

ICONSR 2024

International Conference on Social Science Research

4-6 September 2024 in Durrës, ALBANIA

ABSTRACTS & PROCEEDINGS BOOK

ICONSR 2024

International Conference on Social Science Research

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Dear Readers;

The seventh of ICONSR organization was held in Durres/Albania between September 4-6, 2024. ICONSR organizations aim to provide and encourage interdisciplinary interaction by bringing together scientists from all disciplines of social sciences. We try to provide a discussion and meeting environment for those working in the field of social sciences to share their research findings and thoughts, and to evaluate the latest developments in social sciences. This year, 45 papers from different 9 countries (Albania, Algeria, Azerbaijan, Cameroon, Hungary, Kosovo, Montenegro, Pakistan, and Türkiye) presented by scientists in ICONSR organizations. Turkey is the country with the highest participation with 48%, followed by Kosovo and Montenegro with 11%, Hungary 8.8%, Azerbaijan 6.6%, Albania and Cameroon 4.4%, Algeria and Pakistan 2.2%. Outside of Türkiye participant rate is totally 52%.

As ICONSR organizations, we will continue to organize organizations with the value you deserve in order to exchange ideas against the greatest threat facing humanity, to inspire each other and to contribute to science. See you at your future events.

ICONSR Organizing Committee

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ANALYSIS OF PROPERTY TAX IN TURKEY WITH REGARD TO METROPOLITAN MUNICIPALITY: 2006-2023 PERIOD

Ceyda Şataf

Abstract: Study aims to examine how property taxes developed in metropolitan municipalities in Turkey between 2006- 2023. Real estate tax's one of types of local taxes that are special, direct, and levied on wealth, with very old history and wide range of application, and collected on economic values of immovable properties owned by real or legal persons. Property Tax Law No 1319 was adopted in 1970 and property taxes were collected by special provincial administrations until 1972 and 25% share was given to municipalities. Property tax, which was collected by Ministry of Finance between 1972- 1981 and given share of 45% to municipalities and 35% to special provincial administrations, was included in central government revenues as of 1981, and method of giving shares to special provincial administrations and municipalities was abolished. With law no 3239 enacted in 1985, property tax was removed from scope of general budget revenues and included in local government revenues, and was collected by municipalities after this date. With practices valid after 1986, special provincial administrations and metropolitan municipalities were given share of property taxes collected by municipalities. In Law No 1580, 15% of property tax collected by municipalities's allocated as special administration share. Additionally, in places where there are metropolitan municipalities, 50% of property tax revenues are allocated as metropolitan municipality's share. In places where there are metropolitan municipalities, after allocating metropolitan municipality share, 15% of amount remaining to municipality was allocated as special provincial administration share, and then another 20% share was given to metropolitan municipalities. However, with law no 5393, procedure of giving share of property taxes to municipalities and special provincial administrations was abolished. With entry into force of law, procedure of granting shares to special provincial administrations in municipalities other than metropolitan cities was abolished. In places where there are metropolitan municipalities, practice has been adopted that entire amount of property tax collected by district and first-tier municipalities within metropolitan borders and adjacent areas remains with relevant municipalities that no share's transferred from amount to special provincial administrations and metropolitan municipalities. According to Law No 6360, metropolitan municipalities that don't have efficient self-tax resources such as Real Estate and Environmental Cleaning Tax can only collect three taxes within their borders is authorized to collect among other taxes, only 20% of Environmental Cleaning Tax is given to metropolitan municipalities, and metropolitan municipalities don't have any other self-tax revenue. Therefore, although property tax revenues are important source of income for municipalities throughout Turkey, they contribute very little to budgets of metropolitan municipalities due to legal regulations. Moreover, according to Law No1319, although property tax rates are applied twice as much within borders of metropolitan municipalities, share of property tax in budgets of these municipalities is negligible.

Keywords: Turkey, Metropolitan Municipalities, Property tax, Municipalities Revenues.

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THE EFFECT OF EXPLICIT METADISCOURSE INSTRUCTION ON STUDENTS WRITING PERFORMANCE

Nuray Okumuş Ceylan

Abstract: The fact that coherence is an abstract concept makes it a challenging issue for most of the EFL teachers in academic writing courses. The effort to help students comprehend the dynamics of overall coherence generally fails; thus, the result is a group of sentences not meaningfully attached to each other. A coherent text has appropriate metadiscourse features that help readers organize interpret and evaluate information. the starting point of this study was to find out whether it was possible to teach metadiscourse, so that students would understand the concept, the functions, and the markers and use them in their texts which might lead in better texts. The related research indicates that explicit instruction on metadiscourse markers has positive impact on improving students' writing performance (Simin and Tavangar, 2009; Dastjerdi & Shirzad, 2010; Crismore, 1985). This quasi-experimental study suggests and supports that training students on metadiscourse could help learners understand the concepts, the functions, and the markers and use them in their texts which might lead in better texts.

Keywords: academic writing, metadiscourse, explicit instruction

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INVESTIGATION OF THE RELATIONSHIP BETWEEN QUALITY PERCEPTION OF HEALTH SERVICES AND PERCEIVED ADMINISTRATOR SUPPORT

Sümeyye Aksoy¹, Gözde Sunman*²

Abstract: The aim of this study is to examine whether there is a relationship between the perception of quality of health services and perceived managerial support. In addition, the sub-purpose of the research is to determine whether the quality perception of health services and the perception of manager support of employees in the health sector differ according to their demographic characteristics. Relational survey model, one of the quantitative research methods, was used in the study. The population of the study consists of healthcare professionals working in health institutions in Malatya province. A total of 300 health workers determined by convenience sampling were included in the study. As a result of this study, it was seen that health care workers' perception of quality towards health services was at a medium level, women's perceptions of quality towards management and leadership were higher than men, young health care workers' perceptions of management and leadership were more negative, and the perceptions of management and leadership of those working in the hospital for 16 years and longer were higher than others. Again, as a result of our study, it was determined that the perception of managerial support of healthcare workers was above the average, the perception of managerial support was higher in women, and there was no significant difference in the perception of managerial support according to educational status and position in the hospital. As a result of the research, it was determined that there was a positive significant relationship between perceived manager support and the benefits of management and leadership, human resources use, quality training, measurement and evaluation and quality practices, which are among the sub-dimensions of quality perception for health services. As a result, it may be a starting point for improving healthcare workers' perceptions of quality and perceptions of managerial support. Implementation of these recommendations may contribute to improving the overall quality of healthcare services.

Keywords: Health Services, Quality Perception, Perception of Administrator Support

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BRAND MANAGEMENT IN THE ERA OF SOCIAL MEDIA

Waheed Akhtar

Abstract: In the contemporary digital landscape, brand management has undergone a transformative shift with the advent of social media. This study explores the intricate dynamics of brand management in the era of social media, examining how platforms like Facebook, Twitter, Instagram, and TikTok have redefined the way brands interact with consumers. The research delves into the strategies employed by businesses to leverage social media for brand building, including content marketing, influencer partnerships, and real-time engagement. It highlights the pivotal role of user-generated content in shaping brand perception and the importance of maintaining brand authenticity in a highly connected world. Additionally, the study investigates the challenges and opportunities presented by social media, such as managing online reputation, dealing with negative feedback, and harnessing data analytics for targeted marketing. Through a comprehensive analysis of case studies and industry practices, this research provides insights into the effective management of brand identity and loyalty in the digital age, offering a roadmap for businesses to navigate the complex social media ecosystem. The findings underscore the necessity for brands to adopt a proactive and adaptive approach to remain competitive and relevant in an era where social media influence is paramount.

Keywords: Brand Management, Era, Social Media

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GREEN PR IN THE DIGITAL AGE: SUSTAINABILITY COMMUNICATION WITH THE PESO MODEL

Ümmü Özlem Çerçi

Abstract: In today's world, sustainability is of great importance for both individuals and companies. People are increasingly aware of the environmental impact of their choices, emphasizing this issue and turning to brands that demonstrate genuine commitment to sustainable practices. This trend encourages companies to adopt eco-friendly practices, such as reducing carbon footprints and using sustainable materials, not only to meet consumer expectations but also to comply with tightening regulations. Digital PR enables brands to effectively communicate their sustainability messages and practices to a broad audience, facilitating strong engagement with their target audience. Companies can interact with consumers through digital platforms, share their sustainability efforts, and build trust. Social media, in particular, provides opportunities for interactive dialogue where brands can respond to consumer concerns and highlight their green initiatives. The PESO model, encompassing Paid Media (such as purchased advertisements), Earned Media (including unpaid press coverage), Shared Media (content shared on social media platforms where consumers engage and share brand messages), and Owned Media (such as websites and blogs), offers a comprehensive framework for effectively disseminating sustainability messages. This study will examine the sustainability practices and communication strategies of Arçelik, a brand that has been listed in Corporate Knights' "2024 Global 100 Most Sustainable Companies" for the fourth consecutive year, within the framework of the PESO model. The integrated approach of the PESO model allows brands to effectively convey their sustainability efforts and leverage the unique strengths of each media type. By utilizing these channels as a cohesive whole, brands can create a consistent narrative that resonates with their target audience, builds trust, and enhances their reputation as leaders in sustainability. The strategic use of the PESO model not only supports environmental goals but also contributes to strengthening overall brand value in the digital age.

Keywords: Sustainability, Sustainability Communication, Digital Public Relations, PESO Model

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THE IMPACT OF ARTIFICIAL INTELLIGENCE ON MODERN MARKETING STRATEGIES

H. Serhat Çerçi

Abstract: Artificial Intelligence (AI) is revolutionizing marketing, dramatically increasing efficiency, personalization, and consumer engagement. The integration of AI into marketing strategies allows businesses to analyze vast amounts of data to uncover insights and patterns that inform targeted and effective campaigns. This article examines the various applications of AI in marketing, including data analytics, customer segmentation, personalized marketing campaigns, predictive analytics, and the use of chatbots and virtual assistants. By leveraging machine learning algorithms, marketers can predict customer behavior and preferences with greater accuracy, leading to more precise and effective marketing efforts. AI-driven personalization is transforming the way brands interact with consumers, creating tailored experiences that increase engagement and loyalty. Techniques such as recommendation systems and dynamic pricing are enabling marketers to more effectively meet individual consumer needs. AI tools are also increasing the precision of targeting strategies by automating the segmentation of customers based on behavioral and demographic data. AI-powered predictive analytics aid strategic decision-making by offering significant advantages in predicting future trends and consumer behavior. AI-powered predictive models optimize various aspects of marketing, including inventory management, pricing strategies, and marketing spend, resulting in higher ROI. Implementation of AI-powered chatbots and virtual assistants improves customer service by providing real-time support and interaction, thereby increasing customer satisfaction and gathering valuable consumer insights. While the benefits of AI in marketing are significant, the integration of these technologies also raises ethical concerns, especially regarding data privacy and algorithmic bias. This article examines these ethical implications and highlights the importance of responsible AI use in marketing practices. The purpose of this study is to provide a comprehensive overview of the impact of AI on modern marketing strategies, highlighting its benefits, challenges, and future potential. By analyzing current practices and trends, this study aims to inform marketers, business leaders, and researchers about the transformative role of AI in marketing and to encourage ethical and effective use of AI technologies.

Keywords: Artificial Intelligence, Personalized Marketing, Predictive Analytics, Ethical AI.

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THE ROLE OF "EMOTIONAL INTELLIGENCE" THEORY IN FINE ARTS TEACHING METHODOLOGY

Emil Ağayev

Abstract: It is important to have emotional thoughts in the students who react to the works of art presented in the teaching methodology of the fine art subject. According to Daniel Goleman, a person has two intelligences: emotional and rational intelligence. One of the most important intelligences in art is the correct expression of emotions. Thinking or expressing an independent opinion about any painting leads to the swelling of feelings, including emotional thinking. At this time, the student should give a correct opinion on the presented artists' works, correctly analyze his own and other people's feelings, and arrive at an exhausted opinion. Emotional and rational intelligence are closely related.

Keywords: Artificial Intelligence, Personalized Marketing, Predictive Analytics, Ethical AI.

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COMPARING AFRICA'S REPRESENTATION BY WESTERN NEWS MEDIA OPERATING IN DIFFERENT PRESS SYSTEMS: THE EXPERIENCES OF THE US, SWEDISH AND FRENCH NEWS MEDIA

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Abstract: Scholarly attention to the coverage of Africa by the Western media was scarce before the 1960s (Jeff, Shore & Todd, 1979). But, following the postcolonial cultural openings, this academic interest has been increasing significantly both in quantity and in controversy (Mahadeo & McKinney, 2007). On the one hand, previous research reveals that the representation of Africa in the Western media is limited, unfair and inaccurate (Hawk, 1992; Mahadeo & McKinney, 2007; Golan, 2008), with stereotyped frames and a propensity to depict the black continent as an inexorable string of catastrophes (Brooks, 1995; Ndlela, 2005; Scott, 2009; Ogunyemi, 2011). A condition indeed revelator of the manner in which, Africa and Africans have been invented historically and reinvented contemporarily through a consistent social and political construction based on a multitude of calamitous attributes (Fair, 1993). On the other hand, contrasting studies argue that Africa's representation by the Western media is more and more positive in tone and mixed in its subject matter (Eribo, 1993; Nothias, 2014; Bunce & Peterson, 2017). The purpose of this study is to explain how Africa is portrayed by the Western news media in different press systems. This will be done through an analysis and a comparison of three countries, which are the prototypes of the media systems developed by Hallin & Mancini (2004). These three countries are, the US (Liberal media system), Sweden (Democratic corporatist media system) and France (Polarized pluralist media system). Methodologically, we use a quantitative content analysis. We analyze four newspapers for each of the three countries US, Sweden and France.

Keywords News Media, Press Systems, US, Swedish and French News Media

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PERCEPTION OF DECENTRALIZED COOPERATION: A COMPARATIVE STUDY BETWEEN ALGERIA AND THE EUROPEAN UNION

Ghania Azieze

Abstract: Nowadays, cities' contributions to supporting countries' foreign policy are not limited to traditional twinning, which has a symbolic importance embodied in the strengthening of human solidarity and cultural exchanges, as well as the consolidation of a culture of dialogue and communication. On the contrary, the process has evolved towards the implementation of partnership and cooperation agreements relating to technology transfer and exchanges of experience and know-how between local authorities; the creation of various projects around the management of local public services, sustainable development, institutional development and human development. The decentralized process has become one of the most striking features of contemporary democratic political and administrative systems. Since the decentralization law of 1992, it has evolved towards the emergence of new forms of cooperation that are more innovative, increasingly territorial and more conducive to the emergence of new forms of territorial governance of public action. It has become an ideal means of involving the population in the management of its affairs, and a mechanism for alleviating the growing burdens of the State and the policy of proximity and support for local democracy. Thus, researchers and specialists have come to speak of a "Multicentric" and "Multi-Actor" world, which transcends the "inter-state" character. With this in mind, the term "decentralized cooperation" could be used to cover many types of cooperation, and could be defined as any action involving contact with a player outside the territorial authority of the State. In this way, the term decentralized cooperation fully reflects the reality of its content. It aims to involve all the different actors in the cooperation process, by specifying the roles and responsibilities of each, in line with the principle of subsidiarity. However, this type of cooperation can only function satisfactorily if the local legal system has the resources required for such a strategy. Of course, there is no single model for decentralized cooperation. If we take the case of Algeria and the European Union, is the concept the same? Do they share the same perceptions? Actors and legal instruments will be the two poles of implementation of decentralized cooperation. Each of these poles responds to specific issues of development and operation of cooperation. Actors are in charge of development, while legal instruments enable cooperation to function. What are the characteristics of the latter in Algeria and the EU? How can we interpret the similarities and differences? From a methodological point of view, our analyses are based on the comparative method, which enables us to identify, show and explain aspects of similarities and divergences in an identical phenomenon - decentralized cooperation. We carried out a documentary search and analyzed the scientific literature on decentralized cooperation in general, and on cooperation in Algeria and the EU in particular. Qualitative and quantitative data were collected from a number of players (CNCD), the national commission for decentralized cooperation. After describing, distributing and analyzing the data, we made comparisons to show the similarities and divergences between the two contexts. Interpretation and discussion of the comparative aspects conclude the results of this contribution.

Key words: Decentralized cooperation, city diplomacy, Algeria, European Union.

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RELATIONSHIP BETWEEN MINT AND BRICS COUNTRIES STOCK EXCHANGE INDICES

Ergin Kala

Abstract: The term MINT is used to refer to the economies of Mexico, Indonesia, Nigeria and Turkey, and the term BRICS is used to refer to the economies of Brazil, Russia, India, China and South Africa. MINT countries, which include the economies of Mexico, Indonesia, Nigeria and Turkey, have great advantages due to their proximity to major international economies. For this reason, a need was felt to examine the relations between the economies of the MINT group countries, which are formed by wide economic networks, and the integration of the stock markets of the relevant countries with the world market. The impact of globalization and the rapid increase in communication technologies have facilitated access to financial instruments. Bilateral relations between BRICS countries are based on the principles of equality, mutual non-interference in state affairs and common benefit. BRICS countries, consisting of Brazil, Russia, India, China and the Republic of South Africa, hold 1/3 of the world in terms of surface area. BRICS countries are in rapid development and will have important positions in the world of 2050. In international financial markets, stock market index changes of countries are affected by many macroeconomic factors. When the literature on relevant macroeconomic factors is examined; exchange rates, economic factors of countries, stock market indices, cryptocurrencies, oil and natural gas, etc. energy prices, precious metals such as gold and silver, and futures markets. The aim of this study is to reveal the causality and cointegration relationships between selected stock market indices of MINT countries Mexico, Indonesia, Nigeria and Turkey and BRICS countries Brazil, Russia, India, China and South Africa. In the study, the Granger causality test was used for the causality relationship between the variables, and the Engle-Granger cointegration test was used for the cointegration relationship. According to the analysis results, a cointegration relationship has been detected between some countries and these countries act together in the long term. According to the causality test, no causality relationship was found between countries.

Keywords: MINT, Stock Market Index, Causality, Cointegration

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VOLATILITY SPREADS BETWEEN INTERNATIONAL STOCK EXCHANGE INDICES AND BITCOIN

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Abstract: Increasingly deepening globalization in financial markets has triggered the process of integrating national financial markets into the global system, eliminating the situations that isolate these markets from each other. Thus, while national financial markets have ceased to be local, it has been observed that some of their controls and restrictions have become purified and they have been opened to more global competition. A kind of competitive environment has brought about increased capital mobility on an international scale and the emergence of new institutional structures such as investment funds and investment partnerships. Therefore, as a result of the development of the role of investments in financial markets, alternatives have begun to emerge for those who invest in securities. Financial and capital market liberalizations in emerging equity markets over the past two decades have provided new investment opportunities for foreign investors who see the potential portfolio diversification benefits as a rationale for investing in emerging markets. However, increased globalization overtime has reduced the diversification benefits of emerging markets as a group, as the relationship between overall emerging markets returns and developed markets returns has increased significantly in recent years. Bitcoin was first recognized worldwide with the article "Bitcoin: A Peer-to-Peer Electronic Cash System" written by the person known as Satoshi Nakamoto or a group using this name on November 1, 2008. The first Bitcoin cryptocurrency was created in January 2009. The aim of this study is to measure the volatility spreads of selected international stock market indices with bitcoin. The DCC-GARC method was used in the study, and as a result of the analysis, the volatility spreads of some country stock market indices with bitcoin were determined.

Keywords: Bitcoin, stock market indices, Volatility DCC-GARC

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SALARIES IN THE PUBLIC SECTOR IN KOSOVO

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Abstract: This paper deals with salaries in the public sector in Kosovo. From the point of view of the economic categories of public expenditures, it should be noted that wages and salaries are the compensation of employees payable in cash and or in kind, with the exception of social contributions paid by employers. Cash wages and benefits are amounts paid in cash or any other financial instrument used as a means of payment to employees in exchange for work performed. In the framework of government policies, the issue of government spending is considered quite important. In order to maintain fiscal sustainability, attention should be paid to how much spending burdens the budget and where their spending is directed. Based on the Law on the Management of Public Finances and Responsible Persons, it is important to state that "Public money will be used only for approved public purposes". In this aspect, the method of spending budget funds and the orientation of government expenditures for productive purposes remains important. Wages and salaries are economic categories that consist of payments in cash, but not in goods. In public expenditures, the category of wages and salaries constitutes the most important part of current budget expenditures. In this paper, the main goal consists in analyzing salaries in the public sector as well as public expenditures in the category of salaries in the public sector in Kosovo. Analytical, tabular and graphic methods as well as comparative methods will be used in this study to achieve the objectives. Through this study, we consider that the results and recommendations given will be taken into account by the relevant institutions.

Keywords: Public sector, Public expenditure, public money, salaries.

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GLOBALIZATION AND TOURISM

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Abstract: Globalization refers to the acceleration of economic, social, cultural and technological changes worldwide, and the tourism sector is significantly affected by this process. Globalization allows for an increase in international travel, an acceleration of cultural exchange and the growth of the tourism industry. In this context, tourism functions as a tool for global economic integration and strengthens connections between countries. While the study emphasizes the positive effects of globalization on tourism, it also draws attention to some of its negative consequences. For example, increasing tourism demand can lead to the over-exploitation of local cultures and natural resources. This increases the importance of sustainable tourism practices and leads to discussions on how local communities can be protected in this process. Another important dimension of globalization is the impact of digital technologies on tourism. The spread of the internet has facilitated travel planning and increased access to information. This affects the decision-making processes of both tourists and businesses. In addition, social media platforms play an important role in the promotion of destinations and increasing brand awareness. As a result, the relationship between globalization and tourism has great potential in terms of economic growth, cultural interaction and social change. However, managing these processes sustainably is critical to preserving local cultures and minimizing environmental impacts. While countries evaluate the opportunities brought by globalization, they also need to consider the challenges that these opportunities bring. In this context, developing sustainable tourism policies is essential to ensure balanced growth in both economic and social terms.

Keywords: Globalization, Tourism, Global Tourism

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TO BECOME A WORLD BRAND AS A COUNTRY IN THE TOURISM SECTOR

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Abstract: In today's global competitive environment, it is of great importance for countries to effectively use their tourism potential and become internationally recognized brands. The basic components of becoming a global brand include building a strong brand identity, creating marketing strategies suitable for the target audience, and adopting sustainable tourism practices. This study examines the economic contributions of the tourism sector and how countries benefit from this sector. Tourism plays a key role in the economic growth of many countries and provides significant benefits such as creating employment and earning foreign exchange. It is emphasized that the perception of a country as a destination brand significantly affects tourists' decisions.

In order to be successful in the tourism sector, countries need to highlight not only their natural beauties but also their cultural heritage, history, and local traditions. When we look at the strategies of countries that have become global brands, it is clear how important these elements are. For example, countries such as Italy, France, and Japan stand out with their rich cultural heritage and strong brands in the gastronomy field. These countries have achieved success in their tourism marketing strategies by emphasizing local culture and traditions. At the same time, the role of digital marketing and social media has an important place in increasing brand awareness and interacting with the target audience. Social media platforms increase the visibility of the destination by allowing existing visitors to share their experiences as well as reaching potential tourists.

Today, the concept of sustainability has come to the fore in the tourism sector. Countries should adopt sustainable tourism practices to minimize their environmental impacts and increase the well-being of local communities. In this context, it is concluded that they should highlight not only natural beauties but also cultural heritage and local values. Sustainable tourism supports economic growth while also ensuring social and environmental sustainability. Therefore, countries should give importance to sustainability principles when creating their tourism strategies.

As a result, the goal of becoming a global brand in tourism not only supports the economic development of countries, but also increases their international competitiveness. In this context, countries need to develop effective marketing strategies for their target audiences by creating a strong brand identity and adopt sustainable tourism policies. Thus, the tourism sector will have great potential in economic and social terms.

Keywords: Brand, Global Brand, Tourism

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TOURISM AS AN INTERNATIONAL TRADE INCOME

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Abstract: Tourism is of great importance in the economic development of many countries and constitutes an important source of international trade revenues. The earnings obtained from tourism are not only due to the direct expenditures of tourists, but also to the indirect effects of these expenditures on the local economy. In this context, the tourism sector offers many advantages such as creating employment, providing foreign exchange inflow and revitalizing local economies. This study primarily examines the effects of tourism on international trade. Tourism increases the foreign exchange flow by making a positive contribution to a country's foreign trade balance and supports economic stability. For example, tourist expenditures, in addition to providing direct income to local businesses and the service sector, also contribute to the increase in state tax revenues. In addition, the increase in tourism revenues helps shape the foreign trade policies of countries and allows them to gain competitive advantage in international markets.

The study also examines the interaction between the growth of the tourism sector and international trade. In particular, the increase in tourism demand brings with it the potential for countries to expand their export volume. For example, the relationship between China's outbound tourism and economic growth reveals the effects of international trade on tourism. In this context, the increase in tourism expenditures contributes to the expansion of trade volume and thus economic growth.

In addition, sustainable tourism practices have an important place in the study. Sustainable strategies developed to increase tourism revenues produce positive results both environmentally and socially. Sustainable tourism increases the welfare of local people and supports the protection of natural resources. Therefore, it is of great importance for countries to consider sustainability principles when determining their tourism strategies.

As a result, tourism is an important sector for economic growth and development in terms of international trade revenues. The earnings obtained from tourism not only provide economic benefits, but also support social and cultural interactions. Countries can effectively use their tourism potential to gain competitive advantage in the international arena, adopt sustainable tourism policies and highlight their local cultures. Thus, the tourism sector will be an important power both economically and socially.

Keywords: Trade, International Trade, Tourism

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JOB SATISFACTION IN NURSING MANAGEMENT: A KEY FACTOR FOR ORGANIZATIONAL SUCCESS

Daniela Bimi^{1*}

Abstract: Job satisfaction is a critical determinant of both individual performance and organizational effectiveness, particularly in professions like nursing, where emotional and physical demands are high. In nursing management, job satisfaction plays a pivotal role in influencing leadership efficacy, team dynamics, and patient care quality. This study explores the factors affecting job satisfaction among nursing managers, emphasizing its implications for healthcare institutions. Drawing upon recent literature, the study identifies key determinants of job satisfaction in nursing management, including organizational culture, leadership style, workload, professional autonomy, and opportunities for career development. The relationship between these factors and job satisfaction is examined, highlighting how positive work environments foster commitment, reduce burnout, and enhance managerial performance. Conversely, adverse conditions, such as inadequate support, high stress levels, and poor communication, are shown to diminish job satisfaction, leading to higher turnover rates and compromised healthcare outcomes. The study also discusses the implications of nursing managers' job satisfaction on staff retention and patient care, asserting that satisfied managers are more likely to inspire and retain motivated teams. Strategies for improving job satisfaction are proposed, including mentorship programs, leadership training, and the implementation of evidence-based management practices. This research underscores the necessity of prioritizing job satisfaction in nursing management as a means of achieving sustainable organizational success. By fostering supportive work environments and addressing the challenges faced by nursing managers, healthcare institutions can enhance not only managerial satisfaction but also the overall quality of care delivered to patients.

Keywords: Nursing management, job satisfaction, healthcare leadership, organizational culture.

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WORK-LIFE BALANCE: SOCIAL IMPACTS OF REMOTE WORKING

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Abstract: This study examines the social effects of the remote work model on work-life balance. Remote work practices, which have accelerated with the COVID-19 pandemic, have caused individuals to redefine the boundaries of work and private life. The study investigates the effects of remote work on employees' time management, stress levels, family relationships, and social interactions, while also addressing the inequality-creating effects of this model on different socioeconomic groups. This research, which was conducted using a mixed-method approach, is based on findings from both survey data and in-depth interviews. The results show that despite the advantages of remote work such as flexibility and efficiency, it also creates disadvantages such as increased workload, digital burnout, and social isolation. The study suggests strategies and practices for employers and policy makers to reduce the negative effects of remote work. In this context, the article makes an important contribution to the issues of work-life balance and social well-being.

Keywords: Work Life Balance, Remote Working, Social Impacts.

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DIGITAL TRANSFORMATION IN THE CONTEXT OF POSTMODERN ORGANIZATION THEORY: DYNAMICS OF NEW STRUCTURING IN HIGHER EDUCATION

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Abstract: The digital age we are in is radically transforming the functioning logic of organizations as well as social structures. Rapid developments in information and communication technologies are reshaping many areas from production and service processes to governance models. In this context, it is important to revisit organizational theories and build a theoretical framework that is compatible with the variables brought by digitalization. This study aims to address the impact of digitalization on organizational theories with an interdisciplinary approach. In particular, the differences between the classical Weberian bureaucracy model and modern and postmodern organizational theories are re-evaluated in the light of the structural and cultural transformations imposed by digitalization. In this framework, a foundation university, one of the higher education institutions in Turkey that aims to carry out the digital transformation process in a multidimensional manner, is taken as an example. The university aims to integrate digital transformation into its corporate culture in many areas from distance and hybrid education applications to artificial intelligence-supported student services, from digital content production to data analytics-based decision-making mechanisms. Implementing systems that offer artificial intelligence-supported personalized learning paths to increase student success is an important part of this process. Adopting data-driven approaches in decision-making processes is also one of the basic building blocks of transformation. In this context, it is also important to develop artificial intelligence-based decision support systems to support strategic decisions within the university. In addition, it is aimed to provide a faster and more effective service through the use of artificial intelligence and automation systems in student services. In this context, it is proposed to provide 24/7 information support to students through chatbots and virtual assistants, and to implement artificial intelligence-supported career guidance systems. In order for all these processes to proceed in a sustainable and effective manner, it is of great importance to increase digital awareness within the institution. In this direction, it is necessary to organize digital competency development trainings for academic and administrative staff and support an open innovation culture. This holistic approach will ensure that the university internalizes the digital transformation process not only technically but also culturally and will form the basis of a sustainable digital organizational structure. This digital transformation adopted by the university can be explained within the framework of postmodern organizational theory. The adoption of a network-based, interactive and adaptive organizational model instead of classical hierarchical structures with applications such as artificial intelligence-supported services, data-based decision systems and individualized learning platforms overlaps with the postmodern understanding of organization. In addition to making a theoretical contribution to the reinterpretation of organizational theories in the context of digitalization, this study aims to propose a model that can be applied to similar organizations through these digital transformation strategies. Thus, it both opens a theoretical field of inquiry and provides a practical roadmap. As a result, this study reveals the necessity of a flexible, interactive and data-driven organizational approach for institutions.

Keywords: Digital Transformation, Postmodern Organization Theory, Institutional Restructuring

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TALENT MANAGEMENT IN HUMAN RESOURCES: AN EVALUATION FROM A LITERATURE PERSPECTIVE

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Abstract: This study examines the role of talent management practices in human resource processes and their contributions to enhancing organizational success from a literature-based perspective. The objective of this research is to elucidate the impact of talent management on key areas such as employer branding, employee engagement, and organizational efficiency. To this end, a literature review methodology is employed. The analysis of existing studies reveals that talent management is utilized as a strategic tool in the field of human resources, with the objective of strengthening employee motivation, job satisfaction, and organizational commitment. Furthermore, it emphasizes that talent-oriented approaches play a significant role in enabling organizations to achieve their long-term goals. By providing a theoretical foundation on talent management, this study aims to guide organizations seeking to optimize their human resource processes and improve overall efficiency.

Keywords: Cultural Identity, Globalization, Identity Crisis.

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A STUDY ON THE EFFECT OF COVID-19 PANDEMIC CONDITIONS ON BURNOUT LEVELS OF MANUFACTURING EMPLOYEES

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Abstract: The present study examines the impact of the Coronavirus Disease 2019 (Covid-19) pandemic on individuals' work routines, interpersonal relationships with colleagues, and the efficacy of pandemic-related measures in mitigating burnout. In this regard, the study population comprised 18 participants working in the manufacturing sector within the borders of Denizli province, who were selected using the purposeful sampling method. One of the qualitative research methods, the interview, was employed to gain insight into the underlying causes of burnout and to conduct a comprehensive examination of the resulting effects. The research findings revealed a decline in performance in the workplace due to various factors, including the impact of the pandemic, an increase in workload, legal constraints, and the death toll from the pandemic. Additionally, there was an observed rise in emotional exhaustion and a decline in personal accomplishment.

Keywords: Covid-19 Pandemic Conditions, Burnout, Manufacturing sector employees

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1. INTRODUCTION

In the contemporary era, the working life is characterised by intense competition and elevated stress levels. In such circumstances, it is challenging for the employee to sustain continuity, wellbeing and high performance in the workplace. The prevailing circumstances have the potential to induce fatigue and burnout in employees, both mentally and physically. The energy of the individual experiencing burnout is diminished, and they may evade work due to feelings of weakness and exhaustion. Such circumstances may result in a decline in performance, an inability to work efficiently, and a reduction in commitment to the job. Burnout can have significant adverse consequences for an organisation, particularly in terms of reduced productivity and the potential for increased costs and risks.

The detrimental effects of burnout extend beyond mere financial implications for the organisation. Furthermore, the employee's uncertainty may result in inattention and potentially contribute to work-related incidents. It is therefore imperative that issues within the business are resolved at the earliest opportunity and that the necessary steps are taken to enhance employee motivation and job satisfaction. Given that burnout is akin to a contagious disease, the costs and difficulties associated with its treatment are considerable.

In addition to the aforementioned existing conditions, organisations have been grappling with the challenges posed by the ongoing pandemic since 31 January 2020. The pandemic has introduced a host of new burdens, compounding the difficulties faced by these organisations. The novel, virulent, and unpredictable nature of the virus has instilled a profound sense of fear and has significantly impacted the functioning of workplaces. Although individuals were concerned about the potential for infection, they also endured the anguish of losing their family members and close friends. In the context of business, it is widely acknowledged that the pandemic has resulted in significant job losses, either directly due to the impact of the virus itself or indirectly as a consequence of employees being unable to attend work due to concerns about contamination and contagion. The pandemic has precipitated a series of transformative shifts in the landscape of work. The concepts of remote work and flexible working hours have become increasingly prevalent in the modern workplace. In the context of the pandemic, workplaces that were conducive to this type of work opted to transition to a remote working model. The manufacturing sector is one that is ill-suited to this type of work and has remained operational throughout the pandemic. Although employees were concerned about the potential for contamination, they were also obliged to continue working on behalf of their unwell colleagues until they had recovered. This situation resulted in an increase in the volume of work to be completed and a corresponding alteration in the established patterns of work. The majority of workplaces have transitioned to a shift system, with meal and tea breaks now taken in groups to mitigate the transmission of the virus. The employees encountered significant challenges in adapting to the novel conditions imposed

by the pandemic. It is reasonable to posit that the prevalence of burnout will increase in the context of these challenging circumstances.

