345*a3+0.5*c0+4.565*0.5*c1+2.172*0.5*c2+2.345*0.5*c3>=27.534;
a0+4.565*a1+2.172*a2+2.345*a3-0.5*c0-4.565*0.5*c1-2.172*0.5*c2-.345*0.5*c3<=27.534;
Bulanık parametrelerin merkez ve yayılımlarına dair kısıtlar
@free(a0); @free(a1); @free(a2); @free(a3); c0>=0;c1>=0; c2>=0; c3>=0; end
Uyarı 1 : LINGO'da nokta virgül hassasiyeti dikkate alınmalıdır.
Uyarı 2: İşlemler en az 3 basamak yürütülmelidir.

Tablo 2. LINGO ile h=0.8 Bulanıklık Düzeyinde Bulanık Regresyon Modelinin Tahmin Edilmesi

Bulanıklığı minimize etmeyi amaçlayan amaç fonksiyonu
min=11*c0+28.452*c1+26.01*c2+26.315*c3;
Kısıt Denklemleri
a0+2.004*a1+2.496*a2+2.22*a3+0.2*c0+2.004*0.2*c1+2.496*0.2*c2+2.22*0.2*c3>=27.504;
a0+2.004*a1+2.496*a2+2.22*a3-0.2*c0-2.004*0.2*c1-2.496*0.2*c2-2.22*0.2*c3<=27.504;
a0+1.837*a1+2.39*a2+2.27*a3+0.2*c0+1.837*0.2*c1+2.39*0.2*c2+2.27*0.2*c3>=27.588;
a0+1.837*a1+2.39*a2+2.27*a3-0.2*c0-1.837*0.2*c1-2.39*0.2*c2-2.27*0.2*c3<=27.588;
a0+2*a1+2.47*a2+2.29*a3+0.2*c0+2*0.2*c1+2.47*0.2*c2+2.29*0.2*c3>=27.568;
a0+2*a1+2.47*a2+2.29*a3-0.2*c0-2*0.2*c1-2.47*0.2*c2-2.29*0.2*c3<=27.568;
a0+2.06*a1+2.47*a2+2.33*a3+0.2*c0+2.06*0.2*c1+2.47*0.2*c2+2.33*0.2*c3>=27.485;
a0+2.06*a1+2.47*a2+2.33*a3-0.2*c0-2.06*0.2*c1-2.47*0.2*c2-2.33*0.2*c3<=27.485;
a0+2.095*a1+2.43*a2+2.39*a3+0.2*c0+2.095*0.2*c1+2.43*0.2*c2+2.39*0.2*c3>=27.491;
a0+2.095*a1+2.43*a2+2.39*a3-0.2*c0-2.095*0.2*c1-2.43*0.2*c2-2.39*0.2*c3<=27.491;
a0+2.396*a1+2.38*a2+2.39*a3+0.2*c0+2.396*0.2*c1+2.38*0.2*c2+2.39*0.2*c3>=27.479;
a0+2.396*a1+2.38*a2+2.39*a3-0.2*c0-2.396*0.2*c1-2.38*0.2*c2-2.39*0.2*c3<=27.479;
a0+2.804*a1+2.374*a2+2.394*a3+0.2*c0+2.804*0.2*c1+2.374*0.2*c2+2.394*0.2*c3>=27.381;
a0+2.804*a1+2.374*a2+2.394*a3-0.2*c0-2.804*0.2*c1-2.374*0.2*c2-2.394*0.2*c3<=27.381;
a0+2.63*a1+2.414*a2+2.62*a3+0.2*c0+2.63*0.2*c1+2.414*0.2*c2+2.62*0.2*c3>=27.358;
a0+2.63*a1+2.414*a2+2.62*a3-0.2*c0-2.63*0.2*c1-2.414*0.2*c2-2.62*0.2*c3<=27.358;
a0+2.694*a1+2.231*a2+2.576*a3+0.2*c0+2.694*0.2*c1+2.231*0.2*c2+2.576*0.2*c3>=27.303;
a0+2.694*a1+2.231*a2+2.576*a3-0.2*c0-2.694*0.2*c1-2.231*0.2*c2-2.576*0.2*c3<=27.303;
a0+3.366*a1+2.18*a2+2.48*a3+0.2*c0+3.366*0.2*c1+2.18*0.2*c2+2.48*0.2*c3>=27.432;
a0+3.366*a1+2.18*a2+2.48*a3-0.2*c0-3.366*0.2*c1-2.18*0.2*c2-2.48*0.2*c3<=27.432;
a0+4.565*a1+2.172*a2+2.345*a3+0.2*c0+4.565*0.2*c1+2.172*0.2*c2+2.345*0.2*c3>=27.534;
a0+4.565*a1+2.172*a2+2.345*a3-0.2*c0-4.565*0.2*c1-2.172*0.2*c2-2.345*0.2*c3<=27.534;
Bulanık parametrelerin merkez ve yayılımlarına dair kısıtlar
@free(a0); @free(a1); @free(a2); @free(a3); c0>=0;c1>=0; c2>=0; c3>=0; end