In light of these negative occurrences within organisational contexts, the global pandemic precipitated a decline in economic activity across all countries, leading to a near-total halt in the functioning of national economies. The economic downturn has resulted in a recession and a contraction in various sectors, which are expected to persist for an extended period. In response to this situation, countries rapidly enacted pandemic policies. As with all countries worldwide, Turkey was adversely impacted by the pandemic, with a notable decline in exports and market share, accompanied by rising commodity prices, inflation, and unemployment. In response to the challenges posed by the pandemic, the government was compelled to implement a series of policy measures.

Burnout can be defined as a discrepancy between an individual's actual level of presence and the demands of their occupational role. In the event that an individual is employed in an environment that is characterised by instability, and/or if the demands of their role exceed their capacity, and/or if the rewards offered are inadequate, they may experience feelings of being overworked, devalued and lacking control over their work (Maslach & Leiter, 2001, p. 18).

A multitude of factors contribute to the onset of burnout in an individual. Some of these factors have their origin in the individual, while others have their origin in the organisation. A better understanding of the factors that cause burnout will enable researchers to identify it more accurately and to develop more effective treatments in a shorter time. Personal factors, which are among the factors that cause burnout, include demographic variables such as the person's gender, personality structure, education, marital status, age, and characteristics such as external control focus, workaholism, empathy ability, expectation level, and laziness (Işıkhan, 2017: 222-227). The organisational factors that contribute to employee satisfaction include the nature of the job, role ambiguity, excessive workload, an insufficient reward system, instances of injustice within the organisation, a conflict between the job and the personal values of the employee, a lack of organisational support, an insufficient salary, a lack of suitability between the person's skills and the nature of the job they are doing, relations with colleagues, and communication within the organisation. Insufficiency is a factor that is included in this category. (Sarıkaya, 2007, pp. 25–33).

The Maslach burnout model is currently the most widely used burnout model. Maslach distinguished three dimensions of burnout.

The term "emotional exhaustion" is used to describe a state of depletion of an individual's emotional resources. The term denotes a state of depletion of an individual's emotional resources. Burnout is a consequence of an excess of work and personal conflict. The employee is unable to muster the requisite energy to commence a new day and interact with the individuals they serve. This dimension represents the fundamental stress dimension of burnout, as outlined by Maslach and Goldberg (1998, p. 64). The individual experiences feelings of inadequacy, leading them to attempt to overcome emotional exhaustion by reducing the demands of their profession and communication to a level that is sufficient to complete the requisite tasks (Act; Helvacı and Turhan, 2013: 59). This is due to the fact that the individual's organisational and personal expectations are not met. This phenomenon is more prevalent among individuals engaged in professions that entail frequent interpersonal interactions, where the intensity of human relationships is pronounced (Işıkhan, 2017, p. 212).

The phenomenon of depersonalization can be defined as a psychological state in which an individual experiences a sense of detachment from their own identity and emotions. Those experiencing emotional exhaustion tend to avoid situations that might exacerbate their feelings of inadequacy, as they perceive themselves to lack the capacity to resolve the issues of others. Consequently, he maintains a certain distance from them. He adheres strictly to the established rules and principles, thereby becoming a kind of bureaucrat in the process. (As cited by Yıldırım, 1995, pp. 3–4). The employee in question is currently in a phase where they are reducing their level of engagement at work and bringing their professional aspirations to a close. In this manner, the individual attempts to safeguard themselves from the detrimental effects of burnout and disappointment (Act; Ören and Türkoğlu, 2006: 2). The employee in question is currently in a phase where they are reducing their level of engagement at work and bringing their professional aspirations to a close. In this manner, the individual attempts to safeguard themselves from the detrimental effects of burnout and disappointment (Act; Ören and Türkoğlu, 2006: 2).

A lack of personal accomplishment may be defined as a situation in which an individual experiences a reduction in their feelings of competence and productivity at work. This entails a reduction in the employee's sentiments of competence and productivity within the workplace. A reduction in the individual's sense of self-efficacy results in an inability to cope with

the demands of the job, which in turn leads to the development of depressive symptoms. This situation is exacerbated by the absence of social support and the dearth of opportunities for professional development. He experiences feelings of inadequacy and a sense of failure in relation to the customer (Maslach and Goldberg, 1998: 62). He considers his achievements to be insignificant and inconsequential. He is indifferent to his own successes. He has lost confidence in his abilities, which he previously believed to be a source of distinction (Akten, 2007: 51).

Burnout is characterised by negative attitudes towards one's work. The consequences of burnout include diminished performance, inefficiency, a reduction in organisational commitment, job dissatisfaction and an intention to leave the organisation. The phenomenon of burnout persists among employees through social interaction. (Maslach and Leiter, 2017, p. 49). The extant literature on burnout indicates that burnout has the greatest impact on job performance. It manifests itself in the nature and quality of the work performed by the individual. A decline in the employee's motivation and an increase in nervous behaviour become evident. It is irrelevant whether the decisions he makes are appropriate or not. Furthermore, the emotional distress experienced by the employee may result in a tendency to disengage from social interactions and disregard the input of others. In some cases, this can result in individuals opting for roles that entail minimal interpersonal interaction (Yıldırım, 1995, p. 55).

The adverse effects of burnout have resulted in a significant disruption to his lifestyle. Those who experience emotional fatigue as a result of burnout may also experience physical fatigue. The considerable stress he endures in his professional capacity has a pervasive impact on his overall lifestyle. Consequently, he is unable to obtain sufficient restorative sleep. The subject presents with a pervasive sense of fatigue and exhaustion. He suffers from a number of ailments, including headaches, gastric distress, back pain and cardiovascular disease. Individuals experiencing burnout are more susceptible to contracting other diseases. In such circumstances, the individual may attempt to alleviate their distress through the use of analgesics, alcohol and sedatives (Şahin, 2007: 24). An individual experiencing emotional exhaustion may begin to display negative behaviours towards others. He becomes irritated with greater frequency and is prone to anger, even in response to minor missteps. This state of anger and anxiety causes him to adopt a suspicious attitude towards his environment. He claims that everyone is attempting to make his life more challenging (Polatçı, 2007: 83).

Furthermore, burnout has been linked to adverse effects on an individual's family relationships. In some cases, this can result in couples living separately or divorcing. The individual who returns home is fatigued and irritable as a result of emotional exhaustion. He discloses the difficulties and grievances he has encountered at the workplace during the time he is expected to devote to his family. This situation engenders feelings of resentment and neglect among family members (Güllüce, 2006: 30).

The findings of the study indicate that organisational measures are more efficacious in the prevention of burnout than personal measures. It is of significant importance to consider the role of stress in the prevention of burnout. The individual is less effective in eliminating work-related stress than in removing stress that is self-induced. Nevertheless, the influence of individual strategies cannot be discounted. In their 1998 study, Maslach and Glomberg demonstrated that organisational change is an ineffective strategy for addressing burnout (Kulakçı, 2013: 45). It is essential to implement measures to prevent burnout at both the individual and organisational levels.

Table:1 Strategies for Coping with Burnout

Individual Ways of Coping	Organizational Ways of Coping
A person should develop himself in cognitive subjects that will enable him to solve problems and make decisions.	The necessary care should be taken during the recruitment process the person should have the necessary skills and knowledge.
Shouldn't bring work home	Delegating authority.
One should give up thoughts such as I will be perfect at what I do, everyone should love me, and everything related to work should be under my control.	Job enrichment will eliminate monotony and eliminate sources of conflict and stress seen in routine work
Employees must use their own time for holidays and rest.	Job descriptions should be clearly stated so that everyone can understand them.

A person should keep himself away from unnecessary anxiety and delusion about work.	It is necessary to give feedback to employees.
He must know that his problems cannot be solved by running away and he must deal with it	There should be an orientation system for new hires.
Should seek help from consultants when deemed necessary.	Eliminating over or under workload.
He should not choose unrealistic goals that he will not be able to achieve throughout his life	Improving physical working conditions and adapting heat, light and sound will increase productivity.
He should do social activities such as music, sports, cinema and relax himself	It is necessary to regulate the promotion policy fairly.
A person should keep himself away from unnecessary anxiety and delusion about work	Implementing rotation to save employees from monotony.

(Dilsiz, 2006: 27-31; Ganiyusufoğlu, 2011: 51-55; Ardiç ve Polatçı, 2009: 40; İzgar, 2001: 32-50; Kaçmaz, 2005: 31-32; Aslan, 2010: 60-63; Kalkızoğlu, 2018: 27-28).

2. MATERIAL AND METHOD

The present study aims to investigate the impact of the ongoing Coronavirus (Covid-19) pandemic on the burnout levels of employees engaged in manufacturing activities within the geographical boundaries of Denizli province. The objective is to identify the impact of the pandemic on the working order of individuals, the alterations to working relationships, and the influence of implemented measures on burnout levels. The study will examine the behaviours of managers and those they manage in crisis and crisis periods, with evaluations made from the perspective of the ongoing pandemic. The central research question is whether the pandemic has an impact on manufacturing employee burnout. This will be explored through the following sub-questions:

- * Could you describe the work you did at your workplace before the pandemic and talk about your working pace?
- *What changes have occurred in your work tempo and working order due to Covid-19? How did these changes affect you?
- Have you experienced any negativities as a worker during the Covid-19 period?
- Have you had problems in your relationships with your colleagues?
- Have you had any problems with the managers?
- Have you had any problems with business owners?
- *Do you know what burnout means in business and workplace? Do you feel exhausted in business life and workplace during Covid -19?
- Have you experienced emotional exhaustion?
- Have you experienced depersonalization, especially regarding your workplace and life in general?
- Has your sense of personal accomplishment decreased?
- * Has the uncertainty of the Covid-19 process changed your thoughts about the future? How do you look at the future, especially in your business life and workplace?

In this study, an interview was conducted as a qualitative research method to gain insight into the underlying causes of burnout and to examine the results in depth. Qualitative research is inherently subjective. The veracity of a statement is contingent upon the individual's past experiences and their evaluation of those experiences. Consequently, there may be multiple interpretations of a given statement (Şimşek, 2018: 98). In this study, phenomenology was employed as a qualitative research design. Lester (2020) posits that the objective of this approach is twofold: firstly, to delineate the phenomenon from the vantage point of those directly involved in the situation, and secondly, to provide insights that can enlighten others.

Participants in the study were selected from those working in the manufacturing sector using the purposeful sampling method. Since the manufacturing sector consists of many departments, this study has been limited to only textile, metal goods and machinery departments. In order to obtain reliable and precise results from employees, a restriction has been imposed, requiring that they have been employed in this sector for a minimum of two years. Concurrently, given the

multifaceted nature of textile manufacturing, interviews were conducted with employees from each department. The study concentrated on the lower-level employee aspect of the work, with the stipulation that only employees were interviewed, not individuals in managerial positions. The participants in the study, the dates on which they took part and the durations of the interviews are listed in Table 2.

Table 2. Participants and Interview Date and Time Period

Participant	Date	Time Period
TM1	28.06.2022	41.08.20
TD1	01.07.2022	58.06.86
TM2	08.07.2022	56.44.80
TK1	01.06.2022	42.35.23
TK2	27.06.2022	36.20.00
TK3	21.06.2022	60.46.32
TD2	28.06.2022	38.00.54
TM3	11.06.2022	32.31.56
TK4	06.06.2022	31.17.35
MYP1	18.06.2022	31.08.11
MYP2	21.06.2022	37.27.34
MYP3	09.07.2022	31.31.19
MYP4	04.06.2022	29.43.73
MYP5	15.06.2022	29.57.54
MYP6	07.06.2022	28.45.12
MYP7	05.07.2022	34.22.18
MYP8	13.07.2022	30.36.12
MYP9	20.06.2022	30.01.32

3. RESULTS

*** Could you describe the work you did at your workplace before the pandemic and talk about your working pace?**

In the course of the research, personnel employed in the machinery department indicated that they were engaged in the maintenance and repair of a variety of lathe machines. (MYP5) indicated that they are consistently present at the machine and that they are responsible for ensuring the accuracy of the product and for monitoring multiple machines simultaneously. The participants indicated that they typically work for a duration of approximately 10 hours, with their working hours falling between the hours of 8:30 and 18:30. The volume of work varies in accordance with the dimensions of the incoming order and the time required for its arrival. The pace at which they work is contingent upon the urgency of the task at hand. Towards the conclusion of their workday, they intensify their pace and efforts to fulfill their tasks. In some instances, they are required to work beyond their scheduled hours. Following the dispatch of the goods, the initial week of employment is characterised by a reduction in pace. It was stated that they had worked assiduously and had subsequently recuperated, and that they were willing to provide information regarding their general performance. It is posited that the roles within the organisation are interdependent, akin to the interconnected chain links (MYP5, MYP9). Consequently, any disruption caused by an individual or machine in the production process affects the overall efficiency and output of the entire workforce. The textile department employs personnel at various levels, including machinist, embroiderer, weaving master, dyer, and quality controller. It was asserted that the textile industry is a continuous process, with workers typically divided into shifts (TM2). He informed them of the requisite work tempo, stating that a daily production target must be met and that any shortfall will be subject to scrutiny (TD, 1, TM2, TK1). The respondents indicated that they were required to work overtime on a regular basis due to the unavailability of the necessary materials. They also highlighted the demanding nature of their work schedule, the numerous individuals involved in the distribution process, the necessity of maintaining a consistent pace, and the prohibition against engaging in conversations or viewing messages on their mobile phones during working hours. Additionally, they noted the lack of flexibility in their seating arrangements. (TD, 1, TD2).

*** What changes have occurred in your work tempo and working order due to Covid-19? How did these changes affect you?**

(TD2, TM3, MYP6) indicated that they had been on leave for an initial period at the onset of the pandemic, but subsequently resumed their professional activities. He indicated that they were operating at 50%–60% capacity during this period and that they encountered significant challenges due to the illness of acquaintances (TM3). He expressed support for his friend by noting an increase in the number of working hours. In response to the outbreak of the epidemic, a shift system was introduced for tea and meal breaks, social distance was increased, and attention was paid to the use of disinfectants and masks (TM3, TK2, TM1, MYP4). Additionally, employees were informed about the changes that occurred due to the epidemic. One of the employees (MYP3) articulated discontent with the alteration in work procedures, citing the difficulty of wearing a mask in high temperatures, respiratory discomfort, and the perception that the mask was uncomfortable behind the ears.

***Have you experienced any negativities as a worker during the Covid-19 period?**

- Have you had problems in your relationships with your colleagues?
- Have you had any problems with the managers?
- Have you had any problems with business owners?

During the period of the global pandemic caused by the novel coronavirus, employees reported experiencing a range of psychological difficulties. The respondents indicated that the disease caused them anxiety and fear (TM1, TD1), yet this did not result in any issues in their relationships with friends. TM3 indicated that managers frequently issue warnings, and that in the absence of business activity in the market, employees are compelled to adhere to the established regulations. However, he asserted that some employees leveraged the pandemic as a pretext for absenteeism and exploited this circumstance (MYP8, MYP4).

***Do you know what burnout means in business and workplace? Do you feel exhausted in business life and workplace during Covid -19?**

- Have you experienced emotional exhaustion?
- Have you experienced depersonalization, especially regarding your workplace and life in general?
- Has your sense of personal accomplishment decreased?

The employees expressed concern regarding the discomfort associated with mask usage during the ongoing pandemic and the psychological pressure resulting from the inability to socialise during tea and lunch breaks due to the obligation to comply with social distancing protocols at work (TD1, MYP6). (TK3, MYP4, MYP9) indicated that they had experienced burnout as a result of discussing their concerns about infecting their families and the distress caused by the deaths of their colleagues from the disease. The respondents indicated that they were compelled to attend work in order to provide for their families, despite experiencing burnout (TK2, TK3, TD3, MYP3). Additionally, they reported feelings of worthlessness and insignificance due to the closure of numerous sectors or the implementation of remote work arrangements (TM1, TD1, MYP5). The rationale behind their desensitisation is not attributed to the ongoing pandemic; rather, it is a consequence of their occupational duties, which entail prolonged exposure to the production line. Their role entails the manufacture of a vast array of identical products, with the sole differentiating factor being the specific model (MYP8, MYP3). This situation engenders a perception of self-identity as analogous to that of a robot (MYP6). (TD2, TK3, TM1) asserted that they did not perceive a sense of personal failure, given that the quantity of goods to be produced was predetermined and they were obliged to fulfil the task.

***Has the uncertainty of the Covid-19 process changed your thoughts about the future? How do you look at the future, especially in your business life and workplace?**

(MYP1, TM3, TK4, MYP7) asserted that the advent of the pandemic did not alter their long-term outlook. (TK2) posited that his lack of expectations regarding the future is attributable to economic factors, namely high inflation. (MYP3) stated that their previous aspirations for purchasing a vehicle and acquiring a property have now been abandoned. The most expensive house on the market was priced between 700,000 and 800,000 Turkish Lira. I do not consider marriage to be a viable option at this time, as I perceive it to be a challenging prospect. He articulated a profound sense of despair, articulating a lack of expectations for the future (TK2). One of the employees (TD1) stated that financial considerations are paramount, that he is grateful for the provision of sustenance, that he purchases only what he requires, and that he is unable to retain information when shopping for himself. Furthermore, he does not consider future prospects with optimism.

4. DISCUSSION AND CONCLUSIONS

The findings of the research will be evaluated based on the ideas that the participants focused on, as identified through the research process. Upon examination of the responses to the initial research question, it becomes evident that the participants' portrayals of their occupations and their perceptions of their work pace prior to the pandemic are distinctly discernible. In light of the aforementioned findings, the following conclusions can be drawn:

Those employed in the manufacturing sector assert that the physical demands of the job result in physical discomfort for the employee. Conversely, it is argued that the presence of ergonomic factors, such as dust and noise, which are inherent to the nature of the work performed in the workplace, give rise to physical and psychological problems in employees. It is posited that the functional interdependence between the tasks performed by employees in the manufacturing sector is an important factor in the individual success of employees.

It has been posited that it is not feasible to commence the subsequent phase of the manufacturing process until the requisite tasks have been successfully completed within the specified timeframe. Therefore, in particular in roles that are order-based and contingent on a pre-determined daily production quota, the performance of an individual is contingent upon the collective output of their colleagues on the production line. In the event that the preceding task is not completed, the subsequent task cannot be initiated.

The considerable volume of work involved in made-to-order production may result in managerial pressure on employees to meet specific requirements and take scheduled breaks while engaged in the production of various components of the manufacturing process. In the event of overtime, there may also be a requirement to work for a period in excess of eight hours. The capacity of employees to communicate outside of their professional obligations, whether in the form of a break record or information disseminated during designated breaks, can enhance their motivation to perform work-related tasks.

It was noted among the participants that there were issues pertaining to wage justice within the manufacturing sector. It has been determined that employees place a particular emphasis on the necessity of differentiating between those who perform tasks that require a higher level of qualification and those who demonstrate greater productivity. This situation also demonstrates the necessity for the implementation of an effective workforce performance evaluation system.

It was emphasised that the period of experience is of great importance in the manufacturing sector, particularly in roles that are more technically demanding (such as the replacement of machine spare parts). The experience that the employee gains while performing their duties and the reduction in the number of errors they make increases the level of trust that managers have in the employee, thereby affording the employee the opportunity to work more independently in the workplace.

In order-based manufacturing roles, the pace of work undertaken by employees may vary depending on the volume of work that needs to be completed. In the majority of cases, managers prioritise the completion of tasks in a timely and comprehensive manner, rather than focusing on the identity of the individual responsible for the task. In this manner, employees in the workplace are able to undertake tasks and perform work on behalf of one another.

The following inferences can be drawn based on the responses provided to the second research question, which pertains to the impact of the Coronavirus Pandemic on employee productivity.

It was reported by participants that, despite the fact that some employees had contracted the virus and become unwell during the period of the pandemic, work proceeded without incident if a substitute workforce and job rotation were available within the enterprise. In the absence of a substitute workforce and job rotation, the disruption to work and inability to fulfil tasks is inevitable when employees are absent for an extended period. The requisite quantities could not be produced in a timely manner.

One of the principal reasons for the inability to produce the requisite products during the pandemic period in a timely and complete manner was the unavailability of raw materials, auxiliary products and auxiliary materials from suppliers. The physical conditions in the manufacturing environment have been modified in response to the impact of the global pandemic caused by the SARS-CoV-2 virus. Despite the inability to alter the locations of large machinery, individuals working in close proximity were subjected to rigorous monitoring and control, particularly with regard to social distancing and adherence to mask-wearing regulations. Consequently, the utilisation of masks has become a more challenging factor due to ergonomic conditions, such as temperature and dust, within the manufacturing environment. In the context of the

manufacturing environment, there is a growing appreciation for the pivotal role of ventilation systems, in particular, and ergonomic factors more generally, in safeguarding human health and promoting workplace wellbeing.

The practice of businesses in the manufacturing sector prohibiting the use of annual leave during the period of the global pandemic has resulted in a notable decline in workforce satisfaction. At the outset of the pandemic, orders were not fulfilled as a consequence of the introduction of a shift system with a reduced workforce, implemented with the objective of reducing the number of employees working simultaneously. This resulted in a return to normal working order within a period of three to five months.

In light of the prevailing concerns about the potential for infecting their spouses, parents, and children with the virus, employees have begun to opt for alternative commuting arrangements, such as driving their own vehicles or, when feasible, walking to work. This shift in preference has been driven by a desire to minimize the risk of transmitting the virus to those in their immediate circles, rather than as a direct result of the virus itself. Conversely, this situation has also had a detrimental impact on the productivity of employees. The implementation of workplace bans due to the prevalence of the novel coronavirus (Covid-19) has resulted in a significant increase in the workload of remaining employees. This is particularly evident in instances where colleagues have contracted the virus or are exhibiting symptoms of common ailments such as the influenza and common cold. Conversely, this situation has become a source of psychological distress for employees who attach significant importance to the symptoms. In this context, it is crucial to understand how individuals perceive the importance of the disease. Some employees held the view that the duration of the disease and the extent of the threat it posed were exaggerated, particularly by global institutions and governments. Conversely, some employees held the view that the disease was more lethal and dangerous than was generally perceived.

Following an assessment of the perceptions regarding the adverse effects of the Coronavirus Disease 2019 (Covid-19) pandemic in the workplace, which constituted the third research question, the following findings have emerged.

As previously stated, some employees have exhibited heightened sensitivity to the threat of the novel coronavirus. Conversely, these employees demonstrated heightened sensitivity to psychological health issues. Those employees who have adopted this understanding have experienced difficulties in communicating with their colleagues, whom they perceive to be lacking in sensitivity to health issues. In order to mitigate these conflicts, managers have implemented the application of public health measures taken in response to the Coronavirus Disease 2019 (Covid-19) pandemic to the fullest extent within the workplace.

Despite the initial strict adherence to the protocols governing the transmission of the SARS-CoV-2 virus in the workplace, there was a notable decline in the level of compliance with these protocols as the pandemic progressed. These regulations, which were originally designed to serve the interests of all parties, have subsequently become rules that are in the interests of businesses and managers due to the imposition of government controls. As the pandemic drew to a close, these regulations were increasingly disregarded, becoming rules that served no discernible purpose.

The heightened sensitivity of some employees to health issues has led to a tendency to be more cautious in greetings and handshakes, which has in turn given rise to difficulties in maintaining harmonious social relations within the workplace. Some employees have terminated their social interactions with one another or engaged in candid discussions.

The majority of participating employees demonstrated a noteworthy focus on the degree to which the mandatory regulations pertaining to the management of the Coronavirus (Covid-19) are adhered to by managerial and proprietorial personnel. The employees indicated that the managers and business owners were largely non-compliant with the covid-19 measures, hygiene regulations and social distancing rules. However, they also reported that these individuals exerted pressure on them to adhere to these regulations. This situation engendered a sense of neglect and led to a climate of unrest in the workplace. This situation has brought to light the principle of priority and leadership in the context of managerial roles within enterprises. Furthermore, it was asserted that a number of employees failed to attend work during the period of the pandemic, citing illness as the reason for their absence. This behaviour was perceived as an act of personal preference and social avoidance, and it was argued that these individuals had benefited from wage opportunities offered by the state in a manner that was perceived as unfair.

In light of the responses provided to the fourth inquiry regarding occupational burnout during the Coronavirus Disease 2019 (Covid-19) pandemic, the following observations can be made:



A close reading of the discourses of the employees participating in the research reveals that the most challenging issue for the employees in terms of emotional burnout during the period of the Covid-19 pandemic was the issue of 'uncertainty', which is an issue external to the organisation. The sudden shift in the global landscape due to the advent of the SARS-CoV-2 virus, coupled with the unpredictability of future scenarios and the evolving legal and medical landscape surrounding the decision to work or not, led to a significant rise in emotional burnout among employees.

The psychological disorders that occurred during the period of the SARS-CoV-2 pandemic, coupled with the necessity of prolonged home confinement, resulted in an elevated level of depersonalisation among employees. However, the expeditious return of manufacturing employees to their workplaces, facilitated by the issuance of permits by the relevant authorities, led to a reduction in depersonalisation among the employees. The use of masks and social distancing rules have reduced the social contact of employees with each other both in the work environment and in social environments such as cafeterias. It has been stated that these new physical conditions increase the level of burnout. As stated by Human Relations Approaches, the relationships between colleagues in the workplace have significant effects on employee performance.

During the period of the pandemic, there have been allegations that employees who were required to work additional hours in order to maintain the requisite levels of production and fulfilment of orders have experienced an increase in burnout levels. This is attributed to the fact that they were not remunerated at a rate commensurate with the value of the overtime hours worked. It has been posited that the adverse psychological milieu engendered by the covid-19 pandemic has a direct negative impact on employee burnout levels. Conversely, it was established that the news of the closure of numerous workplaces in the initial stages of the pandemic, coupled with the layoffs of workers, led to an increase in burnout and depersonalisation levels and a concomitant decrease in the sense of personal achievement. This illustrates the influence of the prevailing psychological climate on individuals.

Furthermore, it was posited that the mortality of acquaintances and colleagues during the pandemic, coupled with the dissemination of information regarding the treatment of infected individuals in the workplace, precipitated an exacerbation of burnout and depersonalisation among employees.

Furthermore, it was posited that the deployment of supplementary camera surveillance systems in production environments, with the objective of monitoring compliance with covid-19 protocols by business managers in real-time, has resulted in an elevated prevalence of burnout and depersonalisation among employees. The phenomenon, also known as the Hawthorne Effect in the field of management, manifested itself in this study as supervisor monitoring with cameras. In instances of observation, it was found that there was an increase in employee performance, but also an increase in the level of burnout. Although not directly related to the pandemic period, it is noteworthy that some of the participating employees highlighted negative managerial behaviours as a significant contributing factor to burnout. These behaviours, which include undermining human dignity through actions such as scolding an employee for a mistake, were identified as particularly detrimental to employee well-being. Additionally, such managerial behaviours were found to enhance employees' sense of personal accomplishment and increase depersonalisation levels.

Some participants emphasised that, beyond the pandemic conditions, doing the same work in the same workplace for many years in a manufacturing environment, i.e. monotony, is already a cause of burnout, depersonalisation and a decrease in the sense of personal accomplishment.

The experience of undergoing painful treatment, worrying about the possibility of death and being confined to one's home during the course of infection with the novel coronavirus (Covid-19) has been identified by employees as a significant factor contributing to the development of burnout syndrome. Furthermore, the risk of virus contamination from raw materials, materials and semi-finished products entering the enterprise from external sources and the manufacturing environment has been identified as a source of persistent anxiety for employees. Additionally, the perception of the workplace as a risky environment has been found to be associated with elevated levels of burnout.

One of the most important inferences about the management of businesses is the fact that the perceptions of injustice formed in employees during the Covid 19 period are effective on burnout. There have been thoughts that some employees in the workplace are favoured by the management. Especially in pandemic conditions, there were thoughts that some sanctions that should be applied compulsorily were not applied equally. On the other hand, in general terms, the fact that employees working in other units can work from home, but lower level employees in the manufacturing environment cannot have such an opportunity has caused burnout, even if it is not related to the business.



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A RESEARCH ON MANAGER ATTITUDES TOWARDS CUSTOMER COMPLAINTS MANAGEMENT

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Abstract: Regarding customer complaint management, a research was conducted on the managers of glassware dealers in Aydın province. 10 business managers determined by purposeful sampling method participated in the research conducted within the framework of phenomenology design. The texts obtained as a result of in-depth interviews with the participants were analyzed with the inductive technique using the MAXQDA 2020 package program. As a result of the analysis; Complaint notification, solutions to customer complaints, contributions of customer complaint management processes, disadvantages of customer complaint management processes, ways of communication with customers, expectations from personnel, compliance with ethical principles and rules categories were obtained. While complaint management processes contribute most to store reputation and customer loyalty, they also cause customer loss and damage to brand image.

Keywords: Customer complaints, customer complaints management, glassware dealers

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1. INTRODUCTION

There is very intense competition in the market, and businesses want to differentiate themselves from their competitors by constantly improving themselves and producing innovations in the face of this competition. Businesses that successfully implement customer complaint management thus come to the fore. Complaints should be taken seriously, taken into consideration, and most importantly, positive or negative feedback should be received from complaints and transformed into satisfaction, ensuring that the customer remains loyal to the business and thus creates loyalty.

The main reason for customer churn is customer dissatisfaction. The most important symptom of dissatisfaction is customer complaints. However, not every customer complaint may express customer dissatisfaction. What to do in such a situation is to receive complaints from the customer that actually exist but that the customer is afraid to express. Accepting complaints from customers, evaluating them and using them positively can only be achieved through effective "customer complaints management" in businesses.

Nowadays, it is better understood that customers' complaints and their wishes and needs are important for businesses. Because customers have more than one tool to express their complaints about goods and services. Televisions, newspapers, magazines, internet, consumer organizations, etc. They express their complaints in many ways, not only to those around them, but all over the world. Customer complaints are not perceived as unimportant, and even the smallest complaint that is ignored can cause major problems for businesses.

In the ever-developing and changing world, the meaning of the concept of customer is also evolving. A customer is anyone who is in a purchasing relationship with a business for personal or administrative purposes in order to meet any of their needs for goods or services. In fact, everyone is a customer. A customer is a source of life, a reason for existence, a benefactor and a source of income for businesses (Seyran, 2009: 9-10; Aydın Pekacar, 2017: 13). Customer satisfaction, or in other words, customer satisfaction, is very important for businesses. It is one of the main issues taken into consideration by developed visionary businesses from the 1980s to the present. Customer satisfaction, which is the most important factor in the profitability, market shares and growth rates of businesses, is essentially related to business loyalty (Eroğlu, 2005: 9). An important dimension in the business-customer relationship is customer complaints created by people who have problems or think they have encountered problems. This issue is considered important by both businesses and marketing personnel who have knowledge and skills on this subject. It is possible to increase customer satisfaction and loyalty through customer complaints. A customer whose complaint about a product or service received from a business is resolved can develop loyalty to the business's products and services. In order to maintain reliable customer relations, the management of customer feedback is important (Karalar, 2015: 3). A complaint is a reaction that occurs as a result of

the problems and dissatisfaction experienced by customers and consists of the responses that customers express in writing, words and behaviors against this dissatisfaction. A complaint is a reaction that occurs as a result of the problems and dissatisfaction experienced by customers and consists of the responses that customers express in writing, words and behaviors against this dissatisfaction (Taştan, 2008: 32-33). The set of actions that occur as a result of the perception of dissatisfaction that occurs during the purchasing process of customers is explained as complaint behaviors (Kitapçı, 2008: 113). It can be stated that the difference between the experiences of customers after purchasing the product or service and their expectations before purchasing is effective in the emergence of complaints (Apaydın, 2020: 12).

A business does not want to receive negative reactions from customers. However, as stated in many studies, it is explained that complaint management has positive effects on the business. Thanks to customer complaints, businesses provide the following benefits (Burucuoğlu, 2011: 44):

- Customers increase the possibility of necessary product development and repeat purchase, and customer satisfaction by allowing the error gaps they see as a result of their dissatisfaction to be eliminated.
- Increases customer retention rate.
- Limits the damages of negative word-of-mouth marketing communication.
- Increases the possibility of repeat purchase behavior.
- Has a positive effect on customer loyalty.

As a result of the research, complaint collection methods are divided into two sections as relationship-based complaint collection methods and technology-based complaint collection methods. Relationship-based complaint collection methods are methods in which the customer and the business create an effective relationship based on their bilateral relations and new values emerge as the sharing between this relationship continues. These methods are; customer surveys, customer support desks, communicating the complaint to the personnel face to face, complaint boxes (Timur and Sarıyer, 2004: 11). Complaint management is one of the most important factors affecting the success of businesses in an intensely competitive environment. Businesses are more successful the more successfully they manage complaints. The most important difference between successful and/or unsuccessful businesses is their ability to manage complaints in a way that enables production and service change in the business (Kılıç, 2018: 18). The complaint management process consists of four interconnected stages. The complaint management process begins with determining the standards of the product and/or service to be offered, continues with identifying where the standards deviate from the problem and determining possible solutions, and ends with creating a complaint database (Taştan, 2008: 49).

2. MATERIAL AND METHOD

The aim of the research is to determine the managerial attitudes of glassware business managers operating in Aydın province towards customer complaint management. It is aimed to obtain in-depth information on how managers respond to customer complaints and what kind of solution they produce. The phenomenology design, which constitutes the research design, focuses on phenomena that we are aware of but do not have an in-depth and detailed understanding (Yıldırım and Şimşek, 2021: 66).

The main question of the research is also the main problem of the research, how do glasswares manage their customer complaints? The sub-questions of the research are;

- By what means are customer complaints conveyed to your business?
- Do you have any work on complaint management in your business, do you care about complaint management?
- When a customer complaint comes to your business, what steps do you take and corrective actions regarding this complaint?
- What are your solutions regarding your customer complaints?
- Do you share the processes you have performed regarding the complaint with the customer who complains, if so, how do you communicate?
- Are there any ethical principles and laws that you pay attention to when responding to customer complaints, if so, what are they?
- What are the advantages and disadvantages of implementing the customer complaint management process for your business?
- What are the qualifications and training of the personnel who come into contact with customers in your business, do you care about them?

The participants of the study were selected according to the purposeful sampling method. According to Sıgır (2021: 126), purposeful sampling is the researcher deciding what to examine according to his/her own purpose/judgment. The point to be noted here is that the researcher really has a purpose and acts with this purpose. In order to reach the result of the

research, attention was paid to selecting businesses, especially those operating as dealers. Information on the participants of the study and the interview periods is shown in Table 1.

Table 1. Participants and Interview Date and Time Period

Participant	Date	Interview Time Period
Ms. Funda	17/06/2022	17:15/17:26
Mr. Adnan	18/06/2022	14:15/14:32
Mr. Salih	17.06.2022	17:30/17:48
Ms. Zeynep	17/06/2022	17:30/17:45
Ms. Hülya	15/06/2022	15:00/15:12
Ms. Hafize	08/06/2022	16:15/16:35
Ms. Eda	07/06/2022	17:00/17:29
Mr. Oktay	17/06/2022	14:35/14:56
Ms. Hatice	08/06/2022	16:30/16:55
Ms. Vahide	22/06/2022	16:00/16:22

The research data were collected using the face-to-face in-depth interview technique. In the study, an interview form consisting of semi-structured and open-ended questions was prepared by the researcher and the consultant. The interviews were collected with a note-taking and voice recorder, depending on the permission of the participant. The answers were recorded in the MAXQDA-2020 program and coding was carried out through the inductive analysis technique, one of the qualitative research techniques, through this program. In the first stage of the analysis, the data were coded, and in the second stage, the related codes were combined under categories. In the coding stage, the incomprehensible statements were asked to the participants once again and arranged. The findings were interpreted in the light of the themes obtained.

3. RESULTS

Complaint notification; face-to-face notification, phone notification and social media notification, solutions to customer complaints; information, product replacement, refund, repair and maintenance, guidance, controls, speeding up the process steps applied by the business in customer complaints; listening, identifying the problem and product invoice and warranty document contributions to the customer complaint management process; store reputation, customer loyalty, customer satisfaction, brand reputation, potential customer formation disadvantages; loss of customers, damage to brand image, dissatisfaction, decrease in reputation communication methods with the customer; expectations from personnel via phone, message, e-mail; diction, experience, physical care, diploma, career compliance with ethical principles and rules; courtesy and respect, legal processes, privacy. The table and comments regarding these findings are listed below.

- Complaint Notification

Although customers may have some complaints about the products they purchase, they may not want to. These complaints are created by combining the codes of Notification by Phone, Notification by Social Media, and Face-to-Face Notification. The data related to this category and code are shown in Table 2.

Table 2. Types of Complaint Notifications

Category	Codes	F
Complaint Notifications	Face to Face Notification	10
	Phone Notification	10
	Social Media Notification	2

- Customer Complaint Management Steps

Business managers first resorted to the listening (f:2) method in the solution process of the problems they encountered. Our manager, who expressed this method as “The complaint is fully understood and the necessary steps are taken by taking into account the necessary procedures of the company” (Mr. Adnan), mentioned the importance of listening to the

problem completely. Then, from the methods used in the continuation of the solution path, problem detection (f:1) When the product arrives at our store, it is checked. A record is opened in the system regarding the malfunction and the product is sent to the factory. Transactions are carried out according to the solution obtained from the process in the factory. The product is delivered to the customer. (Ms. Vahide) mentioned the problem detection process in her statement. In order for the products to be resolved by the business, there must be a product invoice and warranty certificate (f:1). First of all, by learning information such as when the product was purchased, whether it has an invoice and whether it is under warranty; If it is under warranty, the product is sent to the headquarters. It is evaluated by the headquarters. According to the response from the headquarters, if the product is in production, the same new product is sent. If the product is not manufactured, a return invoice is issued and a similar product can be purchased from the store. For example, if the product does not have a warranty (for electronic products), it is sent to the center as an invoiceless product. The problem that the malfunction or complaint is caused by is detected by the customer, the customer is contacted (for fee information), and if the customer accepts, the repair and maintenance are carried out and sent to the customer's address. In electronic products, the call center contacts the customer and the customer performs these steps himself. For example, a customer who bought a coffee machine sent his machine to service 3 times and the malfunction still persisted in all 3 of them, the customer applied to the consumer arbitration board and the center decided to replace the product with a new one. The center requested the customer's product to be replaced and his dissatisfaction to be resolved by e-mail to the seller company (where he bought it). In this direction, customer dissatisfaction was eliminated. Our manager, who stated (Ms. Eda), drew attention to the fact that the customer has a product invoice and warranty certificate when applying for a complaint about the product. Even if the product's warranty has expired, the problem is detected in the business here and the customer's request is tried to be resolved in return for a fee.

Table 3. Types of Complaint Notifications

Category	Codes	F
Complaint Management Steps	Listening	10
	Identifying the problem	10
	Product invoice and warranty document	2

- Solutions Regarding Complaints

Business owners have resorted to various solutions for the complaints experienced. Among these solutions, information has been expressed by business owners in order to inform customers about their complaints about the product. We provide information about the stage it is at via phone and message. (Hülya Hanım) informed her customers about the stage their faulty products are at and aimed to gain customer satisfaction in this way. Similarly, Transactions are shared, we contact them by phone. We share the necessary information by informing our customers about the process. (Hafize Hanım) and Yes, we share. We inform them by phone, e-mail and message. We share the information about the process it is at. (Eda Hanım) has also shared with her customers about the stage their faulty products are at. Finally, regarding this code, the customer's problematic product process is very important. If it takes a long time, we inform them and make them relax. (Hatice Hanım) emphasized that informing will create a relief for the customers. The most frequently repeated codes following this code are product replacement (f:12), refund (f:11). Customer satisfaction is very important for businesses. Businesses that want to gain competitive advantage in increasingly competitive conditions are obliged to ensure customer satisfaction. Based on this, if the repair and maintenance of the product sold is not possible due to a malfunction, the first offer is product replacement (f:12) or refund (f:11). The fact that these codes are frequently repeated also supports this sentence. The statements related to these codes are as follows: I would like to explain by giving an example of a thermos. When the product is sold to the customer, its features are explained very well. When the thermos is taken home, it is asked to try it and if there is a problem with the product after trying it, it is sent to the company. The company provides the replacement of the product. Here, our business manager (Mr. Oktay) explains the features well while selling the product and then suggests the customer to try it against possible problems at home. The promise that a replacement will be made to the customer if there is a problem is made, and an effort is made to convince him. Again, regarding the refund code next to this code, managers have made efforts to ensure customer satisfaction by refunding money in cases where the exchange cannot be made.

In some malfunctions, repair and maintenance may be possible. In these cases, managers resort to this method and try not to lose more. Based on this, the statement given regarding the repair and maintenance (f:9) code is that the product is sent to the company for maintenance and repair in pots. If maintenance and repair are not possible, the product is replaced. (Mr. Oktay) supported the statement given by stating that the products that can be maintained and repaired are sent for repair and the ones that cannot be are replaced.

The transactions that have been carried out up to this point are controlled by the business managers in order not to victimize the customers any further, the process is accelerated and guidance is provided. Based on this, data regarding the expressions of guidance (f:6), control (f:3) and process acceleration (f:3) have been obtained. We listen to the customer's complaints, understand the situation they are uncomfortable with and provide him with enlightening information on how to proceed regarding the issue. (Ms. Eda) stated that they listen to the complaints from the customers and direct them to the necessary places when they have an idea about what their complaints are. In addition, the store managers do not accept every defective product. The customer brings the product with the problem to the store. Here, we check the product's defect and then request the receipt, invoice and warranty document. According to the statement given by the business manager (Ms. Zeynep), they also request the defect checks and the necessary documents. In order to solve customer problems quickly during this entire process, the managers have made an effort to speed up the process. We attach great importance to complaint management in our business. Because every complaint is a gift. Complaints about the product contribute to the development and improvement of our products. There are two managers in our store with me. We deal with the complaints and this process is carried out in the fastest way possible without victimizing our customers. (Ms. Vahide) evaluates complaints as opportunities and aims to eliminate the grievances of the customers by accelerating the resolution of their problems during this complaint process.

Table 4. Solutions to Customer Complaints

Category	Codes	F
Solutions to Customer Complaints	Information	12
	Product Exchange	12
	Refund	11
	Repair and Repair	9
	Guidance	6
	Controls	3
	Accelerate the Process	3

- Contributions of Customer Complaint Management Process to the Business

As a result of the resolution of complaints received by the business, some positive thoughts develop about the business. The store reputation (f:11) comes first among these thoughts. As a result of the resolution of the complaint, the store increases its reputation by expressing its satisfaction to its surroundings. Our manager, who stated (Ms. Eda), stated that the store's reputation increases as a result of the resolution of customer complaints. In addition to this code, it was concluded that stores that provide solutions to customers' problems gain customer loyalty (f:10). The continuity of our current customers is ensured. Our manager, who stated (Ms. Funda), emphasized this situation.

In addition to all these, the code Customer satisfaction (f:9), which is indispensable in competition between businesses, is also among the results. He supported this code by stating that customer satisfaction occurs (Mr. Oktay). The gains of businesses that manage the customer complaint management process well are not limited to these, but also gain positive gains such as brand reputation (f: 5) and potential customer formation (f: 2). Brand trust and reputation (Hülya Hanım) has been one of the supporters of this code.

Table 5. Contributions of the Customer Complaint Management Process

Category	Codes	F
Contributions of the Customer Complaint Management Process	Store Reputation	11
	Customer Loyalty	10
	Customer Satisfaction	9
	Brand Reputation	5
	Potential Customer Generation	2

Consequences of Not Managing Customer Complaints

If businesses do not implement customer complaint management, they encounter some negative results. The first of these is customer loss (f:9). If we do not implement the customer complaint management process; customers are lost. (Ms. Funda) Our manager clearly stated this situation. The disadvantages include not only customer loss but also damage to the brand image (f:8). We can suffer many losses such as sharing negative ideas everywhere and damaging the trust and reputation of our store and causing them not to prefer our store. (Ms. Eda) stated that the store's reputation is damaged as

a result of customers sharing their negative experiences with others. When the store's reputation is damaged, the reputation is reduced (f:8). As a result of all these, there is a general dissatisfaction (f:7) among the customers. As a result of not implementing the complaint management process, dissatisfaction continues (Mr. Adnan).

Table 6. Results of Not Implementing Customer Complaints Management

Category	Codes	F
Results of Not Implementing Customer Complaints Management	Loss of customers	11
	Damage to brand image	10
	Dissatisfaction	9

-Customers Expectations from Store Personnel

The first people to greet customers in the store are the store personnel. The attitudes and behaviors of the store personnel are very important for the customer to be satisfied and not to leave empty-handed. In this respect, there are attitudes and behaviors expected from the personnel working in the store. The first issue here is diction (f:13), which is a must for communication and persuasion. Our manager, who stated that the personnel should have good communication skills and high persuasion ability (Hülya Hanım), summarized this situation quite well.

One of the statements related to the experience (f:6) code, which is one of the personnel characteristics that can keep the sales performance high in the store, is the statement given by Oktay Bey, here, first of all, the personnel should know and know the product well. In addition, in terms of qualification, they should be experienced and experienced in the glassware sector (Vahide Hanım). When the issues are taken into consideration, it is emphasized by the business managers that the personnel working should have both product knowledge and experience.

Since the customer entering the store will first encounter the appearance of the salesperson, the physical care of the staff (f:5) is very important. Regarding this, our business manager, who stated that we have staff who care about their appearance (Ms. Vahide), emphasized that he attaches importance to the physical appearance of his staff in order to greet customers. Following these, the expressions diploma (f:5) and career (f:2) are also included in the answers. We care about the qualifications and education of the staff who communicate with the customer. (Ms. Zeynep) Our business manager, who made a statement as follows, emphasized education in addition to the qualifications of the staff.

Table 7. Customers' Expectations from Staff

Category	Codes	F
Customers' Expectations from Staff	Diction	13
	Experience	6
	Physical Care	5
	Diploma	5
	Career	2

- Compliance with Ethics and Rules in Customer Complaint Management Process

There are ethical principles and rules that must be followed in terms of morality and laws in our commercial life. The most striking point here is courtesy and respect (f:4) and legal processes (f:4), which are the main leaders of ethics and rules. Business managers have adhered to these rules while performing complaint management. We care about complaint management. We manage the process very well in order not to upset the customer. We try to complete the complaint management process as quickly as possible and in a way that will not victimize the customer. Our business manager, who stated (Mr. Salih), stated that they perform complaint management without upsetting the customers. In addition, I think being calm is the most important principle, we listen to him and help him, and we help him in every way in order not to tarnish our workplace and brand. (Ms. Hatice)'s statement in this way also reveals the importance he attaches to calmness. Along with these, legal processes (f:9) are not ignored by business managers. All legal processes are implemented in a valid manner. (Salih Bey) stated that he/she ensures that legal processes are followed. In addition to these codes, the indispensable customer confidentiality (f:1) code should not be ignored. Yes, there are principles that we pay attention to. The creation of customer records, keeping personal information confidential, storing it and not using it in any way

other than for company purposes are ensured. (Eda Hanım) stated that they hide all personal information of their customers.

Tablo 8. Ethics and Compliance with Rules in the Customer Relationship Management Process

Category	Codes	F
Compliance with Ethical Principles	Courtesy and Respect	4
	Legal Processes	4
	Privacy	1

4. DISCUSSION AND CONCLUSIONS

The reasons for conducting the research on customer complaint management are that there is very little research on customer complaint management and that it is necessary to explain how this process can be carried out effectively and efficiently. As a result of the analysis of the research data; findings on customer complaint management were revealed and it was aimed to contribute and guide businesses, marketing managers and marketing literature working in this sector through these findings.

Managers explained that customers mostly communicate their complaints face to face and by phone in their businesses. They stated that they think these complaint notification methods are the fastest and healthiest. In this way, while customers express their problems in a better way, they are recorded more quickly by business managers and solutions are tried to be produced. In addition, communication via social media is also used, but since results are obtained slower, it is not preferred frequently compared to other communication methods. In line with the development of today's technology, businesses need to produce solutions to effectively use the social media platform, which is as important as face to face communication. Because customers tend to turn to businesses that will solve their complaints in the shortest time and without much effort.

According to the answers given by the managers about the customer complaint solution methods, informing, product replacement and refund are the most frequently used solution methods. First of all, information is provided about the process regarding the customer complaint, if the product is faulty, they apply for product replacement or refund if the customer does not want the product. Apart from these, they also use other methods such as repair and maintenance, guidance, controls and process acceleration. If a product that can be repaired and repaired is possible, they are sent to the factory and the process is carried out. If the product has a service opportunity, guidance is provided. The product is checked in the store for faulty and they make efforts to speed up the process. However, it is important that these efforts are made in line with the customer's request and in a way that will not victimize the customer. Therefore, methods such as behavior, discourse and gift applications that will satisfy the customer should be followed. When implementing customer complaint management, businesses should first focus on listening to the customer. Because listening is important in terms of both the content of the complaint and providing the appropriate solution in order not to create the impression that the customer complaint is not important. Therefore, the personnel who come face to face with the complaint should be experienced and trained individuals in this regard. The second step is to correctly identify the problem that is the subject of the complaint. Here, it is necessary to determine whether the problem is caused by the product itself, its use, or the customer's lack of knowledge. For this, the personnel with product knowledge must be authorized. The third step is related to the invoice and warranty document. In this regard, a management that will not cause difficulties for customers can be implemented and a quick solution can be provided by providing access to these documents in a virtual environment rather than physical documents. Managers of glassware businesses say that the advantages they provide when they apply the customer complaint management process; contribute to store reputation, customer loyalty, customer satisfaction, brand reputation and potential customer formation. They state that the disadvantages they may encounter in cases where the customer complaint management process is not applied; loss of customers, damage to the brand image and decrease in respect for the business. The good or bad complaint management applied in the business determines the advantages and disadvantages that may occur here. The negative word-of-mouth statements of a customer who is not satisfied with the complaint management will damage both the business and the brand image and also cause the loss of potential customers. For this reason, businesses should develop strategies that will resolve each step of the complaint management process through a separate unit or personnel in a way that will not lead to customer dissatisfaction.

Business managers inform their customers about the process. They usually use phone calls, messages and very rarely e-mails as ways to inform them about the process. The customer is informed about the stage of their product and the processes that have been performed. In today's world where information is increasingly important, informing customers about each step of the process and creating a sense of importance in this way satisfies the customer. It is also recommended that customers who want to receive detailed information about the applications made for their products are informed via e-mail.

As for the qualifications and training of the personnel to be recruited to the business, managers should have good diction, have experience in the glassware sector, be someone who cares about their physical appearance, and have a university education.

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YÖNETİM YAKLAŞIMININ YAPAY ZEKA VE SÜREKSİZ İNOVASYON BAĞLAMINDA DEĞERLENDİRİLMESİ

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Özet: Çalışma, yönetim yaklaşımının yapay zeka ve süreksiz inovasyon bağlamında nasıl şekillendiğini incelemektedir. Teknolojik gelişmelerin hızla ilerlediği günümüzde, yapay zeka, işletmelerin stratejik karar alma süreçlerinde ve yenilikçilik kapasitelerinde önemli bir rol oynamaktadır. Süreksiz inovasyon, mevcut ürün, hizmet veya süreçlerin köklü bir şekilde değişmesini ifade ederken, yapay zeka, bu yenilikleri yönlendiren ve hızlandıran bir araç olarak ortaya çıkmaktadır. Çalışmada, yönetim yaklaşımlarının yapay zeka ile entegrasyonunun, işletmelerin inovasyon stratejilerine nasıl yansıdığı değerlendirilmiştir. Yapay zeka uygulamalarının, organizasyonların süreçlerini optimize etme, müşteri ihtiyaçlarını anlama ve yeni iş modelleri geliştirme yeteneklerini artırdığı vurgulanmaktadır. Ayrıca, yöneticilerin yapay zeka ve inovasyon arasındaki ilişkiyi nasıl yönettiği ve bu bağlamda ortaya çıkan zorluklar ele alınmıştır.

Sonuç olarak, yapay zeka ve süreksiz inovasyon arasındaki etkileşim, modern yönetim yaklaşımlarının yeniden şekillenmesini gerektirmekte ve işletmelerin rekabet avantajı elde etme yolunda önemli fırsatlar sunmaktadır. Bu çalışma, yöneticilere yapay zekanın stratejik yönetim süreçlerine entegrasyonu ve süreksiz inovasyonun yönetiminde kullanılacak pratik bilgiler sunmayı hedeflemektedir. Ayrıca, gelecekteki araştırmalara zemin hazırlayarak, yapay zeka ve inovasyon dinamiklerinin yönetimi üzerine yeni bakış açıları geliştirmeyi amaçlamaktadır.

Anahtar Kelimeler: Yapay Zeka, Inovasyon, Süreksiz Inovasyon, Yönetim Yaklaşımı

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EVALUATION OF MANAGEMENT APPROACH IN THE CONTEXT OF ARTIFICIAL INTELLIGENCE AND DISCONTINUOUS INNOVATION

Abstract: The study examines how management approaches are shaped in the context of artificial intelligence and discontinuous innovation. In today's world where technological developments are rapidly advancing, artificial intelligence plays an important role in the strategic decision-making processes and innovation capacities of enterprises. While discontinuous innovation refers to the radical change of existing products, services or processes, artificial intelligence emerges as a tool that directs and accelerates these innovations. The study analyzes how the integration of management approaches with artificial intelligence is reflected in the innovation strategies of enterprises. It emphasizes that artificial intelligence applications increase the ability of organizations to optimize their processes, understand customer needs and develop new business models. In addition, how managers manage the relationship between artificial intelligence and innovation and the challenges that arise in this context are discussed.

As a result, the interaction between artificial intelligence and discontinuous innovation requires the reshaping of modern management approaches and offers important opportunities for enterprises to gain competitive advantage. This study aims to provide managers with practical information that can be used in the integration of artificial intelligence into strategic management processes and the management of discontinuous innovation. It also aims to develop new perspectives on the management of artificial intelligence and innovation dynamics, paving the way for future research.

Keywords: Artificial Intelligence, Innovation, Discontinuous Innovation, Management Approach

1. GİRİŞ

Günümüz iş dünyası, teknolojik yeniliklerin hızla gelişmesi ve dijital dönüşümün etkisiyle daha önce hiç olmadığı kadar karmaşık bir hal almıştır. Özellikle yapay zeka teknolojileri, işletmelerin stratejik karar alma süreçlerinde, operasyonel verimlilikte ve müşteri deneyimlerinde belirleyici bir rol oynamaya başlamıştır. Yapay zeka, yalnızca mevcut süreçleri otomatikleştirmekle kalmayıp, aynı zamanda yeni iş modelleri oluşturma ve süresiz inovasyon gibi önemli yenilikçi süreçleri desteklemektedir. Süresiz inovasyon, mevcut ürün, hizmet veya iş modelinin radikal bir değişim geçirmesi anlamına gelir ve bu süreçte yapay zekanın sağladığı veri analitiği, makine öğrenimi ve derin öğrenme gibi teknolojik araçlar, işletmelere önemli avantajlar sunmaktadır.

Bu bağlamda, yönetim yaklaşımlarının yapay zeka ile entegrasyonunun önemi giderek artmaktadır. Geleneksel yönetim anlayışları, hızlı değişen piyasa koşullarına ve teknolojiye uyum sağlamakta zorlanırken, yapay zekanın sağladığı olanaklar, yöneticilerin daha çevik ve yenilikçi kararlar almalarına yardımcı olmaktadır. İşletmelerin karşılaştığı zorluklar, rekabet avantajı elde etme çabalarında yapay zekayı nasıl etkili bir şekilde kullanacaklarına dair stratejiler geliştirmelerini gerektirmektedir.

Yönetim yaklaşımlarının yapay zeka ile birleşimi, işletmelerin stratejik hedeflerine ulaşmalarını kolaylaştırırken, süresiz inovasyonun benimsenmesini de desteklemektedir. Bu durum, yöneticilerin iş süreçlerini yeniden tasarlamalarını, iş gücünü dönüştürmelerini ve müşteri odaklı stratejiler geliştirmelerini zorunlu kılmaktadır. Bu çalışmada, yönetim yaklaşımlarının yapay zeka ve süresiz inovasyon bağlamında nasıl şekillendiği, bu teknolojilerin işletmeler üzerindeki etkileri ve yöneticilerin bu süreçleri nasıl yönettikleri detaylı bir şekilde ele alınacaktır.

Yapılan literatür taraması ve saha çalışmaları, yapay zeka uygulamalarının organizasyonel inovasyon süreçlerine olan katkılarını, yöneticilerin karşılaştığı zorlukları ve bu teknolojilerin benimsenmesine dair stratejileri ortaya koymayı hedeflemektedir. Bu çalışma, yapay zeka ve süresiz inovasyon arasındaki ilişkiyi daha iyi anlamak için bir temel sağlayarak, yöneticilere ve akademik camiaya katkıda bulunmayı amaçlamaktadır. Sonuç olarak, bu çalışma, yapay zekanın yönetim süreçlerindeki rolünü ve süresiz inovasyonun dinamiklerini anlamak için kritik bir kaynak sunmayı hedeflemektedir.

2. Yönetim Yaklaşımının Yapay Zeka ve Süresiz İnovasyon Bağlamında Değerlendirilmesi

Yönetim yaklaşımının yapay zeka ve süresiz inovasyon bağlamında değerlendirilmesi, günümüz iş dünyasında giderek daha fazla önem kazanan bir konudur. Yapay zeka teknolojileri, organizasyonların yönetim süreçlerini dönüştürmekte ve bu dönüşüm, süresiz inovasyon kavramıyla birleştiğinde, işletmelerin rekabetçiliklerini artırma potansiyelini beraberinde getirmektedir. Bu bağlamda, yapay zekanın yönetim alanındaki etkileri ve süresiz inovasyonun rolü, çeşitli disiplinlerde yapılan araştırmalarla desteklenmektedir.

Yapay zeka, veri analizi, algoritmalar ve modelleme teknikleri kullanarak büyük miktarda veriyi hızlı ve doğru bir şekilde işleyebilme yeteneğine sahiptir. Bu özellikleri, yapay zekayı işletmeler için stratejik bir araç haline getirmektedir. Örneğin, insan kaynakları yönetiminde yapay zeka uygulamaları, işe alım süreçlerini otomatikleştirerek verimliliği artırmakta ve maliyetleri düşürmektedir (Oruçoğlu, 2022). Geleneksel yöntemlerle karşılaştırıldığında, yapay zekanın sağladığı otomasyon, insan kaynakları yöneticilerinin daha stratejik görevlere odaklanmasına olanak tanımaktadır (Düzcü vd., 2024). Ayrıca, yapay zeka destekli sistemler, kalite yönetim süreçlerinde de önemli iyileştirmeler sağlamakta, hataların erken tespit edilmesi ve ortadan kaldırılmasıyla kalite maliyetlerini azaltmaktadır (Ever ve Demircioğlu, 2022).

Süresiz inovasyon, mevcut ürün ve hizmetlerin iyileştirilmesi veya yeni ürünlerin geliştirilmesi sürecinde yapay zekanın sağladığı verimlilik ve hız avantajlarıyla doğrudan ilişkilidir. yapay zekanın sağladığı analitik yetenekler, organizasyonların pazar trendlerini daha iyi anlamalarına ve bu doğrultuda yenilikçi çözümler geliştirmelerine yardımcı olmaktadır (Şeker vd., 2024). Örneğin, pazarlama alanında yapay zeka uygulamaları, müşteri etkileşimini artırmakta ve pazar tahminlerini geliştirmektedir (Şalvarlı ve Kayışkan, 2022). Bu durum, işletmelerin müşteri ihtiyaçlarına daha hızlı yanıt vermelerini sağlamakta ve rekabet avantajı oluşturmaktadır.

Yapay zeka uygulamalarının sağlık sektöründeki etkileri de dikkat çekicidir. Sağlık hizmetlerinde yapay zekanın kullanımı, tedavi süreçlerinin etkinliğini artırmakta ve hasta memnuniyetini yükseltmektedir (Akalin ve Demirbaş, 2022). Rehabilitasyon hizmetlerinde yapay zeka uygulamaları, hastaların evde tedavi süreçlerini destekleyerek sağlık hizmetlerinin kalitesini artırmaktadır (Akalin ve Demirbaş, 2022). Bu tür uygulamalar, sağlık yönetimi alanında stratejik insan kaynakları yönetimi süreçlerinin etkinliğini artırmakta ve sağlık kurumlarının performansını yükseltmektedir (Düzcü, 2024).

Yapay zekanın yönetim süreçlerine entegrasyonu, organizasyonların bilgiye daha bütüncül bir bakış açısıyla yaklaşımlarını sağlamaktadır. Örneğin, yapay zeka destekli tavsiye sistemleri, kurumlarda örtük bilginin ortaya çıkarılmasına yardımcı olmakta ve bu bilgi, kurum performansını artırmak için kullanılmaktadır (Yıldırım ve Özdemirci, 2019). Bu bağlamda, yapay zekanın yönetim alanındaki rolü, sadece operasyonel verimlilik sağlamakla kalmayıp, aynı zamanda stratejik karar alma süreçlerini de dönüştürmektedir.

Yönetim alanında yapay zekanın etkisi, sadece iç süreçlerle sınırlı kalmamaktadır. Yapay zekanın kullanımı, organizasyonların dış çevreleriyle olan etkileşimlerini de yeniden şekillendirmektedir. Örneğin, yapay zeka teknolojileri, müşteri ilişkileri yönetiminde daha kişiselleştirilmiş ve etkili iletişim stratejileri geliştirilmesine olanak tanımaktadır (Erişen ve Yılmaz, 2023). Bu durum, müşteri memnuniyetini artırmakta ve marka bağlılığını güçlendirmektedir.

Süreksiz inovasyonun yapay zeka ile birleşimi, organizasyonların yenilikçi çözümler geliştirme yeteneklerini artırmakta ve bu süreçte yapay zekanın sağladığı veri analitiği ve otomasyon avantajları, işletmelerin rekabetçiliklerini artırmaktadır (Kılınç, 2024). Örneğin, yapay zekanın kullanımı, işletmelerin pazar ihtiyaçlarına daha hızlı yanıt vermelerini sağlamak ve bu da inovasyon süreçlerini hızlandırmaktadır (Yastıoğlu, 2023). Bu bağlamda, yapay zekanın yönetim süreçlerine entegrasyonu, işletmelerin sürdürülebilir bir büyüme sağlamalarına yardımcı olmaktadır.

Yapay zeka ve yönetim ilişkisi, aynı zamanda etik ve hukuki boyutları da içermektedir. Yapay zekanın organizasyonel yapılar içinde nasıl konumlandırılacağı ve bu süreçte ortaya çıkabilecek sorumluluklar, günümüzde tartışılan önemli konular arasında yer almaktadır (Karadeniz, 2023). Yapay zekanın yönetim kurullarında yer alması ve bu bağlamda hukuki kişilik tartışmaları, organizasyonların gelecekteki yönetim yapılarının nasıl şekilleneceği konusunda belirleyici olacaktır (Kılıçarslan, 2019).

Sonuç olarak, yönetim yaklaşımının yapay zeka ve süreksiz inovasyon bağlamında değerlendirilmesi, organizasyonların rekabetçiliklerini artırma potansiyelini ortaya koymaktadır. Yapay zekanın sağladığı veri analitiği, otomasyon ve stratejik karar alma süreçlerindeki dönüşüm, işletmelerin yenilikçi çözümler geliştirmelerine olanak tanımaktadır. Bu süreçte, etik ve hukuki boyutların da göz önünde bulundurulması, yapay zekanın yönetim alanındaki entegrasyonunu daha sürdürülebilir hale getirecektir. Gelecekte, yapay zekanın yönetim süreçlerine entegrasyonu, organizasyonların başarısını belirleyen en önemli faktörlerden biri olacaktır.

3. SONUÇ

Çalışmanın temel amacı, yönetim yaklaşımının yapay zeka ile süreksiz inovasyon bağlamında nasıl değerlendirildiğini ve bu süreçlerin birbirleriyle olan ilişkisini anlamaktır. Sonuç olarak, yapay zeka teknolojisinin yönetim stratejileri üzerindeki etkileri ve süreksiz inovasyonun benimsenmesi, günümüz iş dünyasında giderek daha fazla önem kazanmaktadır.

Yapay zeka teknolojileri, işletmelerin veri toplama, işleme ve analiz etme yeteneklerini büyük ölçüde geliştirmiştir. Yapay zeka, işletmelere yalnızca verimlilik sağlamanın ötesinde, müşteri deneyimini geliştirme ve rekabet avantajı elde etme konusunda önemli fırsatlar sunmaktadır. Yönetim kurulu üyeleri ve yöneticiler, yapay zekanın sağladığı veriler sayesinde daha hızlı ve doğru kararlar alabilirken, piyasa taleplerine daha iyi yanıt verebilmektedir. Bu süreçte, veri odaklı karar alma kültürünün benimsenmesi, yönetim yaklaşımlarını önemli ölçüde dönüştürmektedir.

Süreksiz inovasyonun yapay zeka ile entegrasyonu, işletmelerin yenilikçi çözümler geliştirmelerini kolaylaştırmakta ve bu da rekabet ortamında belirleyici bir faktör haline gelmektedir. Geleneksel iş modellerinin yetersiz kaldığı bu yeni dönemde, yapay zeka uygulamaları, yeni iş fırsatlarının ortaya çıkmasına ve mevcut süreçlerin yeniden şekillendirilmesine olanak tanımaktadır. Yöneticiler, süreksiz inovasyonu destekleyen yapay zeka stratejileri geliştirerek, yalnızca ürün ve hizmetlerde değil, aynı zamanda iş yapma biçimlerinde de radikal değişiklikler gerçekleştirebilmektedir.

Ayrıca, yapay zeka ile süreksiz inovasyon arasındaki ilişki, organizasyonel kültür ve değişim yönetimi perspektifinden de değerlendirilmelidir. Yapay zekanın benimsenmesi, işletmelerdeki mevcut kültürel yapıların ve yönetim anlayışlarının gözden geçirilmesini gerektirmektedir. Yöneticilerin, yapay zeka teknolojilerini etkili bir şekilde entegre edebilmesi için çalışanları bu süreçlere dahil etmeleri ve değişim yönetimi stratejileri geliştirmeleri büyük önem taşımaktadır. Bu bağlamda, liderlik stilleri ve yönetim yaklaşımları, inovasyonun desteklenmesi ve organizasyonel değişimlerin gerçekleştirilmesi açısından kritik bir rol oynamaktadır.

Sonuç olarak, yönetim yaklaşımının yapay zeka ve süreksiz inovasyon bağlamında değerlendirilmesi, iş dünyasında önemli değişimlerin yaşandığını göstermektedir. Yapay zeka teknolojilerinin stratejik yönetim süreçlerine entegrasyonu, işletmelere yalnızca verimlilik kazandırmakla kalmayıp, aynı zamanda yeni fırsatlar yaratmakta ve rekabet avantajı

sağlamaktadır. Bu nedenle, yöneticilerin yapay zekanın sunduğu fırsatları ve süresiz inovasyonun getirdiği zorlukları dikkate alarak, stratejik kararlar alması ve organizasyonel kültürü bu değişimlere uygun hale getirmesi gerekmektedir.

Çalışma, yapay zekanın yönetim süreçlerindeki rolünü ve süresiz inovasyonun dinamiklerini anlamak için önemli bir temel sunmaktadır. İlerleyen dönemlerde, yapay zeka ve süresiz inovasyonun etkilerinin daha geniş çapta incelenmesi, yöneticilerin bu süreçleri daha iyi yönetebilmeleri için değerli bilgiler sağlayacaktır. Dolayısıyla, gelecekteki araştırmalar, yapay zeka teknolojilerinin iş süreçleri üzerindeki etkilerini ve yöneticilerin bu teknolojileri nasıl daha etkin bir şekilde kullanabileceklerine dair daha fazla bilgi sunmalıdır.

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ÜRETKEN YAPAY ZEKA VE ORGANİZASYONEL YENİLİK

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Özet: Bu çalışma, üretken yapay zeka kavramının temel özelliklerini, uygulama alanlarını ve organizasyonel yenilik süreçlerine olan etkilerini incelemektedir. Üretken yapay zeka, mevcut verilerden yararlanarak yeni ve özgün içerikler üretebilen bir yapay zeka türü olarak tanımlanmakta, makine öğrenimi ve derin öğrenme teknikleri kullanılarak geliştirilmektedir. Çalışmada, üretken yapay zekanın içerik oluşturma, tasarım, yazılım geliştirme ve veri analizi gibi farklı alanlardaki kullanımları detaylandırılmıştır. Ayrıca, üretken yapay zekanın organizasyonel yenilik süreçlerini nasıl hızlandırdığı, işletmelerin daha esnek ve yenilikçi hale gelmesine olanak tanıdığı üzerinde durulmuştur. Yapay zekanın karar alma süreçlerine sağladığı katkılar, müşteri ihtiyaçlarını anlama ve pazarlama stratejilerini geliştirme açısından ele alınmıştır. Bu çalışma, akademik literatürdeki yapay zeka odaklı çalışmaların sınırlı olduğu bir alanda, üretken yapay zekanın potansiyelini ve etkisini ortaya koyarak, hem araştırmacılara hem de pratik uygulayıcılara yeni bir bakış açısı sunmayı amaçlamaktadır.