Tablo 3. RStudio ile En Küçük Kareler Regresyon Modelinin Tahmin Edilmesi

```
> View(data4)

> model<-lm(formula = Y ~ X1 + X2 + X3, data = data4)

> model

Call:

lm(formula = Y ~ X1 + X2 + X3, data = data4)

Coefficients:

(Intercept)         X1         X2         X3

 29.1380781   0.0002616  -0.0633135  -0.6367487

> summary(model)

Call:

lm(formula = Y ~ X1 + X2 + X3, data = data4)

Residuals:

    Min      1Q  Median      3Q     Max
```

-0.08295 -0.03287 0.01318 0.03392 0.04834

Coefficients:

	Estimate	Std. Error	t value	Pr(>|t|)	
(Intercept)	29.1380781	0.9959235	29.257	1.4e-08	***
X1	0.0002616	0.0410364	0.006	0.99509	
X2	-0.0633135	0.2968816	-0.213	0.83720	
X3	-0.6367487	0.1603944	-3.970	0.00539	**

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.05559 on 7 degrees of freedom

Multiple R-squared: 0.7262, Adjusted R-squared: 0.6089

F-statistic: 6.19 on 3 and 7 DF, p-value: 0.02216

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The tourist product through the eyes of the consumer: Generalizations from practice

Lubov Ivanova, Dr.[1]

[1]Email: lubov.ivanova@swu.bg, South-West University "Neofit Rilski", Faculty of Economics, Department of Tourism, Blagoevgrad

Abstract: The tourist product is a complex combination of goods and services, the value of which is determined not only by the supply, but also by the perception of the final consumer - the tourist. This study aims to analyze the tourist product from the consumer's point of view, by comparing its characteristics to the goods offered on the traditional market. For that purpose, a SWOT analysis will be conducted to reveal the main advantages, weaknesses, opportunities and threats to the tourist product in comparison to the goods. The methodological approach includes *on-site analysis* based on a quantitative study by surveying tourists during their trip. The aim of the study is to identify the *key factors shaping the consumer estimation* of the tourist product, as well as the ways in which tourists evaluate the realization of the offers on the tourism market. The results of the study are expected to contribute to *a better understanding of the tourist product* as an object of consumption, by highlighting its specificities in the context of the tourist market. The study will provide a focused understanding for a better strategic planning and management of the tourism services with the aim of increasing the consumers' satisfaction.

Keywords: tourist product, consumer's point of view, on-site analysis, travel.

Openness of the Economy as a Determinant of Government Size in Slovak Republic

Matej Boór[1] **Yuliya Petrenko**[2]

[1] University of Economics in Bratislava, Faculty of Economics and Finance, Dolnozemská cesta 1, 852 35 Bratislava, Slovak Republic, matej.boor@euba.sk, ORCID: 0000-0003-4565-1723

[2] University of Economics in Bratislava, Faculty of Economics and Finance, Dolnozemská cesta 1, 852 35 Bratislava, Slovak Republic, yuliya.petrenko@euba.sk, ORCID: 0000-0003-0448-640X

Abstract: The Slovak Republic is a small open economy, which is largely dependent on foreign exports and imports. The openness of an economy is one of the most important determinants of the government size, and this is also the case in the Slovak Republic. The direction and significance of the relationship between these variables is not entirely clear, as there are two streams of economic thought that provide different explanations. One explanation is that the openness of the economy exposes the national economy to a higher degree of exogenous risk and therefore the government tries to increase public spending in order to protect its economic agents from these negative phenomena. On the other hand, there are proponents of the theory who point to the fact that, in times of increasing globalisation, countries must reduce their tax burden (and hence government expenditure) in order to maintain their countries' competitiveness. The main objective of the paper is to estimate the relationship between the openness of the economy and the size of the government using a number of indicators expressing these two variables. Based on the results of correlation and regression analysis, we can confirm that the openness of the economy is negatively correlated with the size of the government in the Slovak Republic over the period 1995-2023. This relationship is statistically stronger if we quantify the size of the government using the expenditure approach. The relationship is weaker when quantifying the size of government through the revenue approach, but it also shows an inversely correlated relationship, which may reflect the need to provide tax breaks and tax holidays to attract foreign investors.

Keywords: Government expenditure, government revenue, government size, openness of the economy

AI and Audit: Efficient Tool or Indispensable Partner?