Anahat Kelimeler: Yapay zeka, üretken yapay zeka, organizasyonel yapay zeka

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GENERATIVE AI AND ORGANIZATIONAL INNOVATION

Abstract: This study examines the basic features of the concept of generative artificial intelligence, its application areas, and its effects on organizational innovation processes. Generative artificial intelligence is defined as a type of artificial intelligence that can produce new and original content by using existing data, and is developed using machine learning and deep learning techniques. The study details the uses of generative artificial intelligence in different areas such as content creation, design, software development, and data analysis. In addition, it focuses on how generative artificial intelligence accelerates organizational innovation processes and enables businesses to become more flexible and innovative. The contributions of artificial intelligence to decision-making processes are discussed in terms of understanding customer needs and developing marketing strategies. This study aims to present a new perspective to both researchers and practitioners by revealing the potential and impact of generative artificial intelligence in an area where artificial intelligence-focused studies in academic literature are limited.

Key Words: Artificial intelligence, generative artificial intelligence, organizational artificial intelligence.

1. GİRİŞ

Günümüzde teknolojinin hızla gelişmesi, işletmelerin rekabet avantajı elde etmek için yenilikçi çözümler arayışını artırmıştır. Bu bağlamda, üretken yapay zeka kavramı, organizasyonel yenilik süreçlerinde önemli bir rol oynamaktadır. Üretken yapay zeka, mevcut veri setlerine dayanarak yeni içerikler, ürünler veya hizmetler üretebilen bir yapay zeka türüdür. Bu teknoloji, işletmelerin daha verimli çalışmasını sağlarken, aynı zamanda yenilikçi düşünme biçimlerini de teşvik etmektedir (Şenyapar, 2024).

Üretken yapay zeka, özellikle pazarlama, eğitim, sağlık ve mühendislik gibi birçok alanda uygulama bulmaktadır. Örneğin, pazarlama alanında, üretken yapay zeka, kişiselleştirilmiş kampanyalar oluşturmak ve müşteri deneyimini geliştirmek için kullanılmaktadır. Bu tür uygulamalar, işletmelerin müşteri memnuniyetini artırmalarına ve pazar paylarını genişletmelerine olanak tanımaktadır (Bozkurt, 2023). Eğitim alanında ise, üretken yapay zeka, öğrenme süreçlerini desteklemek ve öğrencilere özelleştirilmiş eğitim materyalleri sunmak için kullanılmaktadır (Avcı, 2024). Bu durum, eğitimde daha etkili ve verimli bir öğrenme ortamı yaratmaktadır.

Organizasyonel yenilik, bir işletmenin iç süreçlerinde yaptığı değişiklikler, yeni iş modelleri geliştirmesi veya mevcut hizmetlerin iyileştirilmesi anlamına gelir. Yenilik, işletmelerin rekabet avantajı elde etmeleri ve pazar paylarını artırmaları için kritik bir unsurdur. Organizasyonel yenilik, sadece ürün ve hizmetlerle sınırlı kalmayıp, aynı zamanda süreçlerin, yönetim biçimlerinin ve iş yapma yöntemlerinin de yenilenmesini kapsar (Yıldız, 2021). Bu bağlamda, üretken yapay

zeka, organizasyonel yenilik süreçlerini hızlandırarak, işletmelerin daha esnek ve yenilikçi olmalarına yardımcı olmaktadır. Üretken yapay zeka ve organizasyonel yenilik arasındaki ilişki, işletmelerin rekabet avantajı elde etmeleri ve pazar paylarını artırmaları açısından kritik bir öneme sahiptir. Üretken yapay zeka, organizasyonel yenilik süreçlerinde çeşitli avantajlar sunmaktadır. Öncelikle, üretken yapay zeka, veri analizi ve içgörü elde etme süreçlerini hızlandırarak, işletmelerin daha hızlı kararlar almasına olanak tanır. Bu, yenilikçi fikirlerin daha kısa sürede hayata geçirilmesini sağlar (Yastioğlu, 2023). Ayrıca, üretken yapay zekanın sunduğu otomasyon imkanları, çalışanların daha yaratıcı ve stratejik görevlere odaklanmalarını sağlayarak, organizasyonel yeniliği teşvik eder (Yastioğlu, 2023). Bununla birlikte, üretken yapay zeka, işletmelerin müşteri ihtiyaçlarını daha iyi anlamalarına yardımcı olur. Müşteri verilerini analiz ederek, işletmelerin hedef kitlelerine yönelik daha etkili pazarlama stratejileri geliştirmelerine olanak tanır. Bu durum, organizasyonel yenilik süreçlerinin müşteri odaklı hale gelmesini sağlar (Yılmaz ve Yılmaz, 2023). Örneğin, bir işletme, üretken yapay zeka kullanarak müşteri geri bildirimlerini analiz edebilir ve bu veriler doğrultusunda yeni ürünler geliştirebilir. Üretken yapay zeka teknolojilerinin işletmelerde kullanımı, birçok fırsat ve tehdit barındırmaktadır. Fırsatlar arasında, maliyetlerin düşürülmesi, süreçlerin hızlandırılması ve yenilikçi ürünlerin geliştirilmesi yer almaktadır. Ancak, bu teknolojilerin benimsenmesi, bazı zorlukları da beraberinde getirmektedir. Özellikle, veri güvenliği, etik sorunlar ve iş gücü üzerindeki etkileri gibi konular, işletmelerin dikkate alması gereken önemli unsurlardır (Yastioğlu, 2023; Ünal ve Kılınç, 2024).

Üretken yapay zeka, organizasyonel yenilik süreçlerinde önemli bir rol oynamaktadır. Bu teknoloji, işletmelerin daha verimli çalışmasını sağlarken, yenilikçi düşünme biçimlerini teşvik etmektedir. Üretken yapay zeka ile organizasyonel yenilik arasındaki ilişki, işletmelerin rekabet avantajı elde etmeleri ve pazar paylarını artırmaları açısından kritik bir öneme sahiptir. Ancak, bu teknolojilerin benimsenmesi sürecinde karşılaşılabilecek zorluklar ve tehditler de göz önünde bulundurulmalıdır. Gelecekte, üretken yapay zeka ve organizasyonel yenilik konularında daha fazla araştırma yapılması, bu alandaki bilgi birikimini artıracak ve işletmelerin stratejik karar alma süreçlerine katkı sağlayacaktır.

2. ÜRETKEN YAPAY ZEKA KAVRAMI VE ORGANİZASYONEL YENİLİK

"Yapay Zekâ" kavramı ilk olarak 1955 yılında John McCarthy ve ekibi tarafından Dartmouth Yaz Araştırma Projesi'nde ortaya atılmıştır. Bu çalışmada, makinelerin öğrenme ve zekâ yeteneklerini taklit edebileceği fikri öne sürülmüştür. Günümüz tanımlamalarında, Russell ve Norvig, yapay zekâyı çevresinden aldığı bilgiyi kullanarak eylemlerde bulunan sistemlerin analizi olarak açıklarken, UNICEF yapay zekâyı, insan hedeflerine yönelik tahminler yapabilen ve çevreyi etkileyen makine tabanlı sistemler olarak tanımlar. Üretken yapay zekâ ise, derin öğrenme ve sinir ağlarıyla eğitilmiş, insan benzeri dil yeteneklerine sahip sistemlerdir (McCarthy vd., 2006; Moor, 2006; Holmes vd., 2022; Bozkurt, 2023).

Üretken yapay zeka (Generative AI), var olan verileri kullanarak yeni, özgün ve gerçekçi içerikler üretebilen yapay zeka sistemlerini tanımlayan bir kavramdır. Yapay zeka teknolojisinin hızla ilerlemesiyle birlikte üretken yapay zeka, derin öğrenme ve yapay sinir ağları gibi yöntemlerle büyük bir gelişim kaydetmiştir. Bu teknoloji, özellikle denetimsiz ve yarı denetimli öğrenme yaklaşımlarını kullanarak geniş veri setlerinden öğrenebilme kapasitesine sahiptir. Bu süreçler sayesinde, model daha önce karşılaşmadığı yeni içerikler oluşturabilmektedir. Üretken yapay zeka, makine öğrenimi ve derin öğrenme tekniklerinden faydalananak verilerden öğrenme ve yeni örnekler oluşturma yetisi kazanmaktadır. Özellikle içerik üretimi, tasarım, yazılım geliştirme ve veri analizi gibi alanlarda sıkça kullanılan bu teknoloji, ChatGPT gibi modeller aracılığıyla metin üretme yetenekleri sayesinde pazarlama, müşteri hizmetleri ve içerik yönetimi gibi alanlarda büyük kolaylıklar sağlamaktadır (Gök ve Öztürk, 2022). Başka bir ifadeyle üretken yapay zeka, metin, görsel, ses ve sentetik veri gibi çeşitli veri türlerini oluşturabilen bir yapay zeka türüdür. Bu sistemler, diğer yapay zeka uygulamalarından farklı olarak, mevcut içerikleri analiz etmekle kalmaz, aynı zamanda tamamen yeni ve özgün içerikler yaratma yeteneğine de sahiptir. Örneğin, günümüzde birçok yapay zeka modeli, iki mevcut görsel arasındaki farklılıkları tanımlamak için eğitilerek sınıflandırıcı işlevi görebilirken, üretken yapay zeka, daha önce hiç var olmamış bir görseli sıfırdan oluşturma becerisine sahiptir. Bu özellik, üretken yapay zekâyı yaratıcı süreçlerde ve yeni içerik geliştirmede son derece değerli bir araç haline getirmektedir (Ünal ve Kılınç, 2024).

Üretken yapay zeka, organizasyonel yenilik süreçlerinde birçok fayda sunar. İlk olarak, üretken yapay zeka, veri analizini hızlandırarak ve verilerden içgörüler elde etme süreçlerini optimize ederek, işletmelerin daha hızlı ve bilinçli kararlar almasına katkıda bulunur. Bu durum, yeni fikirlerin ve yenilikçi projelerin çok daha kısa süreler içinde hayata geçirilmesini kolaylaştırır (Sargın, 2023). Aynı zamanda, üretken yapay zekanın sağladığı otomasyon imkanları, rutin iş yüklerini azaltarak çalışanların daha yaratıcı, stratejik ve yenilik odaklı görevlere yönelmelerini teşvik eder. Bu sayede işletmelerin inovasyon kapasitesi de artmış olur (Kuyulu, 2023).

Bunun yanı sıra, üretken yapay zeka, işletmelere müşteri taleplerini ve ihtiyaçlarını daha iyi anlama fırsatı sunar. Müşteri verilerini etkili bir şekilde analiz ederek, işletmelerin hedef kitlelerine yönelik daha etkili ve kişiselleştirilmiş pazarlama stratejileri geliştirmesine olanak tanır. Böylece, organizasyonel yenilik süreçleri daha müşteri odaklı hale gelir ve işletmeler, müşteri geri bildirimlerini dikkate alarak daha isabetli ve yenilikçi ürünler geliştirebilir (Akbolat vd., 2018). Örneğin, bir işletme, üretken yapay zeka sayesinde müşteri memnuniyeti anketlerini analiz edebilir ve bu analiz sonuçlarına dayanarak yeni ürünler veya hizmetler tasarlayabilir.

Son yıllarda yapay zekâ alanındaki ilerlemeler, çeşitli alanlardan akademisyenlerin dikkatini çekmiş ve bu teknolojinin potansiyelini keşfetmeye yönelik çalışmalar hız kazanmıştır. Özellikle yapay zekânın turizm pazarlaması üzerindeki etkileri, öne çıkan konulardan biri haline gelmiştir. Geleneksel arama motorlarının yerine, kişiselleştirilmiş öneriler sunabilen yapay zekâ teknolojilerinin yakın gelecekte daha yaygın kullanılacağı öngörülmektedir (Alafnan vd., 2023).

Yapay zekânın pazarlama stratejilerini köklü bir şekilde değiştireceği düşünülse de, yapay zekâ dil modellerinin pazarlama süreçlerinde nasıl kullanılacağına dair belirsizlikler sürmektedir. Günümüzde turizm sektöründeki işletmeler, çevrimiçi platformlar ve sosyal medyada daha güçlü etkileşimler kurma ihtiyacı duymakta ve yapay zekânın bu süreçlerdeki etkisi giderek daha belirgin hale gelmektedir (Guzzo vd., 2022).

Üretken yapay zekâ, karmaşık verilerden içerik üreten derin öğrenme modelleri kullanılarak çeşitli endüstrilerde başarılı bir şekilde uygulanmaktadır (Lim vd., 2023). ChatGPT gibi dil modelleri, özellikle insan diline benzer metinler oluşturarak gerçekçi diyaloglar sunabilmektedir (Tlili vd., 2023). Bu teknoloji, turizmde kişiselleştirilmiş tatil önerileri sağlayarak pazarlama alanında büyük bir devrim yaratma potansiyeline sahiptir. Yapay zekâ, turizm işletmelerinin müşteri beklentilerini daha iyi anlamalarını sağlayarak genel müşteri deneyimlerini geliştirmelerine katkı sunmaktadır (Akpur, 2023).

Organizasyonel yenilik, bir işletmenin iç süreçlerinde yaptığı değişiklikler, yeni iş modelleri geliştirmesi veya mevcut hizmetlerin iyileştirilmesi anlamına gelir. Yenilik, işletmelerin rekabet avantajı elde etmeleri ve pazar paylarını artırmaları için kritik bir unsurdur. Organizasyonel yenilik, sadece ürün ve hizmetlerle sınırlı kalmayıp, aynı zamanda süreçlerin, yönetim biçimlerinin ve iş yapma yöntemlerinin de yenilenmesini kapsar (Cao, 2023). Bu bağlamda, üretken yapay zeka, organizasyonel yenilik süreçlerini hızlandırarak, işletmelerin daha esnek ve yenilikçi olmalarına yardımcı olmaktadır.

Üretken yapay zeka, organizasyonel yenilik süreçlerinde çeşitli avantajlar sunmaktadır. Öncelikle, üretken yapay zeka, veri analizi ve içgörü elde etme süreçlerini hızlandırarak, işletmelerin daha hızlı kararlar almasına olanak tanır. Bu, yenilikçi fikirlerin daha kısa sürede hayata geçirilmesini sağlar (Müller vd., 2022). Ayrıca, üretken yapay zekanın sunduğu otomasyon imkanları, çalışanların daha yaratıcı ve stratejik görevlere odaklanmalarını sağlayarak, organizasyonel yeniliği teşvik eder (Ozar ve Koca, 2024). Bununla birlikte, üretken yapay zeka, işletmelerin müşteri ihtiyaçlarını daha iyi anlamalarına yardımcı olur. Müşteri verilerini analiz ederek, işletmelerin hedef kitlelerine yönelik daha etkili pazarlama stratejileri geliştirmelerine olanak tanır. Bu durum, organizasyonel yenilik süreçlerinin müşteri odaklı hale gelmesini sağlar. Örneğin, bir işletme, üretken yapay zeka kullanarak müşteri geri bildirimlerini analiz edebilir ve bu veriler doğrultusunda yeni ürünler geliştirebilir.

Üretken yapay zeka teknolojilerinin işletmelerde kullanımı, birçok fırsat ve tehdit barındırmaktadır. Fırsatlar arasında, maliyetlerin düşürülmesi, süreçlerin hızlandırılması ve yenilikçi ürünlerin geliştirilmesi yer almaktadır. Ancak, bu teknolojilerin benimsenmesi, bazı zorlukları da beraberinde getirmektedir. Özellikle, veri güvenliği, etik sorunlar ve iş gücü üzerindeki etkileri gibi konular, işletmelerin dikkate alması gereken önemli unsurlardır (Bozkurt, 2023).

3.SONUÇ

Üretken yapay zeka , günümüz iş dünyasında organizasyonel yenilik süreçlerinin dönüştürülmesinde kritik bir rol oynamaktadır. Bu çalışmada, üretken yapay zekanın organizasyonel yenilik üzerindeki etkileri incelenmiş ve üretken yapay zekanın işletmelerin yaratıcı kapasitelerini artırma, karar alma süreçlerini hızlandırma ve müşteri odaklı stratejilerin geliştirilmesine katkı sağlama potansiyeli vurgulanmaktadır.

Üretken yapay zeka, geleneksel veri analizi yöntemlerinin ötesine geçerek, büyük veri setlerinden derin içgörüler çıkarma yeteneği ile öne çıkmaktadır. İşletmeler, bu teknoloji sayesinde müşteri geri bildirimlerini ve pazar eğilimlerini daha hızlı bir şekilde analiz edebilmekte ve bu analizleri yenilikçi ürün ve hizmet geliştirme süreçlerine entegre edebilmektedir. Ayrıca, üretken yapay zekanın sunduğu otomasyon imkanları, çalışanların daha yaratıcı ve stratejik görevlere odaklanmalarını sağlayarak, organizasyonel yeniliği teşvik etmektedir. Bu durum, işletmelerin rekabet avantajı elde etmelerini ve pazar paylarını artırmalarını kolaylaştırmaktadır.

Bununla birlikte, üretken yapay zekanın organizasyonel yenilik süreçlerine entegre edilmesi, sadece teknolojik bir değişim değil, aynı zamanda kültürel bir dönüşümü de gerektirmektedir. İşletmelerin, çalışanların yenilikçi düşünme becerilerini desteklemesi ve üretken yapay zekayı etkili bir şekilde kullanabilmeleri için eğitim ve gelişim fırsatları sunması önem arz etmektedir. Bu bağlamda, işletmelerin yapay zeka uygulamalarını benimsemeleri, yalnızca teknolojiye yatırım yapmakla kalmayıp, aynı zamanda insan kaynağını da güçlendirmeyi hedeflemelidir.

Öte yandan, üretken yapay zeka ile ilgili bazı zorluklar da göz önünde bulundurulmalıdır. Veri gizliliği, etik kullanım ve yapay zeka sistemlerinin önyargı içermesi gibi konular, organizasyonel yenilik süreçlerini etkileyebilir. Bu nedenle, işletmelerin üretken yapay zekayı kullanırken bu etik ve sosyal sorumlulukları dikkate alması gerekmektedir. Aksi takdirde, bu teknolojilerin yaratacağı olumsuz etkiler, uzun vadede işletmelerin itibarı ve sürdürülebilirliği üzerinde olumsuz sonuçlar doğurabilir.

Sonuç olarak, üretken yapay zeka, organizasyonel yenilik süreçlerini hızlandırma ve geliştirme potansiyeline sahip önemli bir araçtır. İşletmeler, bu teknolojiyi etkili bir şekilde kullanarak, yaratıcı kapasitelerini artırabilir, müşteri ihtiyaçlarını daha iyi anlayabilir ve sonuç olarak daha yenilikçi ürün ve hizmetler sunabilir. Ancak, bu potansiyelin gerçekleştirilmesi için, teknolojinin yanı sıra insan odaklı bir yaklaşım benimsemek ve etik sorumlulukları unutmamak gerekmektedir. Üretken yapay zeka, doğru bir şekilde yönlendirildiğinde, işletmelere rekabet avantajı sağlamakta ve pazar dinamiklerini olumlu yönde değiştirmektedir. Gelecekte, organizasyonların üretken yapay zekayı benimsemeleri, sadece iş süreçlerini değil, aynı zamanda iş yapma biçimlerini de köklü bir şekilde değiştirebilir. Bu nedenle, organizasyonel yenilik ve üretken yapay zeka arasındaki etkileşimlerin daha derinlemesine incelenmesi, bu alandaki gelecekteki araştırmalar için önemli bir fırsat sunmaktadır.

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HUMAN-NATURE RELATIONSHIP AND ENVIRONMENT

Nilüfer Negiz

Abstract: While history witnessed the struggle between man and nature, as the domination of nature turned into the domination of man, man began to endanger and harm the elements of the environment of which he is a part, such as air, water, soil and underground resources. Human beings are the highest living beings of the ecosystem. While searching for answers to its place and power in the ecosystem; It is seen that it intervenes excessively in the functioning of the ecosystem. With the industrial revolution, humans tried to dominate nature; It has caused deep wounds in the ecosystem in a very short time since the revolutions. The balance that has been disturbed against nature has left humanity in danger of rapid deterioration of the environment, degeneration or extinction of environmental values. The history of environmental problems is almost as old as human history. The environmental understanding of ancient civilizations was primarily shaped within the framework of their beliefs, and then the environmental awareness of these societies was formed with the environmental problems encountered and some primitive measures taken to eliminate these problems.

In this study, environmental understanding and awareness from ancient civilizations to today will be discussed on the basis of human-nature relationship. The change in the environmental understanding of pre-industrial societies under the influence of the industrial revolution and the consequences of man's domination of nature with reason and science will be examined through examples of today's environmental problems. The subject was examined theoretically from the perspective of urban/civilization history and environmental sciences using literature review and document analysis methods.

Keywords: Environment, Pollution, Environmental Problems, Industrial Revolution.

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1. GİRİŞ

Tarih insanla doğanın mücadelesine sahne olurken, tabiatın hakimiyeti insanın hakimiyetine dönüştükçe insan, parçası olduğu çevrenin hava, su, toprak ve yeraltı kaynakları gibi unsurlarını tehlikeye düşürmeye ve onlara zarar vermeye başlamıştır. İnsan, ekosistemin canlı varlıklarının en üstünüdür. Ekosistem içindeki yerine ve gücüne yanıt ararken; ekosistemin işleyiş kurgusuna haddinden fazla müdahale ettiği görülür. Sanayi devrimi ile birlikte doğaya hükmetmeye çalışan insan; devrimlerinden bugüne oldukça kısa bir sürede ekosistemde derin yaralar açmıştır. Tabiatın aleyhine bozulan denge, insanlığı çevrenin hızla bozulması, çevre değerlerinin yozlaşması ya da yok olup gitmesi tehlikesiyle karşı karşıya bırakmıştır. Çevre sorunlarının tarihi, hemen hemen insanlık tarihi kadar eskilere dayanmaktadır. Antik uygarlıkların çevre anlayışları, öncelikli olarak inanış biçimleri çerçevesinde şekillenmiş, sonrasında karşılaşılan çevre sorunları ile bu sorunları gidermeye yönelik alınan bir takım primitif önlemlerle, bu toplumların çevresel farkındalıkları oluşmuştur.

İnsan var olduğu günden bugüne doğa ile sürekli bir etkileşim içerisinde. İlk insan topluluklarında doğa ile etkileşim, insanın yaşamını devam ettirebilme kaygısıyla doğayı gözlemlemesi ve bu gözlemlere dayanarak birtakım çıkarımlarda bulunarak, yaşamını düzenlemesinden ibaretti. Arkeoloji ve uygarlıkların tarihi insanlığın varoluştan günümüze kadar iki büyük devrimi gerçekleştirdiğini sunmaktadır. Birincisi tarım devrimi..İkincisi sanayi devrimi. Bu devrimler insan-doğa ilişkisini de belirlemektedir. Sanayi devrimi öncesi ve sanayi devrimi ve sonrası biçiminde iki dönem; kullanılan teknolojiden bahisle doğayla olan mesafelerini ve güç/güçlü durumunu da belirlemiştir.

İnsan-doğa ilişkisinde ilk olarak doğanın hüküm sürdüğü ve insanın uyum sağladığı anlayıştan; insanın doğaya hükmetme çabası ve arzusunun olduğu anlayışa doğru bir geçiş yaşandı. Sanayi devrimi öncesi toplumların doğayla uzlaşan yaşam biçiminin ardından, sanayi toplumuna geçilirken geliştirilen teknoloji ve kullanılan enerji kaynakları ile doğa ve çevre anlayışı giderek aşınmıştır. Konuya bu açıdan bakıldığında; çevre sorunlarının, insanın kendi evrimini gerçekleştirdiği süreçte aklını kullanarak keşfettiği teknoloji ile doğal yaşam alanlarına zarar vermesi sonucu ile karşımıza çıkan sorunlar dizgisi olduğunu söyleyebiliriz. İnsanın doğaya hükmetme anlayışının sonucu olarak oluşan, biriken ve giderek büyüyen kirlilik, bugün sınırları aşmış ve küresel nitelik kazanmıştır.

İnsan, Paleolitik Çağ'dan itibaren evrene hâkim olan, onu yöneten bir tanrı anlayışına ulaşmış ve onu gök/ulu tanrı olarak adlandırmıştır. Bu ulu tanrı aynı zamanda kabahatli olanları cezalandırma gücüne de sahiptir. Homo Sapiens'in aklını kullanması ve araç gereç üretimi onun daha üst gelişmişliğe çıkışını sağlamıştır. Böylece aklını kullanabilen insan zamanla, rasyonaliteyi kullanmaya başlamış ve erken topluluklar logos ile mitosu birlikte işlevsel bir şekilde kullanabilmiştir. Yani, bir taraftan logos aracılığıyla araç gereçler üretip hayatta kalmaya çalışırken diğer taraftan da kendini aşan ve anlamlandıramadığı unsurları mitler aracılığıyla anlamaya ve anlamlandırmaya çalışmıştır (Özkan, 2023:2). Armstrong'un da ifade ettiği gibi, *gökyüzü akıl almaz, uçsuz bucaksız, erişilmezdi; ne başı vardı ne sonu. Aşkın ve öteki olmanın ta kendisiydi*. İnsanın gücünün üzerinde bir doğa, ondan korkulmasını, saygı duyulmasını ve her zaman da merak duygusunu taze tutmayı sağlamıştır. Bu nedenle doğa üstün anlayışıyla şekillenen insanlığın ilk gelişim evresi: paleolitik ve neolitik. Doğaya hükmetme gücünü sağlayacak bilimsel ve teolojik birikim: ortaçağ ve aydınlanma çağı. Son olarak doğaya tahakkümün başladığı son evre: sanayi devrimi ve sonrası...

2. MATERYAL VE METOT

Bu çalışmada antik uygarlıklardan bugüne çevre anlayışı ve farkındalığı insan-doğa ilişkisi temelinde ele alınmıştır. Sanayi öncesi toplumların çevre anlayışının sanayi devrimi etkisi ile değişimine ve insanın doğaya akıl ve bilimle hükmedişinin yarattığı sonuçlara bugünün çevresel sorunları örnekleri üzerinden tartışılmaktadır. Kent/uygarlık tarihi ve çevre bilimleri perspektifi ile konu; literatür incelemesi ve doküman analizi yöntemleri ile kuramsal olarak irdelenmiştir.

3. BULGULAR

İnsanoğlu avcı toplayıcı olarak yaşadığı en erken döneminde avlanmak, beslenmek ve kendini korumak için çabalamış ardından yerleşik hayata ve tarım toplumuna geçmiştir. Bu değişim ile insan; ekip biçerek, doğayı-gökyüzünü gözlemleyerek takvimler oluşturarak, gıda ve güvenlik bakımından yaşadığı bölgeyi kontrol altında tutmaya çalışmıştır. Bu süreç uzun ve deneyimsel bir birikimi ifade ederken; ihtiyaçları doğrultusunda alet/araç keşfetmek insanoğlunun teknoloji keşif sürecini de başlatmıştır. Besin temininin yanı sıra, temin edilen besinin ihtiyaç fazlasını depolaması; bir yandan “organize olmayı” getirirken; diğer yandan “yazının keşfini” de beraberinde getirmiştir. Ayrıca artı ürünün birikime konu edilmesi ve kayıt altına alınmasının bir diğer kazanımı fazla ürünün ticarete konu edilmesi yani “takas ekonomisinin” doğması olmuştur. Geliştirdiği tekniklerle yaşamı daha konforlu hale gelen, toplumsal düzeni inşa eden ve kendine korunaklı bir yaşam alanı kuran insan, ihtiyaçlarının yanı sıra merakla çevresine ve evrene ilişkin sorular sormaya devam etmiştir. Bu sorular karşısında sistematik olarak gözlem ve özellikle depolanan ürünün kayıt altına alma gereksinimi yazının ardından da zamanla çeşitli bilim dallarını keşfetmenin yolunu açmıştır. Astroloji, matematik, geometri gibi... Sonuç olarak, bir bölgede yaşamı daimi olarak idame ettirmek -coğrafi özelliklere, iklim ve toprak yapısına ve kaynaklara bağlı olarak- yazılı kültürlerin şekillenmesini, basit yerleşimden kentlere, kentlerden de imparatorluklara geçişi sağlamıştır.

Antik dönemin çevre anlayışını anlayabilmek için yerleşim tarihine bakmak gerekir. Bu anlamda öne çıkan coğrafyalar Mezopotamya, Anadolu ve Mısır, erken ilkler anlamında önem taşımaktadır.

Mezopotamya, iki nehir arasındaki bereketli topraklar. Yüksek kültürlerin oluşma alanı olarak bu coğrafyada yerleşik düzene geçiş İ.Ö. VI. binden itibaren hem iklimsel göstergeler hem de insanların toplu halde birlikte yaşayabilme becerileri ile ilişkilidir. Arkeolojik veriler bu coğrafyada V.binde sulu tarımla uğraşıldığını göstermektedir. Yine bu coğrafyada, basit köy yerleşimlerinin başladığı neolitik çağdan kalkolitik çağa yani, köy yerleşiminden kente geçişin ilk örneklerini sunmaktadır.

Mezopotamya medeniyetlerinde tabiat insanların ve onların efendisi olan tanrıların hizmetindedir. Mezopotamya tanrılarının eski anlayış çerçevesinde tabii ilahlar olarak nitelendirilmeleri muhafaza edilmekle birlikte, esas olarak düzeni, şehirleri koruyan, devleti ve toplumu destekleyen, yeryüzündeki tanrısal düzeni verimli hale getirecek çalışmaları cesaretlendiren, şekilde oldukları kabul edilirdi. Mezopotamya şehirlerinin ortaya çıkışı ile insanoğlu ve çevre arasındaki ilişkinin değiştiği, daha yoğun bir şekilde tarımda toprağın sürülmesi ve geniş kapsamlı, düzenli sulamanın yapılması yöntemlerinin kullanıldığı ortaya koyulmaktadır (Söğüt, 2012:39). Bu coğrafya Sümerlerin yazıyı keşfetmesi başlayan toplumsal düzen hukuk kurallarının da bu topraklarda ilk olarak düzenlenmesini sağlamıştır. Hukuk metinleri içinde bazı örnekler bu erken kadim uygarlıkların doğaya karşı tutumunu sunmaktadır. Örneğin, Hammurabi kanunlarından önce olduğu keşfedilen *Lipit-Ishtar* kodeksinin ele geçen paragraflarında, gemi kirası, mülkiyet, köle hukuku, tımar görevleri, veraset hukuku, evlenme hukuku ve hayvan kiralama meselelerinden bahsedilmektedir. Örneğin, bir adam, diğer bir adamın bahçesinde bir ağacı keserse, ceza olarak yarım mine gümüş (250 gr. öder; altın sikke o zaman hâlâ bilinmiyordu) ödemek durumunda idi (Sevimcan, 1950:381). Bu coğrafyada kaleme alınan Hammurabi Kanunlarında da doğaya ilişkin hükümler yer almaktadır. Kanununun 53. ve 56. maddeleri arasındaki hükümler, özellikle suların idaresine ilişkindir. Bununla birlikte 53. Maddede bir kişi, arazisinin etrafını çevirmekte ve güçlendirmekte ihmalkâr davranmışsa ve bu ihmali suların ekili araziye geçmesine neden olmuşsa, bu ihmali gösteren kişi arazi sahibine tahıllarının yenisini vererek, zararını tazmin etmekle yükümlü tutulmuştur. Şayet tahılları yeniden tedarik etme imkânı yok ise, kişinin kendisi satılarak veya malvarlığı tahılları sular altında kalanlar arasında paylaştırılarak, zararı tazmin yoluna gidilebiliyordu (54. md.) Hammurabi Kanunu'ndan sonra, takip eden medeniyetler tarafından da suların kontrolüne ilişkin benzer hükümler içeren

düzenlemeler yapılmıştır. Yaklaşık bin yıl sonra, yeni Babil Kanunu'nun 3. md.'sinde, sarnıcını sulama için kazan ancak etrafını güçlendirmeyerek, komşusunun arazisinde su baskını olmasına neden olan kimsenin, su taşkını sebebiyle neden olduğu zararı tazmin edeceği düzenlenmiştir (Tanilli, 2001:65).

Anadolu coğrafyası için ise, yerleşimin İ.Ö. 9.000 civarında başladığı anlaşılmaktadır. Anadolu'nun erken yerleşik kültürlerinde de doğanın üstünlüğü insanın doğa karşısındaki yeri, özellikle paganist inanışta görülmektedir. Anadolu'nun binlerce yıllık tüm kültürlerinde görülen farklı inanç ve din öğretilerinin hemen hepsinde Ana Tanrıça inancının varlığı görülür. Ana Tanrıça Kybele'nin, doğurganlığı, üremeyi, yaşamın devamlılığını ve dolayısıyla bereketi sembolize eder (Erkan, Yılmaz, 2022:500). Bu bölgenin de tıpkı Mezopotamya gibi, erken yerleşimlerinin ardından kent ve merkezi imparatorluk kurma sürecine İ.Ö.II. binden itibaren ulaştığını Anadolu'nun kadim uygarlığı Hititler örneğinde görebiliyoruz (Negiz, 2018). Yine Hititler antik dönem içinde ama basit yerleşimden farklı kent, devlet hatta imparatorluk düzenleriyle, yine doğa ile uyumlu yaşadıklarını hem inanış sistemlerinde hem de oluşturdıkları kent yerleşimlerinde sunmaktadır. Toprak, hava ve su kısaca ekosistemin, doğanın ana aktörlerinin Hitit toplumsal, yönetsel ve dinsel yaşamında önemli bir yerde olduğu söylenebilir. Zira Hititlerden bugüne ulaşan pek çok anıtta özellikle “su” konusundaki hassasiyetleri de görülmektedir. (Eflatunpınar gibi...)

Gerek Mezopotamya gerek Anadolu gerekse kıta Yunanistan coğrafyasında yer alan antik kent yerleşimlerinde tespit edilen kanalizasyon sistemleri, evleri, kentin yapılarını ve sokaklarını temiz tutmak, yağmur sel gibi felaketleri önlemek ve atık suları kentten uzaklaştırmak için kurgulanmıştır. Kanallar yoluyla toplanan atıklar, kent sınırı dışına ya da uygun biçimde -dere, çay gibi- akarsulara boşaltılmaktaydı. Arkeolojik bulgular bize M.Ö. III. Binde gelişen kentleşmeyle birlikte kanalların sistemli bir şekilde yapıldığı görülmektedir. (Yılmaz, 2009:22-25). Mezopotamya'dan Ege'ye ve Anadolu'ya uzanan yerleşik yaşam göstergeleri erken dönemlerden itibaren atık su kanallarının varlığını göstermektedir (Yılmaz, 2009:28-29; Akbulut, 2014).