Melinda Timea FÜLÖP[1] **Nicolae MĂGDAȘ[2]** **George-Silviu CORDOȘ[3]**

[1]Faculty of Economics and Business Administration, Babeș-Bolyai University, melinda.fulop@econ.ubbcluj.ro

[2]Faculty of Economics and Business Administration, Babeș-Bolyai University, nicolae.magdas@econ.ubbcluj.ro

[3]Transylvania Business Scholl, Babes-Bolyai University, george.cordos@ubbcluj.ro

Abstract: It is well known that the audit process has suffered various adaptations and modifications in order to keep the pace with the dynamics of the economic environment and, as a consequence, the challenges brought towards the proffesion. The latest resort towards which the auditors are leaning is the use of technology in conducting an audit mission and, as well as, unfolding in everything that the proffesion implies. AI is the cutting edge in what technology has best to offer and is adequate for the audit profession due to it's high analysis capabilities. Having the power to comprehand and analyze at such a pace, AI might sometimes previously make suggestion towards the auditor regarding what to further verify. Accepting this as a possibility, raises the question whether in this scenario should we leave AI catalogued as a tool used by the auditor or an upgrade to the partner, in a specific manner, should be in place.

Managing Digital Transformation in the Sharing Economy

Mirela Vâlceanu[1]

[1] West University of Timisoara, mirela.valceanu@e-uvt.ro

Abstract: Because the sharing economy places more emphasis on access than ownership, it has drastically changed conventional company structures and consumer behaviour. It is made possible by digital platforms. For companies functioning in this dynamic environment, this shift calls for the efficient management of digital transformation. The goal of this study is to examine the key components of managing digital transformation in the sharing economy, with an emphasis on the tactics, difficulties, and possibilities this emerging ecosystem presents. In order to improve operational efficiency, accommodate changing customer tastes, and foster sustainable growth in the sharing economy, it looks at how companies might use digital technology. This study uses a qualitative methodology to examine the body of research on the sharing economy, digital transformation, and their junction. In order to comprehend their digital transformation tactics, it looks at case studies of prosperous sharing economy platforms like Uber and Airbnb. To give a thorough understanding of the topic, information from industry publications and professional perspectives are also included. The report addresses the social effects of the sharing economy and offers recommendations for managers, legislators, regulators, researchers, and local governments. It focusses on how innovative performance and value inside businesses are empowered by digital transformation. The study also examines how consumer behaviour is affected by digital transformation and emphasises how crucial digital innovation is to the sharing economy. The study also looks at how digital transformation affects various sharing economy kinds and how digital technologies are being used to change or develop new structures within pre-existing frameworks. Businesses must proactively embrace digital transformation if they want to navigate the sharing economy successfully. This entails modifying organisational structures, procedures, and cultures in addition to implementing new technology in order to conform to the sharing economy's collaborative and on-demand nature. The study's conclusion highlights the significance of constant innovation and adaptation to stay competitive and provides important advice for companies looking to manage digital transformation in this changing environment. It also emphasises the necessity of legal frameworks that promote the sharing economy expansion and long-term viability.

Keywords: Sharing Economy, Innovation, Digital Transformation, Collaborative Consumption, Sustainability

Price linkages in the markets of futures commodities: A Contemporaneous and lagged R^2 decomposed connectedness methodology

Dr. Panos Fousekis[1] **Dr. Dimitrios Panagiotou[2]** **Dr. Vasilis Grigoriadis[3]**

[1]Professor ,Department of Economics, Aristotle University, Thessaloniki, Greece, Email: fousekis@econ.auth.gr

[2]Associate Professor, Department of Economics, University of Ioannina, Greece, Email: dpanag@uoi.gr

[3]Assistant Professor, Department of Economics, University of Ioannina, Greece, Email: v.grigoriadis@uoi.gr

Abstract: This work examines contemporaneous and lagged linkages in the futures markets of agricultural, livestock, energy, industrial metals and precious metals. The recently developed time-varying frequency connectedness approach has been utilized. Data are daily observations from January 2015 to December 2024. For the total sample, the empirical results suggest that overall connectedness is stronger for energy and industrial metals. On the other hand, connectedness for livestock and agricultural products is the weakest. Contemporaneous connectedness is higher than lagged connectedness in all categories. Contemporaneous connectedness is stronger during the Covid-19 pandemic as well as the period following the beginning of the conflict between Russia and Ukraine. Agricultural and energy commodities are net transmitters of shocks during the Covid-19 period. On the other hand, livestock and industrial metals are net receivers of shocks as a result of the Russo-Ukrainian war.

Keywords: Commodity futures, R^2 connectedness, Contemporaneous connectedness, Lagged connectedness.

JEL classification: Q13, C10, G13

Regarding Some Aspects of Use of Artificial Intelligence, In Relation to Economic Stability of Financial Systems

Petar Petkov[1]

[1]Associate Professor, PhD, University of Agribusiness and Rural Development, Faculty of Economics and Management, Department Economics and finances, e-mail: ppetkov@uard.bg, ORCID: https://orcid.org/0000-0002-5685-5986

Abstract: The article **aims** to examine some of the problems of artificial intelligence in connection with its impact on the development of the modern financial industry, providing new opportunities for analysis and making logical decisions. Therefore, its use contributes to the automatic correction of the processes of managing the liquidity of the national aggregate money supply. On the other hand, the application of artificial intelligence leads to a sustainable level of convergence with the euro area, improving the quality of decisions, increasing the efficiency of financial organizations and ultimately to economic stability.

The **methodology** used in the article is primarily from the field of qualitative analysis, supplemented by the method of logical transformation of the monetary transmission mechanism. The growing complexity of the structure of the modern financial sector requires the search for high-quality new software functions that provide a high level of data protection, high-quality new approaches to data processing and analysis, and quick access to relevant information.

Therefore, in **conclusion**, we can emphasize that the skillful use of artificial intelligence not only strengthens the financial system, but also shapes its future, making it more adaptive, dynamic, and intelligent.

Keywords: artificial intelligence, digital economy, financial institutions, financial system.

About Some Aspects of Cybersecurity as a Key Factor in Ensuring Digital Immunity of Central Banks

Petar Petkov[1]

[1]Associate Professor, PhD, University of Agribusiness and Rural Development, Faculty of Economics and Management, Department Economics and finances, e-mail: ppetkov@uard.bg, ORCID: https://orcid.org/0000-0002-5685-5986

Abstract: The proposed article **aims** to examine the issues related to the security of digital information in the central banking sector. It critically evaluates both the identification of the relationship between digital security and the increase in efficiency indicators in central banks.

The directions of innovative banking activities are studied, with the aim of improving information security, using hypothetical-deductive **methods**.

It can be **concluded** that the author's hypotheses reflect the tendency of central banks to strengthen the regulatory framework for ensuring information security. Last but not least, they should shift the emphasis from fulfilling formal requirements to ensuring the real security of commercial banks.

Keywords: central banks, cybersecurity, regulatory framework, global risk.

The role of interior design in shaping the overall guest experience within hotels

Petra Barišić, PhD[1] **Ines Smrkinić, BA[2]**

[1]Associate Professor, University of Zagreb Faculty of Economics & Business

[2]University of Zagreb Faculty of Economics & Business

Abstract: Hotel interior design encompasses the planning, layout, and aesthetic treatment of a hotel's interior spaces. It is a holistic approach that considers functionality, comfort, style, and the overall guest experience. It plays a crucial role in shaping the overall guest experience within hotels. This paper investigates how hotel interior design shapes the guest experience, focusing on how guests perceive and interact with their surroundings. Exploring the interplay of aesthetic elements—from color palettes and materials to furniture, decor, spatial organization, and lighting—the research delves into the impact of design on guest satisfaction. Beyond aesthetics, the study considers the crucial role of ergonomics, comfort, sustainability, and technological innovations in creating a pleasant and functional environment. A survey of 120 guests provided valuable insights into how these factors influence their overall stay. Ultimately, this paper underscores the importance of thoughtful interior design in hotels, demonstrating its direct link to guest satisfaction and the hotel's competitive edge.

Keywords: interior design in hotel, guest experience, quality of stay

Institutions and foreign capital in Turkey: The role of legal and economic indicators

Polyxeni Kechagia[1]

[1] Adjunct lecturer, University of Thessaly, Department of Economics, Greece, kechagia@uth.gr, ORCID: 0000-0003-4467-9302

Abstract: Foreign investors consider various factors of the recipient country when expanding abroad, among which the institutional indicators. Although there is a vast variety of empirical studies that examined institutional quality as a determinant for foreign direct investment (FDI) inflow, it is observed that the majority of them focused on certain aspects of institutions. The present research aims to shed light on different institutional indicators, focusing on the legal and economic aspects, that influence FDI inflows in Turkey. An empirical analysis is presented to examine the legal and economic institutional indicators that affect FDI inflows in the country, using annual secondary data and taking into consideration the role of additional FDI determinants, namely inflation, trade openness, Gross Domestic Product (GDP), etc. To our knowledge, it is the first empirical study to present an empirical model and examine the impact of different legal and economic indicators on FDI inflows. The study concludes with policy implications and suggestions for future research.

Keywords: Institutional quality, Turkey, Foreign Direct Investment, Time series analysis

The role of Green Marketing on Consumption Values- A Bibliometric Literature Review

Rama Mohammad Alzu'bi[1] **Enikő Kontor**[2]

[1]Faculty of Economics and Business, Doctoral School of Management and Business, University of Debrecen, Hungary

[2]Faculty of Economics and Business, Institute of Marketing and Commerce, University of Debrecen, Hungary

Abstract: Green marketing has become a strategic tool in promoting sustainable consumption patterns, reflecting the growing demand for environmentally conscious practices. This bibliometric literature review investigates the relationship between green marketing initiatives and the formation of diverse consumption values, including functional, emotional, social, conditional, and epistemic dimensions. Through an integrative analysis of scholarly works, the review highlights the mechanisms by which green marketing influences consumer decision-making, fostering preferences for eco-friendly products. Incorporating evidence from literature reviews, this study demonstrates that aligning green marketing strategies with consumer values enhances engagement and drives a transition toward sustainability. Despite its advantages, the effectiveness of these strategies is influenced by factors such as price sensitivity and accessibility, which can limit adoption among certain consumer groups.