Çok tanrılı birçok din gibi Mısır'da da doğa olayları ve coğrafi faktörler insanların dini inançlarının ana temelleridir. Özellikle güneş ve Nil Nehri Mısırlılar için kutsal sayılmakta idi. Ayrıca mısırlılar bazı hayvanları da kutsal saymıştır. Mısır inancı tabiatı, sürdürülebilirliği temin eden kutsal bir güç olarak kabul etmiş ve insanları ona müdahale etmek yerine, onunla iş birliği yapmaya zorlamıştır. Eski Mısır'da yazılmış birçok öğüt metninde, Maat'a uygun yaşamak hem yönetilen sınıf için hem de yönetici sınıftaki memurların hayat gerekçesi olarak gösterilmiştir (Ercüment, 2022:240). Bu sistemin yeri ve düzeninin, kendisine dengenin tanrısallığı atfedilmiş olan, doğruluk ve adalet tanrıçası Ma'at tarafından sağlandığına inanılırdı. Bu sebeple Antik Mısırlılar tabiatı, yaradılıştan itibaren tanrıça Ma'at tarafından sağlanan kutsal denge olarak algılamışlardır. Doğanın parçalarına saygı duyan ve yer yer kutsiyet veren bu toplumda Nil nehrinin temiz tutulmasına özel bir önem verilirdi. Bu korumanın temelinde, *Nil nehrini kirletenlerin cennete gidemeyeceği inancı* yatmaktaydı. Antik Mısırlılar Nil nehrinin sularını, hayatlarının kaynağı olarak nitelendirdikleri için, suların kirlilikten korunmasına özel önem gösterirlerdi (Söğüt, 2012:46)

Son olarak, Ege dünyasına bakıldığında; bu coğrafyada karşımıza Girit ve Miken uygarlıkları çıkar. Ege uygarlıkları hakkında, 20. yüzyılda bölgede ve komşu ülkelerde yapılan sistemli kazılarla, bilinebilen eski tarihine kadar ulaşılabilmiş ve burada başlayan yüksek uygarlığın Yunanistan ile değil; daha öncesinde başladığı ve Yunanistan'ın bölgenin bu geçmiş uygarlığının mirasçısı olduğu anlaşılmıştır (Mansel, 2014:11). Bölgede geçmişin birikimi ile yükselen Yunan uygarlığı bilim ve sanat tarihi açısından tarihte öne çıkan en önemli uygarlık olduğu söylenebilir. Başka hiçbir toplumda benzeri olmayan bir kent modeli “polis” geliştirerek, özgür düşünce ve bilimsel bilginin doğuşunda başat olmuşlardır. İnşa ettiği toplumsal düzeni doğa ile eşleştirdiği bir inanç sistemi ile şekillendiren Yunan toplumunda, doğayı akıl ile kavrama ve açıklama çabası, doğada rasyonel bir düzenlilik olduğu varsayımını gerektirmiş ve bu düzenliliğe sahip doğa düzeni “kozmos”, bu düzenliliğin yokluğu ise “kaos” olarak adlandırılmıştır. Bu iki özellik doğada mevcut olmakla birlikte kozmos, doğanın esas özelliği olarak görülmüştür (Bahadır, 2022:137).

Klasik Yunan'da ve Roma'da yeryüzü en eski tanrıça, tüm yaratılanların anası, Ge mētēr pantōn, Terra Mater, toprak ana olarak kabul edilmekteydi. Yeryüzünün tanrıça olarak algılanması, Akdeniz topraklarında tarih öncesi döneme kadar uzanmaktadır. Bu anlayış çerçevesinde, yeryüzü iyi yapılan tarımı ödüllendirirken, savurganlığı ve işe yaramazlığı cezalandırmaktadır. Bu durumda, çevre problemleri, yeryüzünün ona karşı doğru davranışlarda bulunmayanlardan intikam alış şekli olarak algılanmaktaydı (Söğüt, 2012:54). Xenophon ve Platon'dan aşağıda verilen örnekler doğanın insan karşısında üstünlüğünü gösterir niteliktedir (Huhges, 2009 ve Hughes 2005; Aktaran: Söğüt, 2012:59):

“Yeryüzü asla oyun oynamaz, ne yapabileceğini ve ne yapamayacağını tanrısal bir esinle açıkça ve dosdoğru şekilde bildirir. Çünkü yeryüzü, insanoğlunun bilgisinden ve anlayışından hiçbir şeyi gizli tutmamaktadır”. (Xenophon)
“Yeryüzü, hasatta ürün vermenin tüm canlılar için yiyecek temin ettiğini göz önünde tutar. Şayet rüzgar ve yağmur haddinden fazla ve mevsimsiz olur ve bu sebeple herhangi bir şey zarar görürse, bu tanrısal değildir. Bu suçu, hayatını gereği gibi düzenleyememiş insanoğlu yüklenmelidir” (Platon).

M.S. 476 Batı Roma İmparatorluğunun yıkılışını başlangıcı ve 1453 İstanbul'un fethini de bitişi olarak kabul ettiğimiz Ortaçağ'da, kent ve kentsel yaşama şeklini veren Hristiyanlık dini olmuştur. Roma İmparatorluğu'nun ikiye ayrılması ve Batı Roma İmparatorluğu'nun yıkılmasıyla başlayan orta çağda, “feodalizm” adı verilen bir sistem doğdu. Dönemin

insan-doğa ilişkisi bağlamında kritiğinde, Hristiyanlık inancının, “insanın tabiata hakim olma” fikrinin meşrulaştırdığı görülmektedir. Lyyen White’ın 1968 yılında yayınladığı “Çevre Krizinin Kökenleri” isimli çalışmasında, çevre krizinin temelini insan-merkezli (antropocentric) Yahudi-Hristiyan dini geleneğini koymakta ve “doğaya hükmetme” varsayımının bu anlayıştan beslendiğini ifade etmektedir (Özdemir, 1998:69).

Aklını kullanabilen insanın çeşitli araç-gereçler yapması, onun doğaya egemen olmaya başlamasında öncü olmuştur. Başlangıçta temel gereksinimlerin karşılanması için yapılan aletlerin gelişerek, çeşitlenmesi insanlık tarihinin ikinci dönüm noktası kabul edilen Sanayi Devrimine zemin hazırladı. Buharın sanayiye girmesiyle kol gücünün yerini makinalar almaya başladı. İnsanın aklını kullanma kapasitesinin daha önce görülmemiş bir düzeye ulaşması, insanın teknolojinin tüm imkânlarını kullanarak, kitlesel üretime geçmesini beraberinde getirdi.

Bilimsel düşünce tarihine bakıldığında, insan-doğa ilişkisinin seyrinin Rönesans’la başlayan ve Aydınlanma döneminde devam eden bir dizi düşünsel hareketin ardından değiştiğini görürüz. Rönesans Döneminin düşünsel zemini, orta çağın skolastik düşüncesini yıkararak, insanın doğallığı, özgürlüğü ve etkinliğinin ön plana çıkararak bir dizi reform ve çalışma sonrasında; insanı merkeze alan bir bakış açısıyla şekillen insan-doğa ilişkisini karşımıza çıkarmıştır. Hümanizm Akımı, Martin Luther’in (1483-1546) başlattığı reform hareketi, Kopernik ve eseri “Göksel Kürelerin Devinimleri Üzerine” gibi adımlar, düşünsel zemini oluşturan ilkler arasındadır (Zengin, 2019:19-21; Şahin, 2015:52-53). XVII. yüzyıla gelindiğinde ise Kopernik, Kepler, Galileo, Newton gibi bilim insanlarının çalışmaları ile insan; “aklı” sayesinde doğada ayrıcalıklı bir konuma yerleştirilmeye başlanmıştır. İnsanın aklını kullanarak bilim yapabilmesi için öncelikle özgürleşmesi gerekmektedir ki; bu da Fransız Devrimi ile gerçekleşmiştir. Sonuç olarak, aydınlanma filozofları insanı akıl sayesinde doğa karşısında yücelterek, insanın insan dışında hiçbir şeye karşı ahlaki bir sorumluluğunun olmadığı düşüncesini yerleştirmesi ile insanın doğa karşısında eylemlerinin yolunu da açmışlardır (Zengin, 2019:17-26). XVIII. yüzyılın ikinci yarısında İngiltere’de gerçekleşen ekonomik, teknolojik ve nihayetinde de demografik değişiklikleri (kalabalıklaşma, kır-kent farklılaşması, göç vb) ifade eden sanayi devrimi, teknoloji ve enerji kaynaklarının değişimi ile (buhar makinesi, kömür, petrol ve kimyasal maddeler gibi), önceki dönemde düşünsel zemini oluşan “doğanın insan faydası için kullanımı/tahakkümü”nü somutlaştırmıştır.

4. TARTIŞMA VE SONUÇLAR

Sanayi devriminin ardından çevre-insan ilişkisinde farklı bir dönüşüm başlamış ve enerji anlayışı, sağladığı teknolojik birikim ve endüstriyel gelişme ile sanayi devrimi, batıda başlayarak tüm dünyaya yayılmıştır. Buhar makinesi ve teknoloji ile fazla üretmeye başlayan insanoglu, doğayı da daha fazla kullanmaya ve beraberinde daha fazla kirlletmeye başlamıştır. Bugün geldiğimiz noktada, insan-doğa ilişki sanayi devriminde alınan mirasla insanın tahakkümü ile devam etmiş ve etmektedir. Ancak son yıllarda yaşanan çevresel anomaliler, bu tahakkümün sonuçları olarak tüm dünyada devletlerin ve çevre kuruluşlarının ortak gündemi haline gelmiştir. Etkileri hissedilen ve her birey tarafından algılanan çevresel felaketlerden bazılarının değinmek insan-doğa ilişkisinde geldiğimiz noktayı anlamak adına önem arz etmektedir.

İklim değişikliği, doğrudan veya dolaylı biçimde küresel atmosferin bileşimini bozan, insan faaliyetleri sonucunda iklimde oluşan değişiklikler olarak tanımlanabilir (<https://www.tarimorman.gov.tr>). İklim değişikliği; sıcaklık artışı, sıcak hava dalgaları, kuraklık, yağış şeklindeki değişiklikler, aşırı hava olayları, deniz seviyesindeki artış ve şiddetli fırtına olaylarına neden olmaktadır. Ülkemizde iklim değişikliği konusunda gerek kurumsal gerek politika/strateji belgeleri ile önemli çalışmalar yürütülmektedir. Özellikle bakanlığa bağlı bir kuruluş olan “İklim Değişikliği Başkanlığı” görev tanımında da bu sorunun merkezi idare anlamında başat aktörü olduğunu hissettirmektedir. Hükümetlerarası İklim Değişikliği Paneli (IPCC) tarafından yayımlanan “Altıncı Değerlendirme Raporunda” sera gazı emisyonları başta olmak üzere, insan faaliyetlerinin küresel ısınmaya neden olduğu, Sanayi Devrimi öncesi dönemden günümüze küresel sıcaklıkların 1.1 °C civarında artış gösterdiği, mevcut süreçlerle devam edildiği takdirde ise küresel ısınmanın 2100 yılında 3°C civarında gerçekleşeceği belirtilmektedir. Raporda, sürdürülebilir olmayan enerji kullanımı, arazi kullanımı ve diğer faaliyetlerden kaynaklanan sera gazı emisyonlarının artmaya devam ettiğinin, tüm ekosistemlerde yaygın ve hızlı değişimler meydana geldiğinin ve insan kaynaklı iklim değişikliğinin dünya genelinde her bölgede iklimi etkilemekte olduğu belirtilmektedir. Aynı raporda Türkiye’nin de içinde yer aldığı Akdeniz Havzasının, iklim değişikliğinden en fazla etkilenecek bölgelerden biri olduğu raporda belirtilmiştir. Türkiye’de özellikle 2018’den itibaren meteorolojik afetlerin sayılarında belirgin bir artış yaşandığı 2010-2021 yılları arasında ülkenin farklı kesimlerini farklı ölçülerde etkileyen 8.274 meteorolojik karakterli doğa kaynaklı afet rapor edilmiştir. Türkiye’de iklim değişikliğine bağlı olarak artması öngörülen doğal afetler; orman yangınları, fırtınalar, seller, dolu, sıcak hava dalgaları, heyelan ve çığ olarak sıralanmaktadır (İklim Değişikliği Azaltım Stratejisi ve Eylem Planı: 20024-2030:20,23). İklim değişikliğinin pek çok soruna yol açtığı bilinmekle birlikte, İklim Değişikliğinden Kaynaklanan Afetler de insanlık ve yaşam alanları için çok ciddi sorun alanıdır. Bu bağlamda ülkemizde AFAD iklim değişikliği-afetler ilişkisinde önleyici politikalar geliştirmek ve müdahale etme konusunda önemli bir aktördür. AFAD Başkanlığı tarafından yürütülen “İklim Değişikliği ve Afet Yönetimi Projesi” kurumun önemli çalışmalarından birisidir.

Su kaynaklarının tükenişi: İklim değişikliği, dünya genelinde su kaynakları üzerindeki baskıyı artırmaya devam ettirmektedir. Türkiye’nin Ege Bölgesi için 1940 yılından 2100’e kadar olan kuraklık durumunun incelendiği bir projede bölgenin daha şiddetli kuraklıklarla karşı karşıya kalabileceği araştırmacılar tarafından ortaya koyulmaktadır (<https://www.aydindenge.com.tr/ege/04/08/2024>). Yine su kaynaklarına ilişkin başka bir veri, Türkiye’de göllerin

durumunu sahada inceleyen bir araştırmadır. Bu araştırmada farklı araştırmacılar, inceledikleri 1972 gölün yüzde 43'ünü oluşturan 457 gölün belirgin bir biçimde küçüldüğünü ve doğal göllerdeki kaybın, büyük ölçüde küresel ısınma, artan buharlaşma ve insan kaynaklı su tüketiminin sonucu olduğu ifade edilmiştir.



Kaynak: <https://www.bbc.com/turkce/haberler>, 27.05.2023 tarihli haber.

BBC Türkçe ekibi, Karataş Gölü, Burdur Gölü, Akgöl, Işıklı Göl, Eber Gölü, Akşehir Gölü ve Meke Krater Gölü'nün uydu fotoğraflarını görüntüleyerek 2021 yılında sayılan bu göllerin su kaybının yüksek seviye olduğu fotoğraflararak ortaya koyulmuştur. İçinde olduğumuz bu günlerde ise çekilmenin/kurumanın devam ettiği bu alanlarda gözlenebilmektedir. Örneğin Eğirdir Gölü'nde su seviyesinin 2 metre çekildiği ifade edilmektedir. (<https://www.trthaber.com>, 03.07.2024 tarihli haber).



Kaynak: <https://www.bbc.com/turkce/haberler-turkiye>, 27.10.2021

Yine su kaynaklarının kaybına bir örnek de Göller Bölgesinden Burdur Gölünde gözlenmektedir. 1959 yılından itibaren su seviyesi ölçümleri yapılmaya başlanan Burdur Gölü'nde su kotunun en yüksek olduğu seviye 1970 yılı Mayıs ayında 857.62 metre iken; zamanla su seviyesinde önemli düşüşler gözlenmiştir. 2024 Şubat ayında yapılan ölçümle gölün 837.33 metre kotuna inerek, 20.29 metre azaldığını kaydedilmiştir. Göl ile ilgili olarak Gülle, “Burdur Gölü ve diğer göllerde susuzluk artık sinyal vermiyor, acı siren çalıyor. Gölün havzasında suya olan talep o kadar arttı ki artık göl beslenemiyor. Burdur Gölü'ndeki bu azalışın bu yüzyıl içerisinde telafisi artık mümkün görünmüyor. Giderek küçülen bir göle alışmıyoruz” değerlendirmesini yapmıştır (<https://akra.media>, 19.02.2024 tarihli haber). Sulak alanlarda bu tehdite ek olarak, içilebilir temiz su kaynaklarındaki azalma da büyük bir sorundur. İnsanlığın karşısında “su fakiri/su yoksulu” olma gibi bir tehdidin olduğunu söylemek yanlış olmaz. Su kaynaklarının azalması ile birlikte çeşitli kavramlarla bu durum ifade edilmeye çalışılmaktadır. Su stresi, su kıtlığı gibi. Su stresi, belirli bir dönemde suya olan talep mevcut hacmi aştığında veya düşük kalite su kullanımını kısıtladığında ortaya çıkan durumdur ve su stresi ne kadar yüksekse, nüfusun değişen su kıtlığına karşı o kadar savunmasız olduğu öne sürülmektedir (Gökçe, 2022:191). İklim anomalileri ve yanlış uygulamalar (insan faktörü) nedenleriyle gelecekte insanlığın karışığında olması muhtemel kriz, sıcaklıklar kadar su kıtlığıdır. Türkiye’de artan nüfusla birlikte kişi başına düşen kullanılabilir yıllık su miktarının 2030 yılında 1.200 metreküpe, 2040 yılında 1.116 metreküpe, 2050 yılında ise 1.069 metreküpe kadar düşmesi beklenmektedir (<https://www.wwf.org.tr>). Bu nedenle iklim değişikliği ile büyük ölçekli mücadele politikaları kadar bireylerin su tasarrufunu da rutin alışkanlıkları haline getirmesi gerekmektedir.

Tarım ve hayvancılık faaliyetleri ve gıda sorunu. Tarım ve Orman Bakanlığı Tarım Reformu Genel Müdürlüğü’nün *İklim Değişikliği ve Tarım* raporunda yer alan -TÜSİAD’ın 2020 Tarım ve Gıda Raporunun “İklim Odaklı Politikalar” başlığı- 2050 yılı için IPCC,’nin 3 derecelik sıcaklık artışlarının %25-50 seviyesinde verim kayıplarına yol açacağı öngörüsü ürkütücü bir resim sunmaktadır (<https://www.tarimorman.gov.tr>). İklim değişikliğinin tarımsal faaliyetlere etkileri, aynı raporda şöyle ifade edilmektedir (<https://www.tarimorman.gov.tr>) :

- Daha sıcak ve az yağışlı iklim koşulları
- Ekstrem meteorolojik olaylarda artış
- Su kaynaklarında azalma
- Kuraklık şiddetinde artış
- Su ve toprak kalitesinin bozulması
- Ekosistemin bozulması ve biyolojik çeşitliliğin azalması
- Ekolojik alanlarda kayma
- Tarımsal üretimde ve kalitede azalma
- Zararlılarda ve hastalıklarda artış
- Gübreleme ve ilaçlama sorunları
- Sürdürülebilir gıda güvenliği sorunları

Sağlığa etkileri; oldukça yeni bir çalışma alanı olarak iklim değişikliği-sağlık ilişkisi içinde iklim anomalilerinin insan sağlığını bozacak çeşitli enfeksiyonlara ve bulaş hastalıklara yol açtığı ifade edilmektedir. Özellikle, 2000’li yıllar iklim değişikliği ve sağlık ilişkisine yönelik çalışmaların görüldüğü yıllardır. 2008 yılında DSÖ’nün “Sağlığımızı İklim Değişikliğine Karşı Koruyalım” vurgusu önemlidir. 2011 yılında Birinci Küresel İklim ve Sağlık Zirvesi, BM İklim Değişikliği Çerçeve Sözleşmesi’nin 2017 yılında düzenlenen 23. Taraflar Konferansı’nda (COP23) katılımcıların, “Paris Anlaşması’nın Uygulanması için Sağlık Hareketi” erkinliği ve Mayıs 2018’de Cenevre’de toplanan DSÖ 71. Dünya Sağlık Asamblesi’nde; DSÖ, Birleşmiş Milletler Çevre Programı (UNEP) ve DMÖ sağlık, çevre ve iklim değişikliği küresel koalisyonu kurulmuştur.. Bu adımlar, iklim değişikliği-sağlık ilişkisinin uluslararası arenada önemli bir gündem oluşturduğunu göstermektedir. Türkiye’nin iklim ve sağlık politikalarının başlangıç noktası olarak 2010 kabul edilmelidir. 2010 yılında başlayan süreçte DSÖ maddi desteği ile Ankara’da 2011 ve 2013 yılında iki hazırlık toplantısı gerçekleştirilmiştir. Sağlık Bakanlığı, Türkiye Halk Sağlığı Kurumu tarafından “İklim Değişikliğinin Sağlık Üzerine Olumsuz Etkilerinin Azaltılması Ulusal Programı ve Eylem Planı” çalışmaları başlatılmıştır. Program ve Eylem Planı 21 Ocak 2015 tarihinde onaylanmıştır. Bu program kapsamında çeşitli etkinlikler yapılmıştır (Evcı Kiraz, 2019:33-35). İklimde meydana gelen değişiklikler insan sağlığı üzerinde; (1) doğrudan (ısı dalgaları, soğuk dalgalar, kasırgalar, seller ve yangınlar), (2) dolaylı etkiler (vektör ve zoonotik hastalıklar, enfeksiyon ve salgın hastalıklar, su ve gıda kaynaklı hastalıklar, ultraviyole radyasyonu, ruhsal hastalıklar vd.) ve (3) sosyal ve ekonomik bozulma (ruhsal hastalıklar) yoluyla etki oluşturmaktadır (Irmak, Mersinlioğlu Serin, 2023:741).

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URBAN POLITICS AND DEVELOPMENT: READING WITH A SPECIAL FOCUS ON LOCAL ELECTIONS

Nilüfer Negiz

Abstract: Urban administrations are of special importance as they are the closest administrative units to society and have a direct impact on the daily life of local people. Therefore, an urban life in which women do not participate in the decisions that concern them and are not included in the administration cannot be considered. When we look at the issue this fact; if we see development as the basic expression of “improvement” or “progress” in all areas of social life; the development of society in the political sphere will be possible only by way of urban political development. The concept of political development means the development of democratic culture by strengthening public participation channels in decision-making and implementation of local governments. At this point, the subject covers many subfields such as the participation of the citizen in the urban administration, his ability to ask for account, the awareness of urbanism, the rights of the citizens and the law of the urban.

By looking at the relationship between the city and development from a political perspective, the study focuses on the problem of women in ensuring political development, which is one of the components of development. As a result, the issue of participation and representation of women voters has been discussed generally in the context of local elections in our country, through the results of two local elections 2019-2024. In addition, the results of the 2024 local elections are presented with data in terms of candidacy, mayoralty and municipal council membership. Among the most important findings, it can be said that the rate of female representation in local politics is still at a low level. Although there is progress for women compared to 2019, this is not enough.

Keywords: Women, politics, development, local elections

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1. GİRİŞ

Kent yönetimleri halka en yakın yönetim birimleri olması ve yerel halkın günlük hayatına direkt etki etmesi sebebiyle özel bir öneme sahiptir. Bu nedenle, kadınların kendini ilgilendiren kararlara katılmadığı ve yönetime dâhil olmadığı yani temsil edilmediği bir kent yaşamı da düşünülemez. Bu gerçekte konuya bakıldığında, eğer kalkınmayı en temel anlatımla “iyileşme” ya da toplumsal hayatın tüm alanlarında “ilerleme” olarak görürsek; siyasal alanda da toplumun kalkınması ancak kentsel siyasal kalkınma ile mümkün olacaktır. Siyasal kalkınma kavramı, yerel yönetimlerin kararlarının alınması ve uygulamasında halkın katılım kanallarının güçlendirilerek demokratik kültürün geliştirilmesi anlamına gelmektedir.

Ülkelerin ve toplumların ekonomik durumlarını anlatmak için kalkınma, büyüme ve gelişme gibi terimler çok değişik şekillerde kullanılmaktadır. Örneğin belli bir bölgenin, ülkenin veya toplumun fakir, yoksul, kalkınmamış, az gelişmiş ya da kalkınmakta olması ile kalkınmış, zengin ve sanayileşmiş ülke tanımlamalarının tam olarak ne ifade ettiğinin kesin kıstasları bulunmamaktadır (Karagül, 2002:8). Kalkınma kavramını bütüncül olarak ele aldığımızda, kalkınmanın ekonomik yönünden çok sosyo-ekonomik bir süreci ifade ettiği anlaşılmaktadır.

“Medeni ve ortak ihtiyaçların karşılanabileceği fiziki ortamları oluşturmak; Demokratik hak ve özgürlükleri geliştirmek; Bireylerin bilgi ve becerilerini artırmak, Fırsat eşitliği ve adaleti tesis etmek yoluyla, ekonomik, sosyal ve kültürel gelişimin sağlanması” biçiminde tanımlanmaktadır (Kaya, 2006).

Sonuç olarak, ekonomik büyüme ve beraberinde ortaya çıkacak olan daha iyi yaşam standardı olarak algılayabileceğimiz kalkınma, bir toplumda arzu edilen ekonomik, toplumsal ve siyasal alanda arzu edilen değişme ve gelişmeler toplamı (Çarkçı, 2008:24) olarak ifade edilebilir.

Kalkınma kavramı özellikle büyüme kavramı ile ilişik olarak ekonomik olarak açıklanan bir durumdur. Ekonomi ile başlayan “iyi” olma halinin insanların yaşamlarının her alanına sirayet etmesi, yerelden başlayarak ülkenin tamamına yansması ve uluslararası göstergelerle de kalkınmış/gelişmiş ülkelerle karşılaştırılabilir olması arzu edilen durumdur. Zira ülkemiz 1960’lı yıllardan bu yana planlı kalkınma ile hareket eden, bu yönde politika belgeleri ve hedefler koyan bir yönetim mantığına sahiptir. Hal böyle olunca kalkınmanın yerel-ulusal-uluslararası ilerleyen doğrusal mantığında; ana hedef aslında toplum kalkınması olarak anlaşılabilir. Kalkınmanın büyümenin dışında toplum odaklı bileşenleri bu anlayışı sunmaktadır. Öztürk vd, kalkınmanın dikey ve yatay bileşenlerini sayar. Ve bileşenlerin etkileşimi kalkınmayı, sanayileşme ya da kişi başına gelirdeki artıştan ziyade, toplumdaki tüm bireylerin refahı toplamına eşit olan, insan odaklı, modern bir şekilde tanımlamayı mümkün kılacağını ifade ederler (2020:72-75).

Dikey Bileşenler

Eşitlik,
Gelir adaleti,
Çevre,
Özgürlük,
Demokrasi

Yatay Bileşenler

Bireyin Kıymet ve Onurunun Kaynağı,
Bireyin Fizyolojik ve Manevi Varlığına
Hâkimiyeti,
Değişimlere Açık Olmak,
Bireyin Koşullarındaki İyileşmeyi
Sürdürülebilir Kılacak Değer Seti,

Yerel kalkınma, “*Bölgede, yerelde ya da yörede mevcut doğal ekonomik, kültürel, teknolojik ve beşeri kaynakların kullanılması yoluyla yerel düzeyde sunulan fırsatları, yerel aktörlerin katkısıyla azamiye çıkarmak*” olarak tanımlanmaktadır (Çarkçı, 2008:59). Yerel kalkınma anlayışı, yerel dinamiklerin harekete geçirilerek, yerel toplulukların ekonomik, sosyal, kültürel ve siyasal alanda sürdürülebilir kalkınma ilkelerine uygun olarak gelişimini sağlamayı hedeflemektedir.

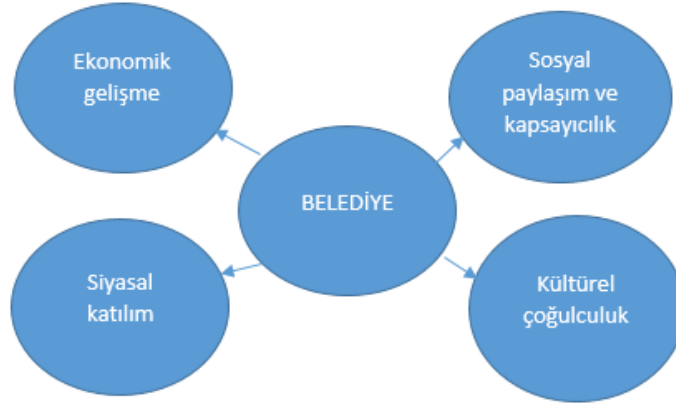
Yerel alanda ve toplumda ortaya çıkarılabilecek kalkınma altı temel unsur üzerine inşa edilebilir. Bu unsurlardan ilk beşi kalkınma çabalarının odaklanması gereken alanlar iken, altıncısı ise bu çalışmaların etkin ve verimli biçimde gerçekleştirilmesi için gerekli olan unsurdur. Bu unsurlar şunlardır (Kaya, 2006) .

- Fiziksel Kalkınma
- Sosyal Kalkınma
- Kültüre Kalkınma
- Ekonomik Kalkınma
- Siyasi Kalkınma
- Etkin Yönetim

Göymen yerel kalkınmanın 3 temel ilkesinden bahseder (2004): 1. Kalkınma insan odaklı olmalıdır, 2. Kalkınma, mümkün olduğu kadar eşitlikçi ve kapsayıcı olmalı; belediyeler kalkınmanın öncülüğünü üstlenirken; sonuçların toplumun değişik katmanlarını nasıl etkilediğini izlemeli ve gerektiğinde kalkınma sürecinden eşit pay alamayan kesimleri gözetici, pozitif ayırıcı politikalar uygulamalıdır ve 3. Kalkınma, çok boyutlu (ekonomik, sosyal, siyasal, kültürel) bir süreçtir ve bu boyutlar arasında bir “tamamlayıcılık etkisi” yaratılması gözetilmelidir.

Bu temel ilkeler kapsamında yerel kalkınma alanında belediyelerin rolünün önemine dikkat çekerek sorumluluk alanını ifade etmek üzere 4 alt boyut olduğunu belirtmiştir (Göymen, 2004). Bu boyutlar aşağıda şekil üzerinden gösterilmiştir.

Şekil: Yerel Kalkınmada Belediyelerin Misyonu



Kaynak: <https://research.sabanciuniv.edu/id/eprint/1122/1/3011800000932.pdf>, “Yerel Kalkınmada Belediyelerin Rolü”, Kaya, 2006.

Siyasal kalkınmanın sağlanması, ulusal düzeyde temsilde kadınların görünürlüğünü ifade ederken; yerelde de siyasal temsil mekanizmalarında kadınların görünür olması anlamına gelir. Kalkınma salt ekonomik boyutu değil; toplumsal yapının ve yaşamın tamamını kapsayan bir üst kavram olduğu için; kadına dair veriler, göstergeler kalkınmışlığın ayaklarından birisi olarak karşımıza çıkar. Siyasal kalkınma ile ifade edilmek istenen bir yandan katılım diğer yandan temsil mekanizmalarının iyi işlerken aynı zamanda eşitlikçi olabilmesidir.

2. MATERYAL VE METOT

Çalışmada kent ve kalkınma ilişkisine siyasal temsil mekanizmalarına kadın temsil oranları açısından bakılarak, kalkınmanın bileşenlerinden birisi olan siyasal kalkınmanın sağlanmasında kadın sorunsalı üzerine odaklanılmaktadır. Çalışmanın araştırma sorusu, *illerin gelişmişlik durumu ve hali hazırda temsilde kadın olup olmaması durumunun kadının siyasal görevlere adaylık/kazanma ile ilişkisi var mıdır?* Çalışmada veri toplama aracı olarak literatür incelemesi ve doküman analizi yapılmıştır. Ülkemizde gerçekleştirilen iki mahalli seçim sonuçları araştırmacı tarafından kurumların web sayfalarından ve haber sitelerinden edinilerek toplanmış ve tablolaştırılarak karşılaştırılma yapılmıştır. 2019 seçim sonuçları Yüksek Seçim Kurulu kurumsal internet sayfasından alınmakla birlikte; 2024 mahalli seçimlerinin sonuçları araştırmacı tarafından il belediye başkanlıkları-adaylar, büyükşehir belediye başkanlıkları-adaylar ve büyükşehir meclis üyelikleri bağlamında belediyelerin internet sayfalarından ve verinin olmadığı illerde birimlere ulaşılarak alınmış ve orantılanarak yüzdesel değerleri hesaplanmıştır. Her iki dönem karşılaştırması belediye başkanlığı pozisyonu için il ve büyükşehir belediyelerinde ve büyükşehir belediye meclis üyelikleri özelinde yapılmıştır.

3. BULGULAR

Kadınların kamusal alana çıkışlarının tarihsel izlerini ilk olarak kamu idarelerinde görev alabilme ve ekonomik hayata dâhil olma biçiminde Cumhuriyet’in ilanından önce (1913-1914) kadınların devlet memuru, esnaf ve zanaatkar olarak çalışması hakkını kazanması) görebiliyoruz. Siyasal yaşamda seçen ve seçilen olabilmesi ise Cumhuriyet Dönemi’nde ve Cumhuriyet reformları ile gerçekleşmiştir. 3 Nisan 1930’da kabul edilen Belediye Kanunu ile kadınlar, ilk kez belediye seçimlerinde oy kullanma ve belediye meclislerine seçilme hakkını elde etmiş ve bu haklarını da 1933 yılında kullanmışlardır. 1933 yılından bugüne gerek ulusal gerek yerel meclislerde siyasal alanda kadınların eşit temsile ulaştığı söylenemez.

Ülkemizde son iki dönem seçim verileri üzerinden bakıldığında skorların kadın açısından yeterli olmadığını sunmaktadır. Bu durum siyasal kalkınma konusunda da -özellikle yerel alanda- kadınların kalkınmanın bir parçası ol(a)madığını düşündürmektedir. Siyasal alan için ifade edeceğimiz bu tespitin; ekonomi ve yönetim alanı için de ülkemizde hala devam ettiğini söylemek yanlış olmaz. 2019 yılında kadın seçmen sayısı 27.011.164, erkek seçmen sayısı 26.192.678; 2024 mahalli seçimlerinde kadın seçmen sayısı 29.285.438, erkek seçmen sayısı 28.481.362’dir (www.yskgov.tr).

Tablo: 2019 Mahalli Seçim Sonuçlarının Cinsiyete Göre Dağılımı (Aday-Kazanan)

2019 Mahalli Seçim Çeşitleri	Aday					Kazanan				
	Toplam	Kadın		Erkek		Toplam	Kadın		Erkek	
		S	%	S	%		S	%	S	%
Büyükşehir Belediye Başkanı	305	33	11	272	89	30	3	10	27	90
İl Genel Meclis Üyesi	8719	690	8	8.029	92	1272	48	4	1224	96
Belediye Başkanı	7.953	634	8	7.319	92	1359	38	3	1321	97
Belediye Meclis Üyesi	102.337	14.485	14	87.852	86	20.745	2284	11	18.461	89
Toplam	119.314	15.842	13,28	103.472	86,72	23.406	2373	10	21.033	90

Kaynak: www.tuik.gov.tr adresinin, Mahalli İdareler Seçim Sonuçları kısmından derlenip, tablolaştırıldı. e.t. 10.08.2024.