Key words: Sustainability, Green Marketing (GM), Consumption Values (CV), Bibliometric Literature Review.

The Common Agricultural Policy In The European Union

Roshka Petru[1]

[1]d.h.e.s., prof. univ., Free International University of Moldova (ULIM)., https://orcid.org/0009-0000-5300-7394

Abstract: The article studies various aspects of the Common Agricultural Policy (CAP) in the European Union. The aim of the CAP is to provide farmers with a reasonable standard of living and consumers with quality food at fair prices. The way these goals are met has changed over the years. Food safety, preservation of the countryside and value for money are now all key concepts of the CAP. The article highlights only some of the significant aspects of this important EU policy, with implications for all Member States, as a more detailed analysis of the subject cannot be contained in a single article, given that the documents relating to this policy are extensive and can be studied by anyone interested on the internet addresses provided in the bibliography.

Keywords: The EU's common agricultural policy: its purpose, objectives, mechanisms, advantages; financial support and directions for improving the CAP; the common market; price stabilization; employment; constant provision of food.

Azerbaycan 'da Yeşil Pazarlamanın Sosyal Etkileri

Ruhangiz Aliyeva

Azerbaycan Üniversitesi, ruhangiz.aliyeva@au.edu.az, ORCİD; 0000-0001- 5744-9042

Özet: Azerbaycan'da yeşil pazarlamanın sosyal etkileri birkaç ana alanda kendini göstermektedir. Bu etkileri analiz etmek tüketici davranışı, iş sektörü ve çevresel durum üzerinde olumlu bir etkiye sahip olabilir. Yeşil pazarlama stratejileri insanların daha çevre dostu olmalarına yardımcı olur. Örneğin çevre dostu ürünlere ilgi artıyor ve tüketiciler plastik atıkları azaltmaya çalışıyor. Yeşil pazarlama uygulayan şirketler tüketiciler tarafından daha güvenilir ve sosyal sorumluluk sahibi olarak değerlendiriliyor. Tüketiciler giderek daha fazla geri dönüştürülebilir, biyolojik olarak parçalanabilir ve çevre dostu ürünleri tercih ediyor. Şirketler, çevre standartlarını karşılayan üretim yöntemlerine geçerek uzun vadeli ekonomik faydalar elde edebilir. Alternatif enerji, atık yönetimi ve çevre dostu ürünlerin üretimi alanlarında yeni işler yaratılıyor. Yeşil işletmeler, uluslararası fonlar ve devlet tarafından giderek daha fazla destekleniyor ve bu da onların gelişimine ivme kazandırıyor. Yeşil pazarlamanın teşvik edilmesiyle plastik kullanımı azalıyor ve çevre dostu ürünler ön plana çıkıyor.Yeşil üretim süreçleri havaya salınan zararlı maddeleri ve su kirliliğini azaltabilir. İnsanlar kimyasal içermeyen, doğal ve ekolojik ürünleri tercih ederek sağlıklarına olumlu etki ediyorlar. Hükümet ve sivil toplum örgütleri, yeşil pazarlama çerçevesinde çevresel sorunlara ilişkin farkındalığı artırıyor. Şirketler, çevre dostu sosyal projelere yatırım yaparak topluma katkıda bulunuyor. Azerbaycan'da yeşil pazarlamanın sosyal etkisi giderek güçleniyor ve kamu ve özel sektörler arasındaki iş birliği bu alanda giderek daha önemli bir rol oynuyor. Bu eğilimin gelecekte daha da gelişmesi bekleniyor.

Anahtar Kelimeler: yeşil pazarlama, sosial etki, tüketici davranışı.

Social Impacts Of Green Marketing In Azerbaijan

Abstract: The social impacts of green marketing in Azerbaijan are manifested in several main directions. Analyzing these impacts can have a positive impact on both consumer behavior, the business sector, and the ecological situation. Green marketing strategies help people to be more responsible towards the environment. For example, interest in environmentally friendly products is increasing and consumers are trying to reduce plastic waste. Companies that apply green marketing are considered more reliable and socially responsible by consumers. Consumers are increasingly choosing recyclable, biodegradable, and environmentally friendly products. Companies can achieve long-term economic benefits by switching to production methods that meet environmental standards. New jobs are created in the field of alternative energy, waste management, and the production of environmentally friendly products. Green businesses are increasingly supported by international funds and the state, which gives impetus to their development. With the promotion of green marketing, plastic use decreases and environmentally friendly products gain priority. Green production processes can reduce harmful substances released into the air and water pollution. People have a positive impact on their health by preferring chemical-free, natural and ecological products. State and non-governmental organizations raise awareness of environmental issues within the framework of green marketing, increasing the sensitivity of society to environmental problems. Companies contribute to society by investing in environmentally friendly social projects. The social impact of green marketing in Azerbaijan is increasingly strengthening, and cooperation between the public and private sectors plays an increasingly important role in this area. This trend is expected to develop further in the future.

Keywords: green marketing, social influence, consumer behavior

Kurumlar İçin Bir Hayat Standardı Esası: Yurt İçi Asgari Kurumlar Vergisi

Dr. Öğr. Üyesi Selçuk TEKİN[1]

[1]Trakya Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Maliye Bölümü, selcuktekin@trakya.edu.tr

ORCID: 0000-0003-2725-0651

Özet: Türkiye'de 6 şubat 2023 tarihinde meydana gelen deprem sebebiyle oluşan ciddi finansman gereksiniminin bir sonucu olarak vergi mevzuatında bir dizi düzenlemeler yapılmıştır. Bu kapsamda bazı istisna ve muafiyet uygulamaları azaltılmış buna karşın bazı kamu gelirlerinin artırılması amaçlanmıştır. Bu düzenlemelerden biri de esasen eskiden de uygulama alanı bulmuş fakat daha sonra kaldırılmış olan asgari kurumlar vergisidir. Bu düzenleme 7524 sayılı kanunla Kurumlar Vergisi Kanunu'na eklenen 32/C maddesi hükmü ile ihdas edilmiştir. 2025 yılı ve izleyen vergilendirme dönemlerinde elde edilen kazançlara (özel hesap dönemine tabi olan kurumların ise 2025 takvim yılında başlayan özel hesap dönemi ve izleyen vergilendirme dönemlerinde elde edilen kazançlarına) uygulanmak üzere 02.08.2024 tarihinde yürürlüğe girmiştir. Kurumlar vergisinden muaf olan kurumlar ile ilk defa faaliyete başlayan kurumlar hakkında faaliyete başlanılan hesap döneminden itibaren üç hesap dönemi boyunca asgari kurumlar vergisi uygulanmayacaktır. Geçici vergi dönemleri itibariyle de uygulanması zorunluluğu getirilen asgari kurumlar vergisi, kurumların indirim ve istisnalar düşülmeden önceki kurum kazancının %10'undan az olamayacak şekilde hesaplanmaktadır. Buna göre ticari bilanço karına kanunen kabul edilmeyen giderler eklenmek ve kanunda belirtilen bazı indirim ve istisnalar çıkarılmak suretiyle bulunan tutarın %10'u asgari kurumlar vergisi olacaktır. Bu şekilde hesaplanan asgari kurumlar vergisinden daha düşük kurumlar vergisi hesabı ve dolayısıyla ödemesi mümkün olmayacaktır. Sözkonusu düzenlemeye yönelik çıkarılan 23 Seri No'lu Kurumlar Vergisi Genel Tebliği ile kanunda belirtilmediği halde asgari kurumlar vergisinin hesabında geçmiş yıl zararlarının dikkate alınmayacağına dair hükmün yürürlüğü Danıştay 3. Dairesi tarafından 10.02.2025 günlü kararı ile durdurulmuştur. Bu karara karşı idarenin kararın kendisine tebliğini izleyen 7 gün içinde Danıştay Vergi Davaları Daireleri Kurulu'na itiraz hakkı bulunmaktadır. Çalışmamızda asgari kurumlar vergisi uygulaması ile ihdas edilen genel tebliğin Anayasanın 73'üncü maddesine aykırı olduğu, amaçlanan ek vergi tahsilatı için hayat standardı niteliğindeki bu uygulamanın yerine daha akılcı çözümler bulunabileceği sonuçlarına varılmıştır.

Anahtar Kelimeler: Asgari kurumlar vergisi, normlar hiyerarşisi, yasallık ilkesi.

Türkiye'de Kapsayıcı Büyüme ve Gelir Dağılımı

Dr. Öğretim Üyesi Selda ÖZKILBAÇ[1]

[1]Bayburt Üniversitesi, Uygulamalı Bilimler Fakültesi, Gümrük İşletme Bölümü sozkilbac@bayburt.ed.tr - 0000-0002-4387-896X

Özet: Ekonomik büyüme, bir ülkede üretilen mal ve hizmet miktarının, yani Gayrisafi Yurtiçi Hasılanın zaman içinde sürekli artması anlamına gelir. Ekonomik büyümenin gerçekleşebilmesi için ya üretim kapasitesi veya üretim faktörlerinin verimliliği arttırılmalı ya da teknolojik gelişme gerçekleşmelidir. İktisat yazınında ekonomik büyüme ve belirleyicileri oldukça önemli bir yer tutmaktadır. Ancak ekonomik büyümenin gerçekleşmesi her zaman toplumun refah seviyesinin arttığı anlamına gelmez. Özellikte Gelişmekte Olan ve Az Gelişmiş ekonomilerde gelir dağılımındaki adaletsizlikler nedeniyle ekonomik büyüme toplumun her kesimine aynı oranda yansımamaktadır. Bu nedenle büyüme ile ilgili pek çok kavram ortaya çıkmıştır. Kapsayıcı büyümenin, tek ve net bir tanımı olmasa da genel olarak, milli gelir artışından ortaya çıkan fayda ve fırsatların toplumun farklı kesimlerine dengeli bir şekilde dağıtıldığı bir ekonomik büyüme modelini ifade etmektedir. Dolayısıyla kapsayıcı büyümenin kabaca iki boyutu vardır; birincisi ortalama milli gelirde artış, ikincisi de bu büyümenin toplumun olabildiğince geniş kesimlerine yansımasıdır. Bu çalışmada teorik bir çerçevede Türkiye'nin 2000'lerden itibaren gerçekleştirdiği büyüme performansının kapsayıcı olup olmadığı değerlendirilmektedir. Bunun için hem ekonomik büyüme, hem de gelir dağılımı istatistiklerinden yararlanılmaktadır.