Tablo: 2024 Mahalli Seçim Sonuçlarının Cinsiyete Göre Dağılımı (Aday-Kazanan)

2024 Mahalli Seçim Çeşitleri	Aday					Kazanan				
	Toplam	Kadın		Erkek		Toplam	Kadın		Erkek	
		S	%	S	%		S	%	S	%
Büyükşehir Belediye Başkanı	734	94	12,8	640	87,2	30	5	16,6	25	83,4
İl Genel Meclis Üyesi	12.054	1393	11,06	10.661	88,4	1282	63	4,92	1219	95,08
Belediye Başkanı	14.119	1624	11,5	12.495	88,5	973	70	7,9	903	92,1
Belediye Meclis Üyesi	136.259	22.500	16,5	113.759	83,5	20.952	2547	12,15	18.385	87,85
Toplam	163.166	25.611	15,69	137.555	84,31	23.237	2685	11,55	20.532	88,45

Kaynak: www.ysk.gov.tr Seçmen Kütüğü Genel Müdürlüğü 31 Mart 2024 Mahalli İdareler Genel Seçimleri Seçim İstatistikleri Bülteninden tablolaştırıldı. e.t. 10.08.2024.

Her iki seçim sonucuna bakıldığında adaylık ve seçimi kazanma durumunun tüm seçimlik pozisyonlar toplamında adaylık için %13,28 den %15,69'a; kazanma durumunda ise %10'dan %11,55'e az da olsa bir yükselme olduğu söylenebilir. Tüm seçimlik pozisyonlara tek tek bakıldığında her birindeki küçük artış da izlenebilmektedir. Genel rakamlara ek olarak otuz büyükşehir belediyesi ve il belediyelerinin seçimlerinde adaylık-kazanma durumu illerin resmi sayfalarından araştırmacı tarafından incelenerek oluşturulmuştur. Aşağıda sunulan tablolar ile illerin gelişmişlik durumu ve hali hazırda temsilde kadın olup olmadığı parametreleri ile ilişkili olup olmadığı değerlendirilmiştir.

Tablo: Büyükşehir Belediye Başkanlığında Adayların Cinsiyet Açısından Dağılımı (2024)

Büyükşehirler	SEGE	Toplam Aday	Erkek Aday	Kadın Aday	Belediye Bşk
İstanbul	1	49	44	5	Erkek
Ankara	2	24	21	3	Erkek
İzmir	3	27	22	5	Erkek
Adana	27	25	22	3	Erkek
Antalya	5	27	20	7	Erkek
Kayseri	17	27	24	3	Erkek
Konya	14	25	22	3	Erkek
Eskişehir	7	21	18	3	KADIN
Erzurum	61	20	17	3	Erkek
Gaziantep	30	29	25	4	KADIN
Bursa	6	27	26	1	Erkek
Kocaeli	4	27	23	4	Erkek
Mersin	25	22	21	1	Erkek
Samsun	31	23	19	4	Erkek
Diyarbakır	68	22	18	4	KADIN
Sakarya	11	26	21	5	Erkek
Aydın	15	22	16	6	KADIN
Muğla	8	21	17	4	Erkek
Balıkesir	24	21	20	1	Erkek
Manisa	23	19	17	2	Erkek
Denizli	10	24	20	4	Erkek
Tekirdağ	9	20	19	1	KADIN
Trabzon	26	21	19	2	Erkek
Kahramanmaraş	58	27	24	3	Erkek
Malatya	44	28	25	3	Erkek
Hatay	39	24	21	3	Erkek
Mardin	74	20	20	-	Erkek
Şanlıurfa	73	23	23	-	Erkek
Van	77	22	19	3	Erkek
Ordu	60	21	17	4	Erkek
Toplam		734	640	94	

Kaynak: <https://secim.hurriyet.com.tr/31-mart-2024-yerel-secimleri/tum-belediye-baskani-adaylari>, e.t.31.07.2024-03.08.2024

Büyükşehir belediye başkanlığına adaylıkta kadın aday sayısının en yüksek olduğu üç il; Antalya, Aydın ve Sakarya'dır. Büyükşehir belediye başkanlığını kazanan 5 ilde Diyarbakır hariç Eskişehir, Aydın, Tekirdağ ve Gaziantep illeri 2017 SEGE sırasına göre üst ve orta gelişmiş grupta yer alan iller olarak görülmektedir. Üst-orta gelişmişlik ile siyasal temsilde arasında ilişki olduğu biçiminde yorumlanabilir.

Adaylık konusunda ise seçilmiş bir kadın belediye başkanının varlığı mahalli alanda kadın adaylığı sayısının artışına etkisi var mı? Bu soru için koltuğu kadınların kazandığı illerin 2019-2024 mahalli seçimlerine göre başkanlık ve aday incelemesi fikir verici olacaktır.

Tablo: Büyükşehir Belediye Başkanının Kadın Olduğu İllerde Adayların Cinsiyet Dağılımı (2019-2024)

2024 Seçimleri					
Büyükşehirler	SEGE	Toplam Aday	Erkek Aday	Kadın Aday	Belediye Bşk
Eskişehir	7	21	18	3	KADIN
Tekirdağ	9	20	19	1	KADIN
Aydın	15	22	16	6	KADIN
Gaziantep	30	29	25	4	KADIN
Diyarbakır	68	22	18	4	KADIN
2019 Seçimleri					
Büyükşehirler	SEGE	Toplam Aday	Erkek Aday	Kadın Aday	Belediye Bşk
Aydın	15	7	6	1	KADIN
Gaziantep	30	10	8	2	KADIN
Van	77	9	8	1	KADIN

Kaynak: <https://secim.hurriyet.com.tr/31-mart-2024-yerel-secimleri/tum-belediye-baskani-adaylari>, e.t.31.07.2024-03.08.2024.

2019 ve 2024 seçimlerinde koltuğa kadın başkanların oturduğu illerde Aydın ve Gaziantep iki dönemde de kadın başkanı tercih etmiştir. Yine aynı illerde başkanlık yarışına giren aday sayılarının (sadece bu üç ilde değil; 30 büyükşehrin tamamında da) arttığı görülmektedir. Toplam aday sayısı kadar; kadın aday sayısının arttığı anlaşılmaktadır.

Tablo: İl Belediye Seçimlerinde Adayların Cinsiyet Açısından Dağılımı (2024)

İller	Toplam Aday	Erkek Aday	Kadın Aday	Belediye Bşk
Adıyaman	22	20	2	Erkek
Afyon	21	18	3	KADIN
Ağrı	17	13	4	KADIN
Aksaray	22	18	4	Erkek
Amasya	20	16	4	Erkek
Ardahan	16	15	1	Erkek
Artvin	17	15	2	Erkek
Bartın	17	14	3	Erkek
Batman	22	20	2	KADIN
Bayburt	19	16	3	Erkek
Bilecik	20	15	5	KADIN
Bingöl	17	17	-	Erkek
Bitlis	18	16	2	Erkek
Bolu	20	13	7	Erkek
Burdur	19	16	3	Erkek
Çanakkale	23	18	5	Erkek
Çankırı	20	18	2	Erkek
Çorum	22	19	3	Erkek
Düzce	22	20	2	Erkek
Edirne	23	13	10	KADIN
Elazığ	21	19	2	Erkek
Erzincan	21	15	6	Erkek
Giresun	21	19	2	Erkek
Gümüşhane	20	19	1	Erkek
Hakkari	15	13	2	Erkek
Iğdır	14	12	2	Erkek
Isparta	23	21	2	Erkek
Karabük	18	15	3	Erkek
Karaman	18	14	4	Erkek
Kars	17	14	3	Erkek
Kastamonu	21	20	1	Erkek
Kırıkkale	21	17	4	Erkek
Kırklareli	25	20	5	Erkek
Kırşehir	18	16	2	Erkek

Kilis	21	18	3	Erkek
Kütahya	19	16	3	Erkek
Muş	16	14	2	Erkek
Nevşehir	17	11	6	Erkek
Niğde	23	20	3	Erkek
Osmaniye	21	19	2	Erkek
Rize	19	17	2	Erkek
Siirt	16	13	3	KADIN
Sinop	19	15	4	Erkek
Sivas	21	20	1	Erkek
Şırnak	13	10	3	Erkek
Tokat	18	15	3	Erkek
Tunceli	20	19	1	Erkek
Uşak	22	19	3	Erkek
Yalova	22	18	4	Erkek
Yozgat	18	16	2	Erkek
Zonguldak	17	15	2	Erkek

Kaynak: Birimlerin internet sayfalarından edinilen sayılar araştırmacı tarafından tablolaştırılmıştır.

Tablo: Belediye Başkanının Kadın Olduğu İllerde Adayların Cinsiyet Dağılımı (2019-2024)

2024 Seçimleri					
İl Belediye	SEGE	Toplam Aday	Erkek Aday	Kadın Aday	Belediye Bşk
Afyon	41	21	18	3	KADIN
Ağrı	80	17	13	4	KADIN
Batman	72	22	20	2	KADIN
Bilecik	19	20	15	5	KADIN
Edirne	21	23	13	10	KADIN
2019 Seçimleri					
İl Belediye	SEGE	Toplam Aday	Erkek Aday	Kadın Aday	Belediye Bşk
Siirt	75	9	7	2	KADIN

Kaynak: <https://secim.hurriyet.com.tr/31-mart-2024-yerel-secimleri/tum-belediye-baskani-adaylari>, e.t.31.07.2024-03.08.2024.

İl belediye başkanlığında kadın lehine bir durum olduğu görülmektedir. 2019 seçimlerinde tek ilde kadın aday koltuk kazanırken; 2024 seçiminde bu sayı 5'e yükselmiştir. Yine belediye başkanlığında olduğu gibi il belediye başkanlığında da Siirt'te tercihin her iki dönem kadın adaydan yana gerçekleşmesi, gelecek dönemlerde bu seçimlerde olduğu gibi kadın aday sayısının da koltuğa oturan kadın başkan sayısının da artacağını düşündürmektedir.

Tablo: Büyükşehir Belediye Meclislerinde Üyelerin Cinsiyet Açısından Dağılımı (2024)

Büyükşehir Meclisler	Toplam üye	Erkek üye	Kadın üye
İstanbul	317	256	61 (%19,24)
Ankara	144	129	15 (%10,41)
İzmir	183	138	45 (%24,59)
Adana	78	72	6 (%7,69)
Antalya	111	99	12 (%10,81)
Kayseri	70	66	4 (%5,71)
Konya	132	128	4 (%3,03)
Eskişehir	45	39	6 (%13,33)
Erzurum	72	67	5 (%6,94)
Gaziantep	52	51	1 (%1,92)
Bursa	105	93	12 (%11,42)
Kocaeli	83	73	10 (%12,04)
Mersin	78	68	10 (%12,82)
Samsun	86	84	2 (%2,32)
Diyarbakır	88	46	42 (%47,72)
Sakarya	79	74	5 (%6,32)

Aydın	82	70	12 (%14,64)
Muğla	70	60	10 (%14,28)
Balıkesir	94	86	8 (%8,51)
Manisa	88	81	7 (%7,95)
Denizli	72	62	10 (%13,88)
Tekirdağ	63	56	7 (%11,11)
Trabzon	70	67	3 (%4,28)
Kahramanmaraş	58	54	4 (%6,89)
Malatya	50	48	2 (%4)
Hatay	80	78	2 (%2,5)
Mardin ¹	54	35	19 (%35,18)
Şanlıurfa	82	72	10 (12,19)
Van ²	67	42	25 (%37,31)
Ordu	74	69	5 (%6,75)

Kaynak: Birimlerin internet sayfalarından edinilen sayılar araştırmacı tarafından tablolastırılmıştır.

2024 Mahalli seçimleri sonrasında otuz büyükşehir belediyesinde meclis üyeliğini kazanan temsilcilerin kadın-erkek dağılımlarını gösteren tabloda yüzdelik olarak iyi seviyede olan ilk 3 ilimiz ile kötü seviyede olan son üç ilimizi şöyle sıralayabiliriz:

İlk 3

1. DİYARBAKIR BŞ (%47,72)
2. VAN BŞ (%37,31)
3. MARDİN BŞ (%35,18)

Son 3

1. GAZİANTEP BŞ (%1,92)
2. SAMSUN BŞ (%2,32)
3. HATAY BŞ (%2,5)

Verilerde ilk üç sıralamada yer alan iller olan Diyarbakır, Van ve Mardin’de büyükşehir belediye başkanlığını DEM Parti kazanmıştır. Partinin uyguladığı kadın-erkek eşitliği konusundaki tutumu başkanlık koltuğu kadar, meclis üyeliklerine de yansımıştır. DEM Parti, kadın-erkek eşitliği konusunu önemseydiğini ve hayata geçirmeye çalıştığını hem “eş başkanlık” uygulaması ile hem de beyanları ile sıklıkla ifade etmektedir. 2024 Mahalli seçimler öncesi beyanlarında ve seçim bildirgelerinde “Kadın İradesiyle Yerel Demokrasi” vurgusu da buna işaret etmektedir (<https://artigercek.com/kadin/dem-partiden-yerel-yonetimler-kadin-calistayi-hatimogullari-iktidar-bulasici-bir-313020h01.08.2024>, <https://www.demparti.org.tr/Images/UserFiles/Documents/Editor/Materyaller/2024-kadin-secim-bildirgesi-tr.pdf> e.t.06.08.2024). Verilerde kadın oranları açısından son üçte yer alan illerde ise belediye başkanlığını kazanan parti AK partidir. Yine kadın belediye başkanın olduğu Gaziantep’te meclis üyesi olarak 1 kadın üyenin bulunması oldukça dikkat çekicidir. Bu konuda AK partinin kadın temsili konusunda yaklaşımını çalışmasında ele alan Yüksel, saha bulgularından atıflara da yer vermiş ve değerlendirmesinde; “düşük temsilin öncelikli bir sorun olarak tanımlanmadığı gibi pozitif ayrımcı uygulamalara da mesafeli yaklaşıldığını, serbest rekabet koşullarında fırsat eşitliği temelinde kadınların siyasete katılımı ve temsiline hedeflendiğini” belirtmiştir (2021:110). Son seçimlerde karşılaşılan bu sonuçlar kadın temsiline eşitlik konusunda siyasal partilerin konuya daha çok eğilmeleri gerektiğini düşündürmektedir.

4. TARTIŞMA VE SONUÇLAR

Ülkemizde son iki dönem seçim verileri üzerinden yapılan veri analizi sonucunda, siyasal kalkınma konusunda da - özellikle yerel alanda- kadınların kalkınmanın bir parçası ol(a)madığını düşündürmektedir. 2019 yılında kadın seçmen sayısı 27.011.164, erkek seçmen sayısı 26.192.678 ve 2024 mahalli seçimlerinde kadın seçmen sayısı 29.285.438, erkek seçmen sayısı 28.481.362 olurken; başkanlık ve meclis üyeliği gibi temsil mekanizmalarında kadın seçmenin sayıca fazlalığı yansımamıştır. 2019-2024 Mahalli Seçim Sonuçlarının Cinsiyete Göre Dağılımında adaylık ve seçimi kazanma durumunun tüm seçimlik pozisyonlar toplamında adaylık için %13,28 den %15,69’a; kazanma durumunda ise %10’dan %11,55’e az da olsa bir yükselme olduğu görülmektedir. Büyükşehir belediye başkanlığına adaylıkta kadın aday sayısının en yüksek olduğu üç il; Antalya, Aydın ve Sakarya’dır. Büyükşehir belediye başkanlığını kazanan 5 ilde Diyarbakır hariç Eskişehir, Aydın, Tekirdağ ve Gaziantep illeri 2017 SEGE sırasına göre üst ve orta gelişmiş grupta yer alan iller olarak görülmektedir. Üst-orta gelişmişlik ile siyasal temsilde arasında ilişki olduğu biçiminde yorumlanabilir. 2019 ve 2024 seçimlerinde koltuğa kadın başkanların oturduğu illerde Aydın ve Gaziantep iki dönemde de kadın başkanı tercih etmiştir. Yine aynı illerde başkanlık yarışına giren aday sayılarının (sadece bu üç ilde değil; 30 büyükşehirin tamamında da) arttığı görülmektedir. Bu durumda kadınların temsil makamlarında yer almasının diğer kadınlar için cesaretlendirici bir durum oluşturduğu söylenebilir. Her ne kadar kadın temsiline artış için böylesi iyi örnekler teşvik edici rol oynasa da; bu tür

¹ Birimlere telefon ile ulaşılarak sayılar edinilmiştir. 06.08.2024

² Birimlere telefon ile ulaşılarak sayılar edinilmiştir. 06.08.2024

pozisyonların “aday gösterilme” ile ilişkisi unutulmamalıdır. Tam burada da siyasal partilere ve onların eşitlikçi bakışlarına ve kadın temsiliğini güçlendirecek bir dizi araçlar uygulamalarına büyük iş düşmektedir. Bu kanaat özellikle 2024 Mahalli seçimleri sonrasında otuz büyükşehir belediyesinde meclis üyeliğini kazanan temsilcilerin kadın-erkek dağılımlarını gösteren tablodan anlaşılmaktadır. Kadın meclis üyesi sayısının kadın-erkek açısından eşit yansımadığı görüldüğü gibi; %20’nin üzerinde kadın üyeye sahip belediye sadece 4 tanedir.

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PERCEPTION AND ASSESSMENT OF GLOBAL CHALLENGES IN THE LIFE OF HUNGARIAN AND SLOVAK SMES AND THEIR IMPACT ON COMPETITIVENESS IN RELATION TO SIZE AND MATURITY

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Abstract: The 21st century has brought unprecedented turbulent changes in the lives of all economic actors. Households and businesses are no exception to these changes, which are further exacerbated by increasing digital compliance, new challenges, environmental degradation and scarcity of raw materials. There are many other challenges facing modern society. New challenges and new situations are also emerging for today's businesses. An increasingly globalised world, with borders breaking down even more thanks to digitalisation, is putting businesses on a new compliance path. Global economic competition, digitalisation, the influence of multinational and transnational companies, the international political situation and even the impact and aftermath of pandemics are all having a significant impact on the. However, these challenges are perceived differently by businesses of their size and experience. The difference is even greater when comparing countries. In our study, we set out to assess and compare the global challenges as they are perceived by Hungarian and Slovakian businesses. The two countries share the same economic background and have faced the same obstacles in the past. This is why we consider it important to examine global challenges and their assessment and perception in a comprehensive questionnaire survey of Hungarian and Slovakian businesses' perceptions, revealing the deeper dimensions and interrelationships that can significantly influence the competitiveness of the countries.

Keywords: competitiveness, SME sector, Hungary, Slovakia, global challenges

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1. INTRODUCTION

Organisational competitiveness enables an organisation to outperform its competitors, grow and remain successful in the long term. It is not only about short-term gains or market share, but also involves a comprehensive assessment of the organisation's efficiency, adaptability and performance in a competitive environment. The key to competitiveness is the unique value that an organisation can deliver, which can be attractive to customers and the market. This value comes not only from the quality of products and services, but also from operational efficiency, innovation and customer experience. Maintaining competitiveness requires a complex approach that integrates strategic management, organisational culture, human resources, technological development and adaptation to market trends. Successful companies are those that can adapt quickly to changing environmental and market conditions and find innovative solutions. Continuous innovation and adaptation, as well as the potential for international expansion and exports, are essential for achieving competitiveness. Companies must have distinctive competences that enable them to respond to change better than their competitors. Organisational culture also plays a key role in competitiveness by shaping the values, beliefs and behaviour of employees. A positive, adaptive culture fosters innovation and effective collaboration. Technological developments, such as digital transformation and data analytics, are also vital to competitiveness, as they create new opportunities for product development and market expansion. It is important for competitiveness that companies respond quickly to technological developments and changes in consumer needs and challenges that surround the organisation. Adapting, experimenting and adapting quickly to change helps organisations to remain successful in the long term. Resilience and agility as new competitive factors are becoming increasingly important in the modern business environment. To do this, it is important that businesses can identify challenges and perceive them objectively in order to plan appropriate responses to counter them.

2. LITERATURE REVIEW

Organisational competitiveness is a complex concept that refers to the ability of an organisation to outperform its competitors, grow in its environment and sustain its success in the long term (Aghion et al., 2000). It does not only refer to short-term profits or market share, but also includes a comprehensive assessment of the organisation's effectiveness, adaptability and performance in a dynamic and competitive environment. The key to competitiveness is the organisation's ability to deliver unique value that is attractive to customers, stakeholders and the wider market. This value extends not only to the quality of products or services, but also to factors such as operational efficiency, innovation, customer experience and brand (Aghion et al., 2000). Achieving and maintaining competitiveness requires a complex approach that integrates several dimensions, such as strategic management, organisational culture, human resources, technological innovation and adaptation to market trends. These factors are important for sustained success, continuous improvement and wealth creation (Ahmedova, 2015). Continuous innovation and adaptation lead to a modernisation imperative, which drives companies to constantly seek new solutions to make their operations more efficient. Competitiveness depends to a large extent on innovation and value creation capabilities (Cantwell, 2006; Garai-Fodor, 2023b). Successful firms are those that are able to develop and sustain unique competitive advantages that differentiate them from their competitors (Csath, 2010).

The ability to trade and expand internationally also plays an important role in competitiveness, as foreign trade allows for foreign capital investment and the establishment of subsidiaries, as well as an active role in exports (Porter, 1993). In addition, competitiveness is also an indicator of a firm's ability to meet market needs and recover costs while providing products and services that are profitable over the long term (Freebairn, 1986; Lengyel, 2003; Garai-Fodor, 2022; 2023a; Garai-Fodor et al, 2023). Competitiveness also involves social responsibility, which ensures that a company offers products and services that consumers prefer to do business with over competing offerings (Chikán, 2006). Organisational culture also plays a key role in competitiveness, as it shapes individuals' values, beliefs and behaviour. A positive, adaptive culture promotes innovation, collaboration and commitment to shared goals. Organisations that prioritise the wellbeing and professional development of their employees are better able to attract talent, increase productivity and adapt to changing market needs (Woźniak et al., 2019).

Technology adoption also plays a key role in maintaining competitiveness. Digital transformation, data analytics and keeping up with technological advances are essential for companies to maintain their competitiveness. Technological innovation not only increases operational efficiency, but also creates new opportunities for product development, customer relationships and market expansion (Farida & Setiawan, 2022). The ability to respond quickly to rapid changes in the external environment, such as technological advances and changes in consumer behaviour, is critical for long-term viability (Rambe & Khaola, 2023). The 21st century has also seen the emergence of new competitiveness factors, such as resilience, which has become a strategic asset alongside innovation (Ciocanel & Pavelescu, 2015). These capabilities are important for all firms, regardless of size, to successfully adapt and maintain their competitiveness.

At the beginning of the 21st century, the world is undergoing a major transformation, generated by technological advances, demographic changes, changing social norms and global challenges (Burger et al., 2020). These changes are causing a paradigm shift in the way we manage and perceive our lives, and are also impacting individuals, communities and the planet (Adedeji et al, Technological innovations such as smart devices, artificial intelligence and blockchain technologies have fundamentally transformed the way we interact, learn, work and do business (Milner & Solstad, 2021). The digital shift, the rise of the era of home working and telecommuting, has brought new challenges to the role of physical office spaces (Knell, 2021). Increasingly, the promotion of social values such as equality and sustainability is becoming more important, as reflected in efforts to achieve sustainability (Radácsi, 2021; Szeberényi & Papp-Váry, 2021). The finite nature of resources and environmental impacts have made sustainability and conscious consumption increasingly important (Latouche, 2009). The economy and society are closely linked to environmental resources, and sustainable development requires all three subsystems to work in harmony (Bozsik et al, Policy measures to address climate change and sustainability play a prominent role and the search for and promotion of innovative solutions is key (Butler, 2018; Hnatenko et al, Shared responses to environmental challenges will determine the future and therefore require a transformation of consumption patterns and basic behaviours (Breuer et al., 2024). Responsibility lies with economic policy makers, entrepreneurs and individuals, who can also play a significant role in protecting environmental values (Harangozó, 2008, Győri et al, 2024).

3. MATERIAL AND METHODOLOGY

This study is based on the results of an international survey conducted in 2023 in Hungary and Slovakia. The aim of this paper is to present the part of the research relevant for both countries, with a special focus on the subjectively perceived global challenges of SMEs. In the survey, respondents were asked to select the three biggest challenges from a given list that most affect their operations. The survey was based on a pre-tested, standardized, complex questionnaire that examined

the competitiveness of Hungarian and Slovak SMEs in terms of environmental challenges, green transformation and project management. Based on the data collected, 427 evaluable questionnaires were analyzed from Hungary and 181 from Slovakia. Enterprises were categorized according to the statistical size categories in force, turnover, profit after tax, market presence and location. In this paper, we examine the challenges in terms of the size of the enterprises, in order to find out how micro, small and medium-sized enterprises in Hungary and Slovakia perceive each challenge. The survey was conducted using a quantitative method, online, with a snowball sampling procedure. Prior to the survey, a number of quantitative pre-surveys were carried out, which contributed to the final design of the questionnaire. In our work, a cross tabulation analysis was performed by calculating Pearson's Chi-square value and Cramer's V-value. Although the sample cannot be considered representative, it reflects the characteristics of the population and can provide guidance for further research. The composition of the sample is detailed in the figure below:

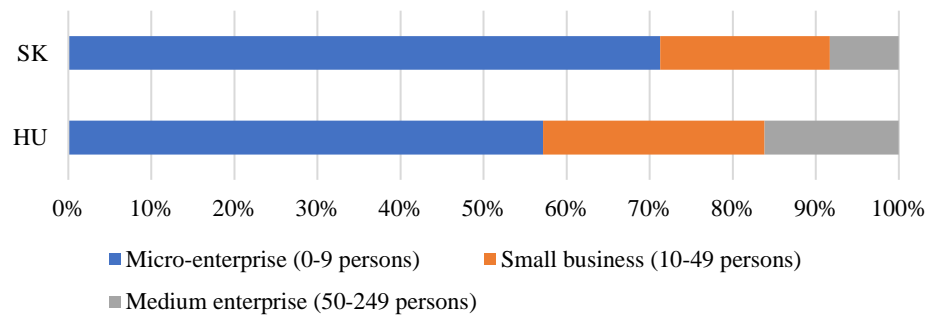


Figure 1. Composition of the sample

Source: own research, 2023, N = 181 (SK), N = 427 (HU)

4. RESULTS

In the survey, respondents were asked to select the challenges that were most important to them from the list provided. Respondents could select three challenges that they rated as having the greatest impact. The results show that the biggest challenge for Hungarian businesses is global economic competition. This is followed by global capital and the economic crisis, while the impact of the pandemic is in third place. Slovak businesses also identified the same challenges as significant, but the order was different. For them, global economic competition came first, followed by the pandemic, and global capital and the economic crisis came third. The assessment of the other three challenges was also examined. Hungarian and Slovak businesses again ranked the same challenges fourth, fifth and sixth. For Hungarian businesses, existential challenges ranked fourth, followed by challenges related to information and communication technology, and the influence of multinational companies ranked sixth. In contrast, for Slovak enterprises, multinationals ranked fourth, existential challenges fifth and ICT challenges sixth. The table below shows the proportion of responses across the total sample.

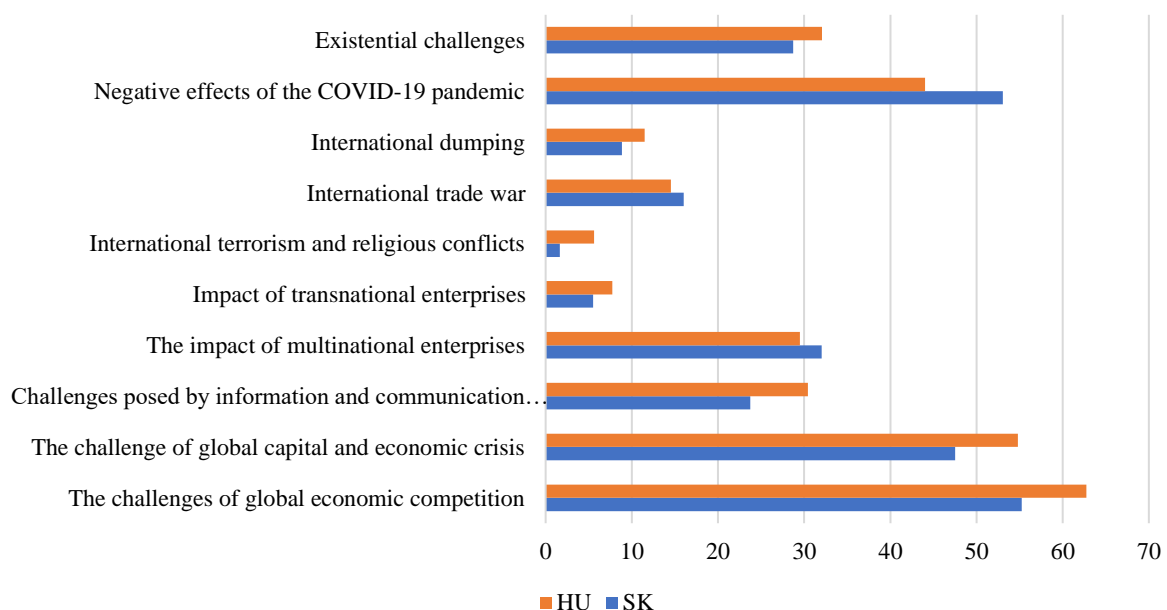


Figure 2. Business response rate to challenges (sample %)

Source: own research, 2023, N = 181 (SK), N = 427 (HU)

First, we look in more detail at the challenges posed by global economic competition. It can be said that medium-sized enterprises were the most likely to opt for the strong nature of this challenge in the Slovak sample, as shown by the 66.7% response rate. They were followed by micro and small enterprises, the latter group having the lowest share of enterprises choosing this challenge. The picture is much more even for Hungarian enterprises. For all size categories, we see that the proportion of enterprises choosing this challenge is above 60% with very little variation. Small and medium-sized enterprises move almost together in terms of value. It can therefore be said that there is almost no difference in the size category of Hungarian enterprises in terms of their assessment of the challenge. Based on the Chi-squared value, we found that there was no correlation between challenge rating and enterprise size for either the Hungarian or the Slovak sample. And based on the adjusted standardized residual value, we did not observe any results different from the expected value for this question.

Table 1. Assessment of the challenges of global economic competition among Hungarian and Slovak enterprises

		Micro	Small	Medium	Total	Pearson Chi-Square	Cramer's V
SK	Piece	72	18	10	100	0,482	0,090
	Line percentage	72,0%	18,0%	10,0%	100,0%		
	Column percentage	55,8%	48,6%	66,7%	55,2%		
	Total percentage	39,8%	9,9%	5,5%	55,2%		
	AdjR	0,2	-0,9	0,9			
HU	Piece	151	73	44	268	0,910	0,021
	Line percentage	56,3%	27,2%	16,4%	100,0%		
	Column percentage	61,9%	64,0%	63,8%	62,8%		
	Total percentage	35,4%	17,1%	10,3%	62,8%		
	AdjR	-0,4	0,3	0,2			

Source: own research, 2023, N = 181 (SK), N = 427 (HU)

Regarding the assessment of the challenge of global capital and the economic crisis, we found that the Slovak sample showed a medium weak relationship based on the Chi-square value, which can be described as medium weak based on the Cramer's V value. Here, we found that, based on the column percentages, this challenge was perceived most by small enterprises, followed by micro and then medium enterprises, lagging very far behind. It is surprising that there was also a difference of almost 20 percentage points in the response for each size category. For the Slovak sample, a divergence was also visible in the adjusted standardized residuals, with small enterprises performing above the expected value and even medium-sized enterprises below the expected value. For the Hungarian sample, no correlation was found between firm size and perception of challenge based on Pearson's Chi-square. The percentages in the column show much more evenly distributed proportions, but this is nowhere near the same extent as for the previous challenge. Surprisingly, the economic challenge of global capital was rated the highest here by medium-sized enterprises, followed by micro-enterprises and then small enterprises. This order is completely different from what we saw in the Slovak sample. This shows that, although the two countries' businesses are clearly in the same geographical area and in terms of partnerships, and there are even significant similarities in competitiveness rankings, the results show that medium-sized enterprises are in a different league when it comes to the challenges they face.

Table 2. Assessment of the challenge of global capital and the economic crisis among Hungarian and Slovakian enterprises

		Micro	Small	Medium	Total	Pearson Chi-Square	Cramer's V
SK	Piece	60	23	3	86	0,020	0,207
	Line percentage	69,8%	26,7%	3,5%	100,0%		
	Column percentage	46,5%	62,2%	20,0%	47,5%		
	Total percentage	33,1%	12,7%	1,7%	47,5%		
	AdjR	-0,4	2,0	-2,2			
HU	Piece	132	57	45	234	0,127	0,098
	Line percentage	56,4%	24,4%	19,2%	100,0%		
	Column percentage	54,1%	50,0%	65,2%	54,8%		
	Total percentage	30,9%	13,3%	10,5%	54,8%		
	AdjR	-0,3	-1,2	1,9			

Source: own research, 2023, N = 181 (SK), N = 427 (HU)

Last but not least, we also wanted to examine the assessment of the impact of the pandemic on the perception of businesses in the two countries. For the Slovakian sample, column percentages showed that small enterprises perceived this challenge as the most important factor, and medium-sized enterprises the least important. No correlation was found between the assessment of the challenge and the size category based on the two indicators. For the Hungarian sample, we again find completely different proportions based on the value of the column percentages, with micro enterprises in Hungary rating it the highest and medium-sized enterprises the lowest. Here again we see a difference between the Hungarian and Slovak samples, as in the previous case. In the Hungarian sample we also found no correlation between size category and challenge. Based on the adjusted standardized residual values, small enterprises in the Slovak sample performed above the expected value and medium-sized enterprises in the Hungarian sample below the expected value.

Table 3. Assessment of the negative impact of the COVID-19 pandemic on Hungarian and Slovakian businesses

		Micro	Small	Medium	Total	Pearson Chi-Square	Cramer's V
SK	Piece	65	25	6	96	0,104	0,158
	Line percentage	67,7%	26,0%	6,3%	100,0%		
	Column percentage	50,4%	67,6%	40,0%	53,0%		
	Total percentage	35,9%	13,8%	3,3%	53,0%		
	AdjR	-1,1	2,0	-1,1			
HU	Piece	115	51	22	188	0,078	0,109
	Line percentage	61,2%	27,1%	11,7%	100,0%		
	Column percentage	47,1%	44,7%	31,9%	44,0%		
	Total percentage	26,9%	11,9%	5,2%	44,0%		
	AdjR	1,5	0,2	-2,2			

Source: own research, 2023, N = 181 (SK), N = 427 (HU)

5. CONCLUSIONS

The small and medium-sized enterprise sector plays a significant role in the economies of all countries. They are the largest employers due to their large number, even though this leading role is not reflected in GDP. However, the opinion of small and medium-sized enterprises is very important for the competitiveness of a country. The more developed and prepared the SME sector is, the better it can withstand the various challenges. In our study, we set out to examine the

views of enterprises of different size categories on various global challenges. It is important to be aware of these opinions in order to increase competitiveness. Overall, we found that Hungarian and Slovakian businesses have a very different picture for the three highest rated challenges. This is surprising because, overall, there is not as big a difference between businesses in the two countries as the different opinions suggest. It is clear that in the case of Slovak enterprises, it is small enterprises that have experienced these challenges to a greater extent, while in the case of Hungarian enterprises it is more the case for medium-sized enterprises. In any case, we would like to further investigate all the other challenges, their assessment and their response in order to get a better picture of the resilience of SMEs to global challenges.

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LEVEL OF IDENTIFICATION WITH THE AGILE APPROACH AMONG HUNGARIAN AND ARAB RESPONDENTS

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Abstract: Accelerated economic, social and technological change is causing market processes, including consumer expectations and preferences, to change with greater dynamism. At the same time, consumers are increasingly demanding personalised solutions from service providers, creating a new need for differentiation in product and service development. Rapid changes in individual preferences and a parallel increase in demand for personalised solutions are leading to shorter product cycles. These factors have greatly changed the product development process and require much faster responsiveness at all stages. Effectively meeting these new demands is a major challenge for the whole organisation, to which an agile approach is increasingly the appropriate response. The present study investigates the identification with the agile approach by age and education level of respondents. Quantitative primary research was conducted to analyse the attitudes towards the agile approach of each segment in order to explore the differences in the mindsets of two respondent groups with different cultural backgrounds. In the primary research, we used a pre-tested, standardized questionnaire online survey among Hungarian and Arab respondents. 5067 Hungarian and 434 Arab scorable questionnaires were analyzed. Our findings provide a good starting point and practical guidance for companies wishing to adopt or follow an agile organisational culture on what tools and solutions can be successful for each generation and segment to make the agile transition.

Keywords: agility, generations, educational level, primary research, intercultural aspects

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1. INTRODUCTION

Although the agile approach first became really well known in the field of software development, it is now much more widespread. The main reason for this is that the ability to adapt to change, to create real value and thus to achieve a higher level of customer satisfaction has become very important today. An agile approach can help in this respect. However, it does not work like a magic wand: it requires serious preparation, including systematic transfer of the necessary skills. An organisation cannot be truly agile without its members consciously adopting this mindset.

2. LITERATURE REVIEW

To understand what agile thinking is, it is first necessary to understand its basics. These are summarised in the context of software development, in the lines of the so-called Agile Manifesto of 2001, where the four values of agility are listed:

- Effective communication between individuals and between them - which is more important than the methods and tools they use;
- the right end result, working software - more important than detailed, comprehensive documentation;
- close collaboration with the client - more important than written, contractual agreement;
- effective change management - more important than adherence to plans (Beck et al., 2001).

The emphasis on these core values, however, does not mean that the ones that contrast with them are absolutely worthless and completely dispensable or unnecessary, but that they are less emphasised in terms of agility (Špundak, 2014).

These four values were further decomposed in the manifesto and detailed in twelve so-called principles. These are: delivery of valuable software, change management, frequent delivery, continuous communication, motivated team members and trust between them, personal communication, progress, sustainable improvement, technical excellence, simplicity, self-organising team, and frequent fine-tuning (Beck et al., 2001). However, agility was not born at this time and not with this document, but rather it was consciously delineated at this time. The agile approach is considered by some to have its roots in kaizen and lean (Dingsøyr, et al., 2012). Kaizen is a methodology that can be considered a philosophical movement, the idea being to create as much value as possible with the resources used and to reduce the

amount of non-value producing activities, the so-called *mudas*. The theory is that this can be achieved through continuous, incremental improvement of the activity. Lean is a more familiar term: the production methodology associated with the Toyota brand has become widespread in recent decades. Its main promise is to drive the process towards perfection while minimising losses (James & Daniel, 2009).

An important element in the application of an agile approach is the possibility of redesign throughout the process, thus ensuring the ability to adapt to change (Salameh, 2014). Development is achieved through a series of iterations: the path to the goal is divided into a series of smaller stages (Conforto et al). These are referred to as sprints in the most common agile methodology, Scrum (PMI, 2017). During these, there is continuous consultation with the customer and a focus on feedback (Conforto & Amaral, 2016), which allows for an absolutely collaborative development (Cobb, 2011). This way, learning is continuous and this type of collaboration can be beneficial and fruitful for everyone (Sauer & Reich, 2009). A major advantage of iterations is that they allow for regular feedback and enable team members to participate in continuous learning (Sauer & Reich, 2009; Conforto & Amaral, 2016). In terms of its scope, as discussed earlier, the agile approach was first really adopted in the field of software development, but is now more widely used (Owen et al, 2006; Blaskovics et al., 2023a; Blaskovics et al., 2023b). It is particularly prevalent in areas where innovative and dynamic development and continuous change are commonplace (Garai-Fodor et al., 2023a; Garai-Fodor et al., 2023b; Garai-Fodor, 2022; Garai-Fodor, 2023; Highsmith, 2000; Varga, 2023; Varga & Csiszárík-Kocsir, 2023). As a result of all this, it is becoming increasingly expected of employees to know and identify with this approach.

In short, agility is the ability to balance flexibility and stability (Špundak, 2014), with the greatest advantage of effective adaptation (DeCarlo, 2004). Thus, from the perspective of individuals, agility is a combination of skills and abilities that is becoming a basic expectation of employees (Dobos et al, 2022). The benefits of adopting an agile approach are that it puts value creation at the forefront and helps teams to see their role. In addition, smaller teams make work faster and more flexible, and their presence increases interaction within the organisation (Shaughnessy 2018). As mentioned earlier, the Agile Manifesto was written specifically for software development, but has become more widely adopted over the past two decades (Owen et al, 2006; Blaskovics et al., 2023), especially where innovation, dynamic development and continuous change are present (Highsmith, 2000; Chin, 2004; Csiszárík-Kocsir & Dobos, 2022a; Csiszárík-Kocsir & Dobos, 2022b; Varga & Csiszárík-Kocsir, 2023).

3. MATERIAL AND METHODOLOGY

The aim of the present study is to assess the attitudes of respondents from different age groups and educational levels towards agility and their identification with the agile approach by means of a comprehensive, multi-topic questionnaire. The questionnaire not only focuses on the challenges of the present, but also seeks to measure basic competences such as agility and the conscious use of the internet. The research was conducted in autumn 2023 and conclusions were drawn from a total of 5067 evaluable questionnaires for the Hungarian sample. The Arab sample was completed by 434 respondents in spring 2024. The distribution of the sample is shown in the table below.

Table 1. Composition of the sample

		Hungarian sample		Arab sample	
		Frequency	Percent	Frequency	Percent
Highest level of education	Basic (8 primary)	378	7,5	-	-
	Intermediate (vocational school, vocational secondary school, high school)	2816	55,6	214	49,3
	Upper secondary - BSc. (college)	1196	23,6	220	50,7
	Upper Secondary - MSc. (university)	677	13,4	-	-
	Total	5067	100,0	434	100,0
Generational affiliation	BB generation (1940 - 1964)	262	5,2	-	-
	X generation (1965-1979)	1038	20,5	28	6,5
	Y generation (1980-1994)	1006	19,9	82	18,9
	Z generation (1995 - 2007)	2613	51,6	324	74,7
	Alfa generation (2008-)	148	2,9	-	-
	Total	5067	100,0	434	100,0

Source: own research, 2023, N = 5067 (Hungarian), 2024, N = 434 (Arabic)

The survey was conducted online using a pre-tested, complex, standardised questionnaire. In addition to the basic statistical tests, the study conducted an analysis of variance to examine the extent to which generational affiliation and education affect the degree of identification with the agile approach. The degree of identification was measured using a four-point Likert scale, where a value of 1 represented total rejection and a value of 4 represented total acceptance.

4. RESULTS

As a first step in measuring identification with the agile approach, we examined the means and variances obtained for the whole sample. Based on the mean values obtained, it can be seen that the average rating of the respondents in the Hungarian sample was much higher on the four-point scale than was seen for the Arab sample. As for the standard deviation, this was significantly lower for the Hungarian sample than was seen for the Arab sample. This suggests that, in terms of respondents, Hungarian respondents can be said to be more agile as a result of the research.

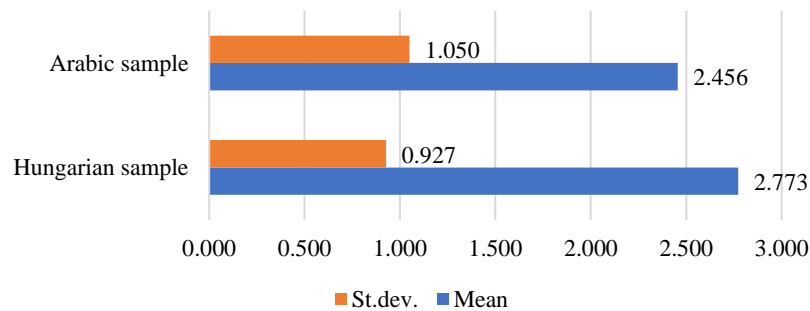


Figure 1. Mean value and standard deviation of the identification of Hungarian and Arab respondents with an agile approach

Source: own research, 2023, N = 5067 (Hungarian), 2024, N = 434 (Arab)

We were also interested to see how the mean values of identification with the agile approach evolve for groups by educational attainment. For Hungarian respondents, we found that those with higher education, whether bachelor or master, were more agile than the sample as a whole. It is therefore clear that education and studies can have a significant impact on the positive development of agile competences. Looking at the Arab sample, we can also say, in relation to the much lower mean value we have just seen, that the complete opposite is true for the respondents as we have seen for the Hungarian respondents. In their case, it was the respondents with secondary education included in the sample who were more agile in the two categories studied. Their average score is close to the average score of the Hungarian sample.

Table 2. Mean value and standard deviation of identification with the agile approach for the groups by educational attainment

		N	Average	St. deviation
Hungarian sample	Basic (8 primary)	378	2,474	1,025
	Intermediate (vocational school, vocational secondary school, high school)	2816	2,711	0,902
	Upper secondary - BSc. (college)	1196	2,888	0,908
	Upper Secondary - MSc. (university)	677	2,997	0,931
	Total	5067	2,773	0,927
Arabic sample	Intermediate (vocational school, vocational secondary school, high school)	214	2,766	1,008
	Upper secondary - BSc. (college)	220	2,155	1,004
	Total	434	2,456	1,050

Source: own survey, 2023, N = 5067 (Hungarian), 2024, N = 434 (Arabic)

Analysis of variance was used to examine the extent to which educational attainment influences the degree of identification with the agile approach for the two samples. The significance value indicates that there is a clear relationship between the two factors in both the Hungarian and the Arab samples.

Table 3. Association of identification with agile approach with educational attainment (one-way ANOVA)

		Sum of Squares	df	Mean Square	F	Sig.
Hungarian sample	Between Groups	94,532	3	31,511	37,469	0,000
	Within Groups	4257,919	5063	0,841		
	Total	4352,451	5066			
Arabic sample	Between Groups	40,605	1	40,605	40,135	0,000
	Within Groups	437,063	432	1,012		
	Total	477,668	433			

Source: own research, 2023, N = 5067 (Hungarian), 2024, N = 434 (Arabic)

We were also interested in how generational affiliation influences agile thinking. For the Hungarian sample, the most agile generation is Generation X, followed by Generation Y respondents. The higher than sample average value is due to the fact that these two generations are the ones that have been in the labour market for a long time, are more likely to work in an organisation that has undergone agile transformation, and are therefore better able to experience the benefits and positive effects of agile thinking themselves. They are followed in the queue by Generation Z, who are most likely still in higher education, but many of whom may have already been exposed to agile thinking through the labour market. They come in third place, slightly below the sample average. Again, the Arab sample presents a completely different picture. In their case, it was the young people from Generation Z who identified most with the approach, followed by the Generation X group of respondents. Surprisingly, they had the lowest average score for Generation Y.

Table 4. Mean and standard deviation of identification with the agile approach for groups by generational affiliation

		N	Átlag	Szórás
Hungarian sample	BB generation (1940 - 1964)	262	2,592	1,038
	X generation (1965-1979)	1038	2,927	0,917
	Y generation (1980-1994)	1006	2,869	0,910
	Z generation (1995 - 2007)	2613	2,709	0,907
	Alfa generation (2008-)	148	2,500	1,027
	Total	5067	2,773	0,927
Arabic sample	X generation (1965-1979)	28	2,464	1,105
	Y generation (1980-1994)	82	2,183	1,101
	Z generation (1995 - 2007)	324	2,525	1,024
	Total	434	2,456	1,050

Source: own survey, 2023, N = 5067 (Hungarian), 2024, N = 434 (Arab)

Using an analysis of variance, we again examined how generational affiliation influences the degree of identification with the approach, whether there is a relationship between the two factors. Again, the significance value indicates that there is a clear relationship for both groups of respondents. Although the F value is much lower than the value for educational attainment, this also confirms the relationship between the two factors.

Table 5. Association of identification with agile approach with generational affiliation (one-way ANOVA)

		Sum of Squares	df	Mean Square	F	Sig.
Hungarian sample	Between Groups	64,083	4	16,021	18,911	0,000
	Within Groups	4288,368	5062	0,847		
	Total	4352,451	5066			
Arabic sample	Between Groups	7,645	2	3,823	3,505	0,031
	Within Groups	470,023	431	1,091		
	Total	477,668	433			

Source: own research, 2023, N = 5067 (Hungarian), 2024, N = 434 (Arab)

5. CONCLUSIONS

The research shows that identification with the agile approach differs significantly across age groups and educational groups. If we look at the opinions of the Hungarian and Arab sample respondents, we again see a completely different picture and order. This clearly shows the intercultural differences that led us to undertake the research and write the study. Overall, we can say that the Hungarian respondents are much closer to the agile mindset, it is much more valuable in their opinion. Interestingly, for the Hungarian sample, it was more the Generation X and Generation Y respondents, and in this context the respondents with higher education, who were the most agile in terms of each segment, while the opposite was true for the Arab sample. In their case, it was more those with a secondary education and younger respondents who were more able to identify with this way of thinking. This is also because the vast majority of these young people are already studying in higher education abroad, where agile thinking and problem-solving is already infiltrated through the curriculum. The challenges of the 21st century clearly require us to have different competences than were previously fashionable or expected. A coherent application of all these competences can generate the potential for innovation and development that can be the key to competitiveness and the survival of economies in the future, and the key to success at both individual and organisational level.

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ONLINE SHOPPING HABITS AND THEIR RISKS IN THE VIRTUAL SPACE

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Abstract: The way the economy worked changed fundamentally in the 1970s and continues to change today. The process started with the emergence and spread of computers, and the first decade of the new millennium saw the emergence and widespread use of the internet. Over the decades, online payments have become much more convenient, simpler and faster than before, and this has of course not only advantages but also disadvantages and significant risks, which need to be brought to the attention of society. One of the drawbacks of this constant change and development is that the legislators simply cannot keep up. The solution to this should be international, because the Internet is also international, and it covers the whole planet. The aim of our study is to present online payment habits based on the results of a questionnaire survey conducted in Hungary in 2023. Our aim is to investigate how online generations shop online, which behaviours can be identified and detected, with a special focus on the risks of cyberspace.

Keywords: online shopping, generations, cyberspace, risks

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1. INTRODUCTION

Of course, the development of the digital space, while offering a wealth of opportunities, is not unlimited and is limited by three factors: the various shortcomings of service providers' digital solutions, the scarcity of services that can be digitised and the lack of openness of users to new digital services. According to the latter, just as the lawmaking bodies, users cannot keep up with the pace of development, so they should be allowed to go through the different phases of digitisation at their own pace (Kovács - Sipos, 2017). This process has been accelerated by the coronavirus epidemic, when overnight online education and online working and shopping became commonplace in many workplaces (Forgács et al, 2024; Garai-Fodor, 2021; 2023; Garai-Fodor - Popovics, 2021; 2022). The changes have also brought with them the necessary development of financial awareness (Baranyi et al, 2022), which is present not only in money management, but also in the conscious management of purchasing decisions and in the choice of service providers (Csiszárík-Kocsir, 2022; Csiszárík-Kocsir - Lentner, 2023). The pandemic has had a significant impact on all areas of the economy, with the world having evolved by a decade in practically a few months (Terták - Kovács, 2020). Service providers are trying to make the use of digital applications as transparent and simple as possible for the user, but being familiar with the online space does not necessarily mean that one is aware of its risks and can assess its dangers. Success in the digital space requires adequate digital and financial literacy, which several organisations have been trying to develop since the 2008 crisis (Csiszárík-Kocsir - Berényi, 2023a; 2023b). This is of great benefit to fraudsters operating in the digital space, who target people who are regularly active in the digital space but who are bona fide, inexperienced and possibly lacking knowledge. It is only natural that as the use of digital services increases, the number of frauds in cyberspace will also increase. This is a problem that requires full cooperation between experts in the IT, legislative and financial fields, who must also provide customers with essential information and advice..

2. LITERATURE REVIEW

The rapid developments in the financial world, triggered by the pandemic mentioned above, have also brought about significant changes (Bagó - Pintér, 2022), such as the generalisation of instant payments, which can be dangerous if one lacks the necessary self-discipline and finds it easier to buy products that one may not really need, since in the online space it usually takes 'one click'. This is reinforced by discounts, which can suggest (especially if it is a particularly large promotion) that the customer may be missing out on a once-in-a-lifetime opportunity by not buying the product. Linked to discounts is the issue of fleeceware ("scam services").

This term covers service providers who, after clicking on a special offer, take the customer to a page, usually in a foreign language, where he or she has to log in with his or her name, credit card details and mobile phone number to activate the

offer. After the free trial period, a subscription is launched - generally without any indication - which requests SMS messages at a premium rate or charges a monthly subscription fee to the bank account you have provided. The services can be cancelled, but "of course" this is a complicated process that requires knowledge of a foreign language. Although concerted action against these rogue apps is already underway across Europe, it will take time to root them out. For young people, once they have an independent income and become financially independent from their parents, their financial situation regularly deteriorates further, as they have to take care of everything themselves and often cannot manage their money properly. This problem regularly leads to young people accumulating debts to their parents, their bank accounts becoming zero or even negative, and the high overdraft debt becoming a heavy interest burden (Lentner, 2013). This phenomenon is the reason why many experts explain why they consider it necessary to teach basic consumer and financial education in schools. A common mistake in existing education on this subject is to limit it to simple, general advice, whereas finance is a highly complex science and this complexity should be made clear to users.

Generation Z members, who are already 'born into' the world of smartphones, generally have the necessary digital skills, but many lack financial skills. Although this age group is one of the most debt-averse, they scored the lowest in the TIAA Institute's 2018 financial literacy survey, with only 46% feeling confident in their finances. In Szobonya's 2021 survey, respondents' digital literacy scores were 30% lower than their financial literacy test scores. Three quarters of cybercrimes result from opening maliciously sent emails, meaning victims do not recognise that they are dealing with a phishing email, i.e. they lack the necessary digital literacy skills or simply the necessary suspicion. Cybercrime is committed by people from many backgrounds around the world, ranging from disgruntled IT employees, industrial spies, drug traffickers and rogue hackers employed by certain states (e.g. Russia, Saudi Arabia, North Korea) to terrorists. Thus the targets can be individuals, companies or even governments of other states. Globally, the number of cybercrimes increased nearly threefold between 2017 and 2021, and the damage they caused almost fivefold.

The Hungarian Penal Code does not have a specific chapter on how to deal with crimes committed in the online space, and as perpetrators are constantly using newer and newer methods, there will most likely not be one in the near future. Instead, however, there is a paragraph on "the offence of violating an information system or data", which is the basis for sentencing cybercrimes. This implies that statistics distinguishing between the different types of offences committed in the online space are not even produced in our country. However, the above-mentioned large increase can still be observed: while in 2018 there were only 200 cases of "information system or data breach", in 2020 there will be 830.

In Hungary, the investigation of cybercrimes is carried out by the police stations or the police headquarters. The National Bureau of Investigation now has a Cybercrime Department, composed of experts who support the investigations of police stations and train their staff if necessary (MABISZ, 2022). The National Cyber Defence Institute, within the National Security Service, has general cyber defence tasks: after a cyber attack on a critical body, they try to find out where the attack may have come from and help restore normal operations; they also liaise with other similar bodies in the European Union.

The most damaging cyber crimes are:

1. **Diversiónary fraud:** in these crimes, hackers take control of a large company's servers and send out emails to customers asking for money under some far-fetched but plausibly wrapped-up pretext. The money transferred by the victims is usually invested in some kind of cryptocurrency to make it harder to unravel and recover the money afterwards. The solution to avoid such a scam is to be immediately suspicious if one receives such an email, as honest companies do not send such messages to their customers.
2. **"Romantic scams":** romantic scams are crimes where scammers contact their prospective victims on dating sites, asking for money after a short introduction, for all sorts of reasons. In other words, they exploit the victims' goodwill and naivety.
We can protect ourselves from this type of scam by instinctive suspicion: it should be suspicious if someone asks you for money immediately after a short acquaintance, especially online. Nevertheless, it is the scam that generates the third highest revenue of all scammers.
3. **Investment scams:** as the name suggests, this is where fraudsters target victims with investment opportunities that are perceived to be extremely lucrative. As the name implies, these scams look like scams to scam victims. Although it may seem to accumulate initially, when the victims want to see their money, they usually wait in vain.
The only defence is common sense: if someone has found a loophole that can make a huge profit; on the one hand, why would he share his discovery with others; on the other hand, why haven't others found it.
4. **Blackmail viruses:** ransomware initiators do not bother to trick the would-be victims, but send a malicious virus to the targeted IT system and lock the data on it. These are usually transferred to the device from pornographic

or gambling websites. This is one of the scammers' aims: the vast majority of victims will pay the ransom demanded by the hackers rather than ask for help from anyone by admitting to having visited such sites. As a defence, it is possible to avoid visiting these types of suspicious, unknown sites; and to back up very important data, for example to an external storage device, so that you don't have to say goodbye to all your important data after a possible block.

5. **Denial of service:** offenders flood a computer or network with unnecessary information, rendering it inoperable. Sometimes this is just a preparation for another attack to buy time.
The defence is not simple, but what is important to remember is that if the network starts to become suspiciously slow, the device should be disconnected from the network to minimise the chance of the virus spreading further.
6. **Interception attack:** hackers "hack" into a two-party online communication and obtain confidential data. The risk of this attack is particularly high when using an insecure wifi network.
Protection can be provided by not communicating personal and important data, such as bank transfers, while using untrusted, e.g. public WiFi networks.
7. **Phishing:** Criminals usually send out emails in which they try to get the recipient's bank card details by posing as the recipient's bank.
The defence is very simple: since banks have their customers' details stored, there is no reason for them to ask for them by email.
8. **Password attacks.** This has been done by hackers who manage to crack inadequately protected password databases, or perhaps start guessing. The way to protect against this is to think carefully about where your passwords and data are stored. So, for example, if you subscribe to a site that would also store your credit card details, but we don't think it's secure enough, we'd rather not subscribe. From now on, it's important to use only one password in one place, so that a hacker can't hack into multiple places by cracking that one password. It's a good idea to set a password that is a combination of multiple characters; long enough that the hacker cannot easily decipher it by trial and error; and not linked in any way to your name, address or birth details.
9. **Deception with a fake website:** in this case, hackers clone the website of the financial service provider used by the victim and then send an email with some pretext to trick the victim into visiting their site (usually with a link in the email), where they then provide their login details. The only way to protect yourself is to check the web address of the service provider you are using and to be suspicious.

In the previous paragraphs we have tried to illustrate the dangers of cyberspace. However, despite these risks, the future lies in digitalisation, which has many advantages in addition to those listed above: it makes payments, for example, more convenient and faster, it is more environmentally friendly (in many cases it saves printing out a lot of documents) and it is now accessible from most parts of the world, but it has to be handled well.

3. MATERIAL AND METHOD

We conducted a questionnaire survey and shared it on different platforms, reaching all generations interested in finance. The questionnaire contained closed questions, i.e. no individual responses were possible. We wanted to know their views on different payment habits and solutions, which payment methods they prefer and how aware they are about them. We also looked at how the responses were distributed between the different generations, which allowed us to draw more accurate conclusions. A total of 571 responses were received, of which more than half were from Generation X and the remainder from Generations Z and Y. The results of the survey were evaluated using SPSS software. Mainly basic statistical methods were used, but analysis of variance and cross tabulation analysis were also performed. In the present study, we use the results of the cross tabulation analysis to investigate online shopping habits and their risks in cyberspace. Cross tabulation analysis is also a statistical method used to examine the relationship between two or more variables, especially for categorical variables.

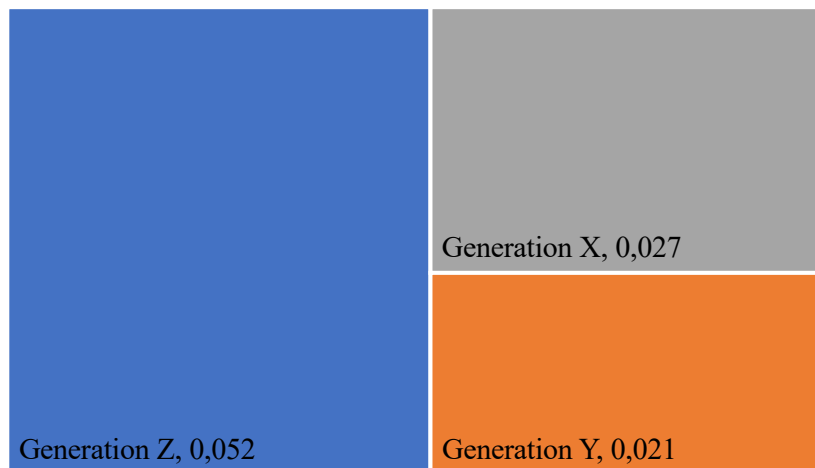


Figure 1. Composition of the sample
Source: own research, 2023, N = 571

3.1. Online shopping frequency by generation

These data indicate how often people shop online. We see that most respondents shop online at least once a month, while the number of respondents who choose an annual shopping frequency is significantly lower. The weekly shopping frequency is also quite low, as shown in the graph below.

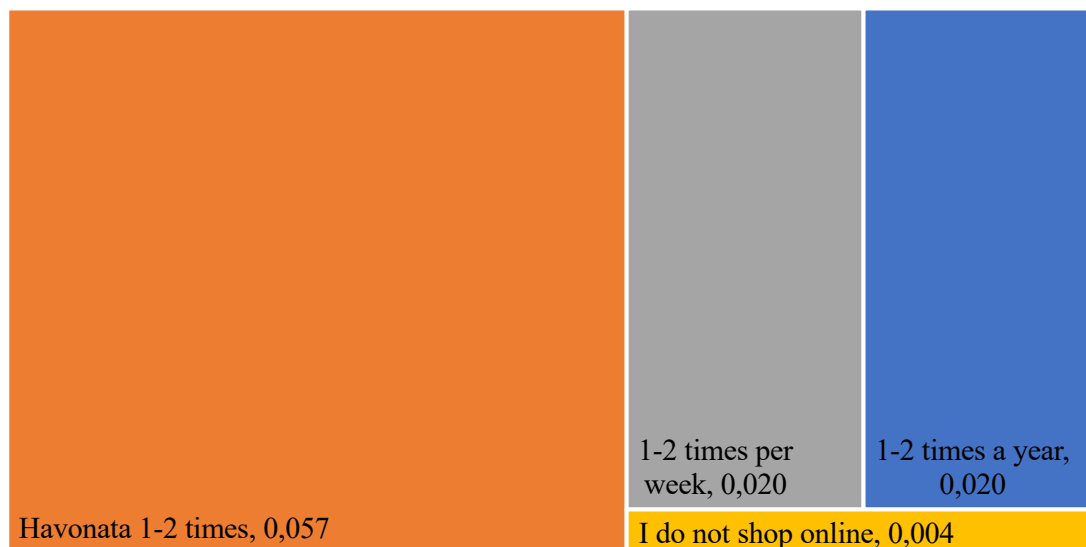


Figure 2. Online shopping frequency
Source: own research, 2023, N = 571

Cross tabulation analysis was used to examine the distribution by generation of respondents who answered 'yes' to a given category. Based on the respondents' views, the vast majority of respondents shop online at least once or twice a month. By generation, it is Generation Z that stands out. Otherwise, the vast majority of respondents in the sample, roughly 20%, are those who shop once or twice a year or once or twice a week. The number of respondents who said that they do not shop online at all was overwhelming. Generation Y respondents also tend to shop once or twice a month, and the same can be said for Generation X respondents.

Table 1. Distribution of online purchases by generation (cross tab analysis, percentage of respondents answering yes, column percentage)

	Generation Z	Generation Y	Generation X	Sum
1-2 times a year	21,7%	5,0%	24,7%	19,8%
Havonata 1-2 times	65,6%	48,7%	55,3%	56,7%
1-2 times per week	10,2%	46,2%	14,6%	20,0%
I do not shop online	2,5%	0,0%	5,4%	3,5%

Source: own research, 2023, N = 571

For statements qualifying the value for money of online purchases, we see that overwhelmingly respondents prefer to pay online for products ordered online. This was clearly dominant for each generation. We also find that there are very few respondents who pay by prepayment or do not shop online at all in this context. Interestingly, the overwhelming majority of respondents who answered 'yes' to the question were less likely to pay by cash on delivery.

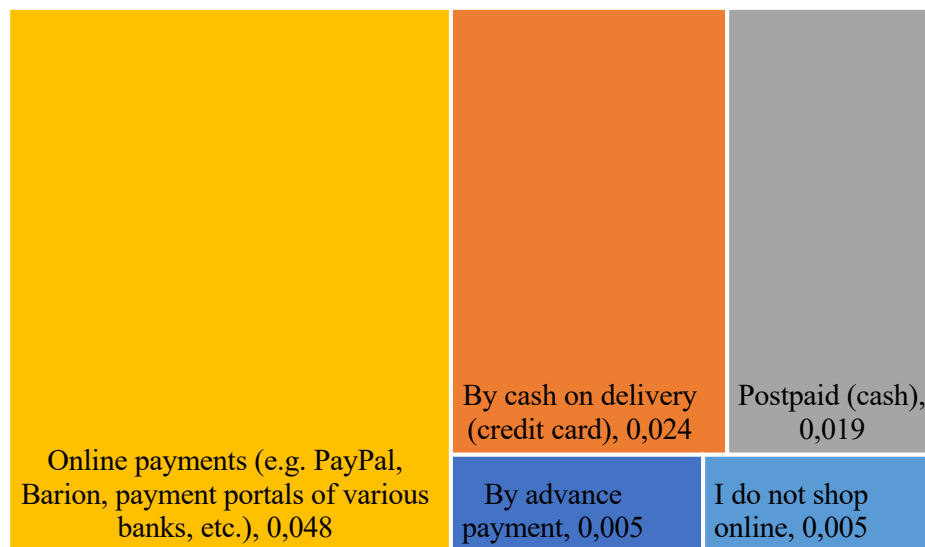


Figure 3. Payment for online purchases
Source: own research, 2023, N = 571

From the responses, we found that the largest proportion of Generation Y members pay online, with none of them rejecting online shopping altogether. The highest proportion of older Generation X members were in favour of cash-on-delivery, suggesting that members of this generation are still closed to online payment solutions.

Table 2. Payment for online purchases by generation (cross tab analysis, percentage of respondents answering yes, column percentage)

	Generation Z	Generation Y	Generation X	Sum
By advance payment	7,0%	4,2%	4,1%	4,9%
By cash on delivery (credit card)	18,5%	22,7%	28,1%	24,3%
Postpaid (cash)	22,3%	14,3%	18,3%	18,6%
Online payments (e.g. PayPal, Barion, payment portals of various banks, etc.)	46,5%	58,8%	43,7%	47,6%
I do not shop online	5,7%	0,0%	5,8%	4,6%

Source: own research, 2023, N = 571

The next question asked whether respondents had been subject to certain types of phishing or fraud. The responses show that the majority of respondents have experienced some form of online fraud or theft, but there are many who are unsure. This means that there are many who are not aware of the problem or have not detected it. This leads us to the conclusion that there is a need to educate people about the dangers of cyberspace, how to recognise potential cyber attacks and how to avoid them.

Table 3. Risks and fraud related to online payments in cyberspace (cross tabulation analysis by percentile)

	no	yes	I do n't know
theft of card data	6,8	38,9	54,3
theft of personal data	7,4	33,3	59,4
theft of a social profile	5,3	42,4	52,4
hacking a social networking profile	5,1	53,8	41,2
unauthorised debiting of a card	5,1	37,3	57,6
unauthorised withdrawal of funds via a link	8,2	25,2	66,5
fake website	4,6	70,4	25,0

Source: own research, 2023, N = 571

The most common fraud was hacking or theft of fake websites, social networking sites, which all generations have encountered. The latter was much more common for Generation Z than for older generations. The intergenerational difference in responses to social media use is perfectly illustrated in the responses to social profiles, with a steep decline in positive responses to problems with social profiles as we move towards older generations.

Table 4. Risks and fraud related to online payments in cyberspace by generation (cross tab analysis, percentage of respondents answering yes, column %)

	Generation Z	Generation Y	Generation X	Sum
theft of card data	45,9%	31,9%	38,0%	38,9%
theft of personal data	37,6%	33,6%	30,8%	33,3%
theft of a social profile	50,3%	43,7%	37,6%	42,4%
hacking a social networking profile	60,5%	55,5%	49,5%	53,8%
unauthorised debiting of a card	40,8%	30,3%	38,3%	37,3%
unauthorised withdrawal of funds via a link	28,0%	19,3%	26,1%	25,2%
fake website	77,1%	68,1%	67,8%	70,4%

Source: own research, 2023, N = 571

4. CONCLUSIONS

Online space has become an inescapable part of our lives over the last decades. Virtually no generation is still involved in some form of online space. Many people work and study there, but many generations live a significant part of their social lives there. The vast majority of our shopping is now also done through online platforms. The research provides further evidence that the younger generation is very open to online shopping and that many have had problems paying for their online purchases. They have been victims of a number of crimes that are both unavoidable and, with awareness and attention, can be taught. The aim of our study was to build a basis for research into the circumstances of online purchases in a larger sample, with a larger population, in order to raise awareness of the need to raise digital awareness. In their opinion, it would be very important for more people to become aware of the need to increase their knowledge in order to be able to live and exist safely in the online space.