Anahtar Kelimeler: Ekonomik Büyüme, Gelir Dağılımı, Türkiye

Abstract: Economic growth means that the amount of goods and services produced in a country, that is, Gross Domestic Product, constantly increases over time. In order for economic growth to occur, either production capacity or the efficiency of production factors must be increased or technological development must occur. Economic growth and its determinants have a very important place in the economic literature. However, economic growth does not always mean that the welfare level of society increases. Especially in Developing and Underdeveloped economies, economic growth is not reflected equally in all segments of society due to injustices in income distribution. For this reason, many concepts related to growth have emerged. Although inclusive growth does not have a single and clear definition, it generally refers to an economic growth model in which the benefits and opportunities arising from the increase in national income are distributed in a balanced manner to different segments of the society. Therefore, inclusive growth has roughly two dimensions; The first is the increase in average national income, and the second is the reflection of this growth on as wide segments of society as possible. In this study, it is evaluated within a theoretical framework whether Turkey's growth performance since the 2000s is inclusive or not. For this purpose, both economic growth and income distribution statistics are used.

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Evaluation of Debt Management and Innovative Financial Tools in Local Government Organizations During Economic Crisis

Symeon Arvanitopoulos[1]

[1] PhD Student at the Faculty of Economics, South-West University "Neofit Rilski", Blagoevgrad

Abstract: Debt management and the search for innovative financing tools in Local Government Organizations (LGOs) become particularly critical in times of economic instability. This paper explores how LGOs can leverage practices such as refinancing, public-private partnerships (PPPs), as well as alternative sources of financing to ensure sustainable service delivery. Through case study analysis and interviews with elected representatives, the importance of a transparent and strategic approach to debt management is highlighted, which allows LGOs to respond effectively to the challenges that arise in times of economic crisis.

Keywords: Debt management, Local Government Organizations, Economic crisis, Innovative financial tools, PPP, Sustainability.

JEL Codes: H72, H74, R5

Revenue Diversification and Budget Transparency: A Path Towards Sustainable Municipal Financing In Greece

Symeon Arvanitopoulos[1]

[1] PhD Student at the Faculty of Economics, South-West University "Neofit Rilski", Blagoevgrad

Abstract: Sustainable financing of Municipalities is a key issue for the smooth functioning of Local Government and the effective provision of services to citizens. This paper explores how the diversification of municipal revenues, combined with the enhancement of budget transparency, can contribute to the long-term financial stability of Greek Local Government Organizations (LGOs). Focusing on Greek and international practices, the possibility of finding new resources such as taxes, municipal fees and innovative financing sources is assessed and the importance of public accountability for strengthening citizens' trust is highlighted. The findings show that the systematic and transparent management of municipal resources, combined with a flexible revenue strategy, increases the chances of municipalities successfully responding to contemporary fiscal challenges.

Keywords: Revenue diversification, Transparency, Budget, Sustainable municipal financing, Local government, Accountability.

JEL Codes: H71, H72, R51

Basketbol Altyapı Oyuncu Seçmelerinde Fiziksel Uygunluk ve Antropometrik Özelliklerin Öneminin İncelenmesi

Sedat Asarcıklı[1] **Doç. Dr. Nigar Küçükkubaş**[2]

[1]Yalova Üniversitesi, Spor Bilimleri Fakültesi, Beden Eğitim ve Spor Anabilim Dalı, sedatasarcikli@hotmail.com, ORCID:0009-0005-7337-5879

[2] Yalova Üniversitesi, Spor Bilimleri Fakültesi, Rekreasyon Bölümü, nigar.kucukkubas@hotmail.com, ORCID:0000-0003-0886-8923

Özet: Çocukluk dönemi, bireylerin fiziksel, psikolojik ve sosyal gelişimlerinin temellerinin atıldığı kritik bir evre olarak kabul edilmektedir. Bu dönemde, fiziksel uygunluk düzeylerinin düzenli olarak izlenmesi, çocukların genel sağlık durumları hakkında önemli bilgiler sağlamanın yanı sıra, gelişim süreçlerinin daha iyi anlaşılmasına ve performans sporlarındaki başarıların artırılmasına yardımcı olmaktadır. Fiziksel uygunluk, performans sporlarında uzun vadeli başarıyı hedeflemek amacıyla, erken çocukluk döneminde yapılan ölçümler ve değerlendirmelerle belirlenir. Bu süreçler, sporcuların uzun dönemli antrenman planlaması, seçimi, yönlendirilmesi ve yeteneklerinin uygun branşlarda geliştirilmesinde önemli bir rol oynar.

Bu çalışmada, basketbolcu çocukların gereksinimlerine yönelik fiziksel uygunluk parametrelerinin düzenli takibinin sağlık ve performans sporlarındaki önemi incelenmiştir. Basketbolcuların fiziksel kapasitelerini belirleme ve başarıya ulaşmalarını sağlayacak bilgilerin standartları sunulmuş; yağ yüzdesi, kas kütlesi, ekstremite uzunlukları ve somatotip gibi parametrelerin motorik özelliklerle uyumu ele alınmıştır. Ayrıca, basketbol sporundaki fiziksel uygunluk parametrelerinin mevkilere göre farklılık gösterdiği, ancak sporcunun antropometrik özelliklerinin daha özel bir şekilde incelenmesi gerektiği vurgulanmıştır. Farklı mevkilere sahip oyuncuların boy, vücut ağırlığı, kulaç uzunluğu, vücut tipi, dayanıklılık, kuvvet, çeviklik, denge ve motor koordinasyon gibi fiziksel uygunluk parametrelerinin yüksek seviyede olması gerektiği ifade edilmiştir.

Sonuç olarak, bu çalışma, basketbolcuların performansını artırabilmek için fiziksel uygunluk ölçümleri ve antropometrik parametrelerden vücut tipi ve büyüklüklerinin branşa uygunluğunun önemini ortaya koymaktadır. Ayrıca, basketbol gibi takım sporlarında başarıya ulaşmak için belirli fiziksel uygunluk parametreleri üzerinden değerlendirme yapılmasının, oyuncuların bireysel potansiyellerini en üst düzeye çıkarmak adına temel bir gereklilik olduğu sonucuna varılmıştır. Gelecekteki araştırmalar, sporcuların mevkilerine göre daha spesifik ölçümler ve antrenman programları geliştirilmesine olanak sağlayacaktır.

Anahtar Kelimeler: Fiziksel Uygunluk, Basketbol, Çocuklar, Antropometri

Strengthening Fiscal Autonomy In Greek Municipalities: Lessons From The Fiscal Reforms In Thessaloniki

Symeon Arvanitopoulos[1]

[1] PhD Student at the Faculty of Economics, South-West University "Neofit Rilski", Blagoevgrad

Abstract: The fiscal autonomy of municipalities is a crucial issue for the effective provision of services and sustainable development in local government. This paper examines how the reforms implemented in Thessaloniki in recent years can serve as a benchmark for improving collection capacity, debt management and revenue dispersion in other municipalities in Greece. Using a combination of qualitative and quantitative data, we analyze the role played by central government resources, municipal taxes, as well as innovative financing practices at the local level. The results highlight the need for more flexible arrangements and the importance of the substantive participation of local authorities in the design of economic policies. Finally, good practices and strategies are proposed that contribute to strengthening the financial sustainability of municipalities across the country.

Keywords: Fiscal autonomy, Local government, Reforms, Municipal financing, Debt, Sustainability, Thessaloniki

JEL Codes: H72, H77, R51

The Rise, Challenges, and Implications of Generative AI

dr. Szabolcs Diósi[1]

[1]Faculty of Law, University of Pécs, diosi.szabolcs@ajk.pte.hu

Abstract: This study explores the emergence of Generative AI (GenAI) models, which gained widespread recognition at the end of 2022 after OpenAI made its ChatGPT Large Language Model (LLM) publicly available. GenAI systems are designed to generate novel content based on user instructions (prompts), extending beyond their initial purpose into a broad range of applications. While early GenAI models were unimodal—capable of processing and generating only a single type of content, such as text-based LLMs—the latest multimodal models can now interpret and produce multiple formats, including text, images, audio, and video. The article examines key challenges arising from the widespread adoption of LLMs like ChatGPT, including AI hallucinations, deliberate misinformation, intellectual property disputes over training data, reliance on synthetic datasets, information homogenization, and the risk of model collapse. Additionally, the paper explores the evolving discourse surrounding GenAI technologies, highlighting four key areas of concern: (1) the increasing energy demands and long-term environmental impact of AI training; (2) the fundamental transformation of human relationships and human-machine interactions; (3) the disruptive effects of GenAI on labor markets and creative industries; and (4) the rapid proliferation of AI-generated synthetic content, which could significantly distort human information processing and perception of reality.

Keywords: Generative AI (GenAI), Large Language Models (LLMs), AI Hallucinations, Misinformation, Synthetic Content