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PROJECT-BASED EDUCATION? - NEEDS, EXPECTATIONS AND FACTS THROUGH THE EXAMPLE OF SECONDARY EDUCATION

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Abstract: In the 21st century, the range of competences, the level and range of skills required has changed significantly. The project approach and the importance of managing tasks as projects have emerged. It is often difficult to define what exactly constitutes a project. The classic definition is that a project is any activity that is unique, unrepeatable, produces a specific result and is carried out under specific conditions. Project-based learning should start at an early age and should therefore be introduced in the upper primary school years, but secondary education also provides an excellent opportunity to develop this skill. It is important that today's education system recognises the need for project-based thinking and teaching. The aim of our study is to investigate the perceptions and aptitude of secondary school students for project-based thinking and working in teams within a defined framework. Our work aims to raise awareness of the importance of this, in particular the participants' views on the subject. In addition, we want to define the competences on which future successful participation in the labour market can be based and which are important to develop through the different subjects. We base our work on the results of a primary research among secondary school students in Hungary, highlighting some of the determinants of project-based functioning.

Keywords: project orientation, teamwork, project approach, Generation Z, education

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1. INTRODUCTION

Our daily lives are full of projects. We are confronted with many events and decisions that have a novelty value, that we have no experience of, but that can be solved and that, if wrongly taken, can cause us financial or other types of damage. To the best of our knowledge, it is advisable to assess the circumstances of the decision, the alternatives, and to treat it as a project, with a time and budget allocation. We plan, organise, implement, control and, finally, conclude these decision situations, which are not always called projects now, even if not consciously, by drawing lessons from them. To be able to manage these events well, we need a number of competences and background knowledge. If we treat these events as projects, and we call the people involved, the stakeholders (in a narrower sense, the project team), then communication, problem solving, teamwork are essential, but time management is also important in many cases. The project approach we learn in our personal lives is also useful in the world of work. A project mindset helps us to use resources more effectively, set priorities and plan to achieve project goals. This also helps to ensure that projects in the workplace are completed successfully and on time, which has many benefits for the organisation. It also helps employees to adapt to the changing work environment and the rapidly changing business environment. Flexibility and the ability to manage change are particularly important in the competitive and innovative workplaces of the 21st century (Varga, 2017). The project approach makes employees more responsible, focusing on results while learning new knowledge and skills. For all these reasons, it is important to start imparting the ability to think in a project mindset to the younger generations early on, in order to make them more successful both as individuals and as employees, while reaping the additional benefits.

2. LITERATURE REVIEW

The time span between generations, parents and children, spans about three decades. Generations are linked and connected by shared values, common experiences and shared life experiences (Töröcsik et al, 2014). The explosion of information and communication technology has undoubtedly brought about the most spectacular change (Cavas et al, 2004). Thanks to the IT explosion, creativity, problem-solving and innovativeness are the keys to successful flourishing (Varga, 2015), so schools and educational institutions should focus on developing these competences (Ozkan et al, 2021). Apart from the generations born before 1980, there are few generations that have had to learn and use so many technological innovations. The pace of our lives has accelerated, we face new challenges every day and we feel from our own experience that the generation gap is widening (McCrindle, 2009).

The generations living today are identified by their date of birth: the veteran generation was born between 1925 and 1945, the baby boomers between 1946 and 1964, generation X between 1965 and 1979, generation Y between 1980 and 1994, generation Z between 1995 and 2009, and generation Alpha from 2010 onwards (McCrindle, 2009; Törőcsik et al, 2014). Until now, six generations have never lived and worked together in the history of the world. The majority of veterans do not understand today's accelerated and digital world. Their lives were essentially about family harmony, peace and quiet. Members of the baby boom generation were born into a slightly calmer socio-economic situation. Their lives were essentially defined by the world of work. Born into Generation X, they were already ideally suited to unlimited working hours. Their lives were characterised by the organisation of information, systems thinking and rapid response. Generation X members retain their previous experience and use it as a model for interpreting reality. Generation Y is a child of the consumer society and they know exactly what society expects of them, they are able to change jobs at any time. Digital tools, the internet and online communication are part of their lives. They understand and use digital tools intuitively and are often comfortable in the digital world (Törőcsik et al, 2014; Csepeli, 2006; Tari, 2010; McCrindle, 2009, Garai-Fodor, 2022, Garai-Fodor, 2021). Generation Z members are born into the online world (Cilliers, 2017, Bencsik et al, 2017). They have all the basic skills that previous generations had to learn. For them, in the world of work, the organisation is just a tool, digital entrepreneurship, multitasking, the home office and a very different understanding of mobility (McCrindle, 2009; Tari, 2011; Helmich, 2008). The alpha generation is preparing for new challenges, new professions, new competences, new ways of working in the digital economy and new ways of responding to the problems of the digital economy.

Generation Z and Generation Alpha have had access to the latest technological advances since birth. Having grown up with newer and newer technological tools, their expectations of life are also completely new, and they naturally come to primary and secondary schools with different ideas (McCrindle, 2009; Tari, 2011. Garai-Fodor - Popovics, 2023). A project approach is increasingly present in today's secondary education and in the thinking of Generation Z students. Young people like to work independently at their own pace and are both attracted to and motivated by creative, real-life tasks (Clark et al, 2007).

Project-based learning (PBL[1]) has long been a method in the spotlight (Reismann et al, 2018) and is playing an increasingly important role not only in traditional school education but also in teacher training. Teachers trained on the basis of PBL are more effective in problem solving, better able to manage teamwork and better able to deal with conflicts (Alrajeh, 2021; Akkerman - Meijer, 2011). PBL seems to be a useful solution for the rapidly changing challenges of the 21st century, as it aims to develop key competences and skills that build and underpin the ability to meet new ways of working (such as agility, agile working) and expectations. The ability to work in a team, solve problems quickly, think critically and lead effectively are strengthened and built upon from an early school age with appropriate support and mentoring (Krajcik & Czerniak, 2018; Miller & Krajcik, 2019).

This method develops problem-solving, critical thinking and independent learning skills by solving complex and realistic problem-based tasks. PBL encourages learners to actively engage in the learning process, increasing conceptual understanding and practical application of the learning material. This approach is effective in improving learners' cognitive skills in different subject areas. Interaction between group members working on a task facilitates the exchange of different ideas and perspectives, encourages discussion between task participants, and contributes to deeper and more permanent experiential learning. Group tasks increase the motivation and engagement of the students working on the task with the problem or task under study, which contributes to their academic satisfaction and commitment to education (Aidoo, 2023). Providing autonomous space and delegating task and responsibility is particularly effective for younger generation Z, but will be even more important for the alpha generation that will follow them (Pozuelo-Munoz et al, 2023). The ability to work in a team is a key labour market expectation, which is unfortunately counteracted by the rise of working from home, in the form of home-office, and the advance of online space alongside social change. Project or problem-based learning enables students to share knowledge, hone their communication skills and practice shared decision-making, preparing them to debate and argue in order to defend and assert their own ideas (Nomura et al, 2023).

PBL also includes the elements necessary for the effective management of a live project. PBL is a teaching method in which learners work together over an extended period of time on an exciting and complex problem or challenge. As they work through the problem, they gradually work their way to a solution, gaining hands-on experience by learning from the situation. In project-based learning, students actively participate in solving a real-life problem, working with others, and then present their results or solutions to each other or to a wider - or narrower - audience. This method encourages critical thinking, creativity, collaboration and communication skills, thus developing not only personal but also presentation skills (Kokotsaki et al., 2016). The PBL approach requires pre-service teachers (PST[2]) who have the knowledge to deliver a PBL-based approach. They have acquired specific pedagogical and content knowledge, communication skills and decision-making skills (Mettas - Constantinou, 2008) that, when applied in the classroom, can contribute to strengthening the skills of students as described above. In addition to PBL, it is also necessary to address case-based learning (CBL[3]). While PBL is essentially focused on solving a situation or problem and relies on cognitivism, CBL is based on

constructivism, i.e. it focuses on the human mind's problem processing (Kaufmann, 2003; Rhodes et al, 2020). In addition to the above methods, there is also lecture-based learning (LBL[4]), where the focus is on the teacher, it is mainly classroom-based and the main objective is to impart the more theoretical knowledge that the teacher imparts. Compared to the PBL model, in the LBL model, students only receive information from the instructor and try to memorise the content, rather than participatively understanding the knowledge and using it in live situations (Khoshnevisasl et al, 2014). Of the three teaching methods, LBL-based teaching is still strongly present at all three levels of the Hungarian educational system, although PBL-based methods are also gaining prominence, which reinforce and promote project orientation and thinking in projects. PBL-based methods are much more capable of preparing students for effective participation and achievement in the labour market of the 21st century.

The demand for labour in science, technology, engineering and mathematics (STEM) fields is projected to increase over the next decade, highlighting the importance of these sectors relative to others. The importance of STEM education is recognised by academia, society, business and industry (Bybee, 2010; Capraro, 2013; Samsudin et al, 2020; Han et al, 2015, White, 2014; Marrero et al, 2014). However, the importance of STEM will continue to expand in the 21st century, with the addition of an additional 'A' (A = Arts). STEAM now incorporates the arts into the system, further reinforcing the importance of creative thinking. The 'A' also emphasises social sciences and humanities, which can be used to achieve additional creative acts, placing additional creative content into the learning process (Yakman, 2008; Carvalho et al, 2015, Daugherty, 2013). In STEM education, the focus is on problem solving and inquiry-based learning, whereas STEAM orients students more towards real-life solutions (Brown et al, 2011). Through STEM and STEAM education, project-based learning (PBL) is enabled, allowing teachers to give students tasks that allow them to interact with the wider community, plan and organise their own solutions to the task, based on their own ideas, and respond to problems and challenges, giving them hands-on experience of solving real-world problems in real-life situations (Song, 2020; Beckett, 1999). In STEM and STEAM education, students are expected to research, think logically and collaborate, thus bringing greater attention to the learning process as a whole and its practical role in future flourishing. This approach, however, not only expects students to think in new ways, but also requires teachers to pay more attention to the interactions between subjects and their practical elements (Caparo, 2013).

Young people are the future of society and the solutions to change, and it is therefore of paramount importance to provide them with an education that not only changes their basic knowledge and skills, but also their attitudes, behaviour and lives. Developing the skills of young people can help improve their employment prospects and also enhance their quality of life and well-being (Nguyen et al, 2020). The transformation of human life is closely linked to the development of technology. It is therefore important to prepare students for the challenges of the future. Academic research, internships and engineering practices are essential to become citizens who can adapt to new circumstances and solve new problems (Bybee, 2013).

A project is a series of interrelated tasks with a definite beginning and end, the most important characteristic of which is that it is planned and includes the tasks to be performed, their interrelationships, the people who perform them, the people responsible for them and the deadlines (Csiszárík-Kocsir - Varga, 2017a; Csiszárík-Kocsir - Varga, 2017b, Csiszárík-Kocsir et. al, 2022). In projects, students work in small or large groups, with the guidance of teachers, to identify problems, formulate hypotheses, collect data, experiment, develop solutions and finally select the most appropriate solutions to the problems (Wyness, 2018; Benton et al, 2019). In school, a project task puts students in realistic, problem-solving situations that are directly related to real-life problems. They gain real-world experience and explore the interrelationships between phenomena (Blumenfeld et al, 1991). School projects motivate lower-achieving students, reduce achievement gaps and also increase their interest in science, technology, engineering and mathematics (Breiner et al, 2012; Garai-Fodor, 2023). According to Stehle, teaching STEM subjects adopts an approach that focuses on developing students' self-direction and builds on problem solving, collaboration and project management (Stehle, 2019).

In the case of teamwork, there are three key factors in team building that can be identified as the basis for success: team composition, task planning and team training. In other words, selecting the right people, giving them tasks that will enable outstanding performance (Paris et al, 2000, Jäckel - Garai-Fodor, 2023).

Today's education must focus on competences. The curriculum should be relevant to the real world, motivating, stimulating and at the same time containing valuable new information that is relevant to today's youth (Lombardi, 2007). The success of teamwork is determined by many factors: situational awareness, decision-making, workload, stress management, morale, cohesion, communication and team skills (Dominguez - Jaime, 2010). It can also be seen that modern information technology has facilitated the formation of small-larger groups, but group performance can rarely, if ever, be predicted from the sum of individual contributions (Annet - Stanton, 2000).

Translated to school life, it is essential that the teacher, how the team is formed and how the tasks and problems to be solved are defined for the students. In the process of designing and solving the task, students explore new technologies

that can support, or in some cases even hinder, the team's functioning. However, through different task designs, they can be taught and trained in the right skills to complete the task and thus excel.

2. MATERIAL AND METHOD

The analysis presented in this study is the result of a questionnaire survey carried out in 2023. The sample presented in this study was preceded by a pre-testing exercise, the results of which have been included in the present survey. The research used a complex, standardised questionnaire to measure the attitudes, digital culture and project approach of secondary school students towards digitalisation processes. The survey itself took place in May 2023, in the form of an online questionnaire. The students surveyed remained completely anonymous throughout the study and their answers were processed in a non-identifiable way. The questionnaire contained closed questions for the most part in order to allow the results to be measured as effectively as possible using statistical methods. The research process involved students from grade 9 to grade 14 who were studying in vocational education. As a result of the survey, 508 questionnaires were returned, of which 427 were fully assessable. In the present study, we assessed the responding students' project approach, their roles in projects, their cooperativeness and their ability to work together from different aspects. Students expressed their opinions on 19 statements related to projects on a four-point scale according to how much they agreed with them. The advantage of using this scale was that it allowed us to measure students' opinions, attitudes, preferences and other psychological characteristics. The scale we use provides a choice of four levels, which allows for a more subtle perception of differences between respondents, thus providing a more detailed and deeper understanding of students' opinions on the statements asked, while being simple and easy to interpret. The composition of the sample is shown in the table below:

Table 1. Composition of the sample

	Segment	%
Year of training of respondents	Year 9	21,3
	Year 10	26,6
	Year 11	22,6
	Year 12	20,3
	Year 13	9,2
Type of education of respondents	Vocational school	15,4
	Technical secondary school, gymnasium	16,1
	Post-secondary vocational training, technical college	56,4
	Post-secondary vocational education	12,1

Source: own research, 2023, N = 472

3. RESULTS

The survey asked the students surveyed to examine 19 statements related to projects, teamwork and self-employment. The statements were rated on a four-point scale, with a score of 1 representing the least agreement and a score of 4 representing the strongest agreement. The statements included a mixture of statements on project roles, work, teamwork and teacher-student roles. Students' ratings of the statements are shown in the table below, based on means and standard deviations.

Table 2. Mean scores and standard deviations for statements

	Mean	St.dev.
I like a challenge.	3,094	0,696
I like learning through project work.	2,714	0,789
I'm motivated by doing something I haven't done before.	2,799	0,851
When I work on a project, I like to complete the task independently.	2,864	0,891
When I work on a project task, I like to do the task in a collaborative way.	2,881	0,923
When I work on a project task, I expect my tutor or teacher to guide me or help me collaborate on each workflow.	2,883	0,880

I would dive into learning about a technology that I was not familiar with at all.	2,906	0,864
I would be happy to work in a team, in a group, where we have to work together to invent, design, and make systems work, without any prior training (knowledge).	2,862	0,955
Compared to traditional forms of teaching, a project assignment has a particularly strong emphasis on independent student work.	2,923	0,782
In a project task, group work is given a prominent role.	3,068	0,846
The time management of projects is very flexible.	2,824	0,772
Project work fundamentally subverts the traditional teacher-student role.	2,290	0,899
I prefer to work on a project topic of my own making.	2,829	0,960
I prefer to work on teacher-generated projects.	2,489	0,897
I prefer to feel insecure when doing a project assignment.	2,302	0,937
When working on a project, I feel more focused on the task at hand.	2,920	0,749
I tend to ask for help when doing a project.	2,583	0,893
I tend to help others when doing a project task.	2,585	0,844
I am persistent when working on a project.	3,122	0,741

Source: own survey, 2023, N = 472

The research shows that more than three quarters of the students surveyed can work tenaciously on a project task, which they can carry out independently and intuitively (3.122). It is also clear that more than three quarters of them like challenges, which is a prerequisite for working on projects. A project always contains a novelty value, new situations to be solved that have never been experienced before. Not shying away from challenges is precisely to strengthen these problem-solving skills and abilities. Students also gave a high average rating for working in a group, with a mean score of 3.068, which is another key element of the project approach. Based on the statements sorted in descending order of mean scores, it can be seen that other important elements of working in a project were described with relatively high scores. It can be seen that working independently is important to students. The importance of better focus on tasks, seeking novelty and collaboration is also reflected in the statements. It is also clear that autonomy is not only shown in terms of working independently, but also in terms of coming up with their own project ideas. Students like to manage their own time in order to produce the best possible results. It is also evident that a high percentage of students like project tasks, because there they can show all their skills and knowledge, based on their own time and pace. Among the statements with the lowest average value, the ones with negative content were the most frequent. Students least agreed that a project task would upset the traditional teacher-student role, nor did they agree that a project task could make them feel insecure. However, it was clear that they were less likely to like working on topics that came from the teacher's side, and more likely to like to work on their own topics and ideas at their own pace.

In the following, we tried to group the responding students according to their project orientation, their project approach and their aptitude for teamwork. To this end, a factor analysis was carried out, the results of which are shown in the table below. The KMO value indicates that the data are suitable for factor analysis. Several trials were conducted, in the form of two and four factor analyses, of which the three-factor split sample was considered the most suitable and expressive.

Table 3. Factors based on students' project attitude and suitability for project work (Principal Component Analysis, KMO = 0.749)

	1 factor	2 factor	3 factor
I would like to work in a team, in a group, where we have to figure out, design, and operate systems together, without any prior training (knowledge).	0,697	-0,133	0,141
I am motivated to do a task that I have not done before.	0,617	0,327	0,075
I like learning through project work.	0,606	0,356	0,052
When I work on a project task, I like to do the task collaboratively.	0,589	-0,369	0,441
When doing a project task, I prefer to help others.	0,532	0,164	0,005
I like a challenge.	0,496	0,388	-0,157
I would like to learn about a technology that I didn't know anything about before.	0,439	0,072	-0,040
When I work on a project, I like to complete the task independently.	-0,053	0,788	-0,156

Compared to traditional forms of teaching, a project assignment has a particularly strong emphasis on independent learning.	0,119	0,634	0,085
I work persistently when doing a project assignment.	0,426	0,585	0,024
When working on a project, I concentrate on the task at hand throughout the collaborative work.	0,320	0,399	0,192
Project work fundamentally subverts the traditional teacher-student role.	-0,005	0,359	0,250
I prefer to work on a project topic of my own making.	0,091	0,319	-0,260
The time management of projects is very flexible.	0,265	0,305	0,071
I tend to ask for help when setting up a project.	0,122	-0,006	0,728
I feel rather insecure when doing a project assignment.	-0,201	-0,043	0,665
I prefer to work on a project topic set by a teacher.	0,124	0,180	0,594
When I work on a project assignment, I expect my tutor or teacher to guide me or help me to collaborate on each step of the work.	0,050	0,082	0,571
In the project assignment, group work is a priority.	0,415	-0,161	0,485

Source: own survey, 2023, N = 472

The resulting factor groups are defined as follows:

Factor group 1 (Motivated Project Orientation) included statements related to challenges, innovative solutions, novelty, Factor group 2 (Self-directed project orientation) includes statements related to working independently, perseverance, and Factor group 3 (Supported project orientation) was dominated by statements relating to guided, less independent work.

After performing the factor analysis, a cluster analysis was performed on the factor groups using K-means method, where three well-defined clusters were identified.

Uncertain team players

Table 4. Generation Z segments by project orientation

	Insecure team players N = 145	Motivated project- oriented N = 168	Independent project-oriented with clear task assignment N = 114
Motivated project orientation	-0,431	0,302	0,102
Self-directed project orientation	-0,905	0,409	0,548
Supported project orientation	0,042	-0,792	1,114

Source: own research, 2023, N = 472

Based on the above cluster analysis, the following clusters were identified:

Cluster 1: Insecure team players

Young people in this group are those who do not like to work independently but prefer to work in teams. They are the team members who are the back office workers of the project, responsible for document management and administration, which is about as important as the task itself. Young people with this attitude don't like responsibility, they don't like to work independently. They are more effective and confident when they are helped and guided from outside, giving them support and direction. They feel secure in the presence of a team, a project leader (or, in the case of school projects, the teacher).

Group 2: Motivated project oriented

Young people in this group are true innovators. They are looking for new things and are motivated by tasks that challenge them, situations to be solved. They like to work in teams, they like to learn new things through projects and they are looking for new things, things they have not experienced before. They are the true driving force behind project teams, always pushing beyond difficult situations, looking for solutions and ways forward.

Group 3: Independent project-oriented

These young people are the self-propelled geniuses of project teams. They don't really like boundaries, they like to go their own way, exploring and finding solutions. They are absolutely task-oriented, always focused on the goal and don't like to be distracted by the majority opinion of the team. They work at their own pace, they are the ones who can't cope with 8-hour days, but they need clear guidance to succeed. They expect a concrete definition of the task from the project sponsor (teacher), but they want to work towards a solution independently. The "it doesn't matter when I work, the important thing is to get the job done". They are true Generation Z young people, persistent, self-motivated and goal-oriented, which is a very important factor for project success.

The above analysis shows that the roles of young people in the project team are well defined. Where each young person fits in and what tasks they can be assigned to can be measured and identified using different personality tests. The task for the future is to identify, by means of various project-specific questionnaires and surveys, the characteristics of individual employees, tailored to the project, which can be strengthened to ensure more successful and more efficiently managed projects.

4. SUMMARY, CONCLUSIONS

In the digital world, there is an unprecedented need for problem-solving skills, innovative thinking, and the ability to identify and manage situations. The current challenge for education is to equip the younger generation with these skills and competences. However, this should not only start in higher education, but should also be actively promoted at secondary level, in order to lay the foundations for some elements of a project approach. If we treat our tasks as projects, we are forced to think ahead, to take account of our limits, our opportunities, our partners and our risks. STEM and STEAM-based education helps to develop these skills and competences, but it has not yet been given the space in the education system to develop a broad range of successful workplace skills for young people. There is also a need to understand the changing needs and learning characteristics of the younger generation, taking into account generational characteristics. The aim of our research was to assess the characteristics and attitudes of a subset of Hungarian secondary school young people towards project-based thinking and project-based learning. We found that Generation Z is more open and more likely to be fully project-based in their work in the future. The young people in the sample have the characteristics that enable everyone to play a role in project teams in order to make them successful. The education system has a further task to strengthen these characteristics in students so that they can become successful workers in the future. They need to identify their place in the team and in the workplace, so that they can be as successful as possible in the world of work by strengthening their competences.

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ASSESSING SOCIAL SCIENCE RESEARCH ON THE GIRL CHILD BREAST IRONING IN CAMEROON

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Abstract: Breast ironing is a practice whereby women use diverse heated objects such as grinding stones, pestles, plantains peels, black fruits seeds, or coconuts shells to pound, massage, press, the growing breasts of girls in order to flatten them and slow their development (Tapscott, 2012). It often involves girls between the age of eight to twelve years old when they begin to develop breasts (Tchoukou, 2014). This practice which can be consensual or forced has also been reported in some West African countries like Nigeria, Chad and Togo. However, it is in Cameroon that the is practice most prevalent (Eriksson, 2014). In most cases, breast ironing is carried out within the family circle that is, by the mothers on their daughters, or by some aunts, and grandmothers (Tapscott, 2012; Tchoukou, 2014). The massage can last from one week to several months, depending on how the person doing it appreciates the result (Tchoukou 2014). This paper discusses the trends in social science research on the girl child breast ironing in Cameroon and suggests the areas of priority for further works. Using a literature review of scholarly works accessed on the internet, this paper notes a controversial tendency for researchers to put in the same ‘box’ breast ironing with other practices such as female genital mutilation and foot binding. This study is relevant for developing a large-scale empirical research project on the phenomenon of interest within the field of cultural matters.

Keywords: Breast ironing, Cameroon, cultural matters, girl child, social science research

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1. INTRODUCTION

Male dominance theory holds that the causality –at least from the origin- of men’s ascendancy over women in contemporary rudimentary or modern societies cannot be dissociated from the only constant in the differences between men and women, namely, the biological characteristics which distinguish them (Jackson, forthcoming). Furthermore, the author points out the opportunity of going beyond biological considerations to identify which differences matter or how they are negotiated in social processes to produce gender inequality. Drawing from Mackinnon (1987), Agassi (1989) suggests the radical feminist view that the source of all gender inequality is the sexual violation of women in the form of rape, wife battering, sexual abuse of children, sexual harassment, non-voluntary prostitution, and pornography.

In connection to male dominance and gender inequality, scholars have scrutinized strategies for taking women out of the “universal subordination” (Kandiyoti, 1988; Sandey 1981). However, there exists in Africa and particularly in Cameroon, a strategy called “breast ironing”, conceived and performed by women themselves to protect the girl child against male violence and promote her societal emancipation, which is still largely ignored in academic research (Tapscott 2012; Eriksson, 2014).

Breast ironing is a practice whereby women use diverse heated objects such as grinding stones, pestles, plantains peels, black fruits seeds, or coconuts shells to pound, massage, press, the growing breasts of girls in order to flatten them and slow their development (Tapscott, 2012). It often involves girls between the age of eight to twelve years old when they begin to develop breasts (Tchoukou, 2014). This practice which can be consensual or forced has also been reported in some West African countries like Nigeria, Chad and Togo. However, it is in Cameroon that the is practice most prevalent (Eriksson, 2014). In most cases, breast ironing is carried out within the family circle that is, by the mothers on their daughters, or by some aunts, and grandmothers (Tapscott, 2012; Tchoukou, 2014). The massage can last from one week to several months, depending on how the person doing it appreciates the result (Tchoukou 2014).

.The reason why women in Cameroon practice breast ironing is because they believe that a young girl with little or no breasts is immature for sex and not sexually attractive to men (Tapscott 2012). Therefore, they are less likely to be raped, or sexually harass by the men. Consequently, the girls will avoid unwanted pregnancies and sexually transmitted diseases. Rather, they will have the opportunity to pursue their education and secure a professional position in the society (Eriksson, 2014)

The practice of breast ironing was brought to the spot light by the German Development Agency for Technical Cooperation in 2006. The German agency carried out a national survey of about 5000 Cameroonian women and girls aged between 10 and 82 years old (Galván 2014). The study revealed that one girl out of four in Cameroon is a victim of breast ironing. In all, it was a total of 6 million girls who had undergone breast ironing in Cameroon at the time the survey was conducted. Even though this practice which affects about 6 million girls in Cameroon was acknowledged by the United Nations (U.N) in a report published on the 10th of February 2009, as a harmful practice impeding the enjoyment of women's rights, it is still largely ignored by scholars in social sciences literature (Eriksson, 2014).

Against this background, the purpose of this paper is to investigate the challenges of sociological research in regards to breast ironing, following an exploration of existing social sciences works about the topic of interest, for a better understanding of this phenomenon.

In that respect, we will focus on the following research questions:

- 1) What are the up to date major findings in social science research on breast ironing?
- 2) To what extent has the practice of breast ironing been investigated from a sociological approach?
- 3) What aspects of the breast ironing issue can be recommended for further sociological studies?

There are several reasons why this study is important. Some of which include the fact that it is a contribution to the academic literature concerning the practice of breast ironing marked by an overwhelming paucity (Tapscott, 2012; Eriksson, 2014). Secondly, it fosters a better understanding of this social phenomenon of relevance (about six million girls are concern in Cameroon). Furthermore, this piece of work is a platform, which might help scholars in making perspective choices for further research on breast ironing.

Breast ironing, Culture and Gender violence

Tapscott (2012) used the term “flattening” instead of “ironing” to convey an idea of neutrality between “ironing” which might be stigmatizing and condemning for the perpetrators and “massage” which does not translate the physical experience and the purpose of the practice.

As a matter of fact, the intention behind the practice of breast ironing is to protect the girl child by taking away her sexual attractiveness, just for the time when she is at her early age, thus reducing eventual sexual harassment and rape (Galván 2014). However, this ultimate attempt to decrease the level at which the girl child is identified with femininity (Eriksson 2014), has been associated by some scholars with gender-based violence (Tchoukou, 2014).

According to Rose (2013) the violence against women in the practice of breast ironing is a part of a global trend of gender-based violence, and especially Intimate Partner Violence (IPV) sustained by education, economic, and employment discrimination. For Tchoukou (2014), breast ironing is one of the most widespread and systematic violations of the universal rights to personal integrity committed against the girl child in Cameroon, abusing their physical, sexual and psychological integrity. Tchoukou (2014) adds that unlike female genital mutilation and forced marriages, silence has rendered invisible the form of violence involved in the breast ironing practice. In addition, Rose (2013) points that this gender-based violence goes unpunished, because clothed with the unquestioning acceptance of tradition and the stranglehold of male domination. Tapscott (2012) notes that breast flattening development in its contemporary form might have been enhanced as an answer to a rising social need to stop premarital sexual activity in a context where the female gender has limited agency. According to Tapscott (2012), changing social conditions, including urbanization, and social development are increasingly facilitating unprecedented female presence and participation in the public arena, e.g.: school and professional environment. Access to the public arena and later ages of marriage offer new strategies (i.e. financial in addition to social) for a girl to pursue a better future. However, these new opportunities may also increase the chances of sexual exploitation or abuse for adolescent girls outside marriage, since children have increasing independence and freedom from parental oversight without a corresponding increase in other protection or security.

Besides, for Drake (2013), breast ironing is one of these “controversial indigenous practice” and a “deleterious tradition”. The cultural logic behind the practice of breast ironing represents it as a beneficial ethno-medical procedure used to control important aspects of maturation (Drake, 2013). Moreover, Galván (2014) refers to breast ironing as a centuries old custom and uncommon tradition in central Africa, including the current countries of Chad, Togo and Benin.

Social order

The rationale for speaking of such paradigm is that “it must help us to understand how and why the actors choose one alternative over another” (Risman 2004, p.431). According to Lorber (2010, p.9), “gender divides the social world into two binary divisions, confers a legal, social and personal status that overrides individual differences and intertwines with other major social status, racial categorization, ethnic grouping, economic class, age, religion, and sexual orientation.” Lober (2010) further adds that the gender social order influences people to act in gendered ways with respect to their

place within the gender structure, without question or reflection. In the same order of ideas, Cyba (2005) speaks of structural constraints to represent social order. The author argues that they are factors impacting on motives and actions, bringing about the unforeseen by the actors. Cyba (2005) further points out that in the process of inequalities production or reproduction, the ability of the disadvantaged people and the discriminators to articulate their interests and claims can be justified based on their positions in the distribution process as well as the structural constraints which reside behind the struggle. Risman (2004, p.431) states that the “structural concepts must be observable, external to the individual, and independent of individual motivation”. The frame of reference developed by Cyba (2005) reveals these social constraints or circumstances, namely shared social values, the power structure, social traditions, division between classes and ethnic or religious groups, the state and government policy.

Feminism

According to Lorber (2010), the main claim of feminism is that gender inequality is not an individual matter; rather, it is tied to the structure of societies. Drawing from Mackinnon (1987), Agassi (1989) recalls that from the radical feminist view, sexual violation against women in the form of rape, sexual harassment, sexual abuse of children, wife battering, non-voluntary prostitution, and pornography is the root cause of all gender inequality. In addition, Agassi (1989) points out the modern sociological feminist theory which stresses that the conventional family household hinders women’s emancipation through unpaid domestic and child care work, thus fostering women’s economic dependence and limiting their autonomy. For modern liberalist feminists, equal status for women will be achieved with the disappearance of stereotyped social roles for men and women (Agassi, 1989). However, Mikell (1997) claims that feminism in Africa differs from the Western approach. According to the author, African feminism is not concerned with issues such as female control over reproduction, change and choice within human sexuality, essentialism, the female body or patriarchy. Instead, Mikell (1997) reveals “the feminism that is slowly emerging in Africa is distinctly heterosexual, pre-natal, and concerned with bread, butter, and power.” In that respect Ebunoluwa (2009) notes that talking of ‘womanism’, and not feminism, is more appropriate in the African context, since ‘womanism’ accounts for the centrality of family, community and motherhood.

Data collection

This article examines the social science literature focusing on the practice of breast ironing. The literature in this research included books, journal articles, conference papers, academic thesis, and reports focusing on breast ironing in Cameroon. The sample was made of social sciences works on breast ironing published on the internet. The search on the internet was carried out up to the 15th of October 2015, using google search engine and google scholars. The key term of the search was “breast ironing”. The researcher counted a total of six research works fulfilling the requirements of social science writing which include the support of arguments with evidence and the use of theory to build explanations. Also, the bibliography sections of each of the six works were looked up to make sure that no scientific study was ignored. The six works that were counted are the following:

- “Breast Ironing in Cameroon: A Harmful Practice Restricting Sexuality or a Means to Protect the Girl Child from Harm” carried out in 2014 by G. Lisa Eriksson (Master thesis in Global studies, University of Gothenburg)
- “Protective Tradition or Harmful Practice? Exploring the Debate on Breast Ironing in Cameroon” published in 2008 by Ashley Drake (Conference paper, Bucknell University’s Kalman Symposium)
- “Challenging Global Gender Violence” published in 2013 by Susan D. Rose (Book)
- “Social Ecology of Breast Ironing” published in 2009 by Shahnjayla K Connors (Conference paper)
- “Ethics: The Basics” published in 2010 by John Mizzoni (Book)
- “Patriarchy: Perpetuating the Practice of Female Genital Mutilation” published in 2010 by Lynette Monagan (Article)

In these social science works, we examined the type of method used, the theoretical perspectives, and the main findings, bringing out similarities and/or differences, as well as strengths and weaknesses.

Findings

In this section, we present the results of our study. The focus is on the methods used, the theoretical approaches and the main findings.

2. METHODS

The researches under investigation used mostly interviews that were carried out with the women. The work of Lisa Eriksson made of used “in-depth semi structured interviews in combination with participant observation.” These interviews were carried out in Cameroon “in both the capital Yaoundé and in Ndumbi and Djiang, which are two villages in the Eastern part of Cameroon. The same applies for Susan Rose who carried out “interviews with women” in addition to a cross-national survey. Ashley Drake in her work opted for an ethnographic field research. However, the remaining three works that were examined are theoretical researches.

Theoretical perspectives

Sharmon Lynette Monagan in her article, titled “Perpetuating the practice of female genital mutilation”, looks at breast ironing in Cameroon as a practice carried out by women for the benefit of men and thus connects it with patriarchy. The author writes that “female genital mutilation, foot binding, breast ironing, and corsetry are patriarchal sanctioned practices”.

Whereas, the book titled *Ethics: The basic* by John Mizzoni analyses the practice of breast ironing from the perspective of cultural relativism and ethical relativism. The author argues that breast ironing is an example of such practices which are customary in some cultures and would be seen as ethical in those cultures. In other cultures, such practices are not customary and are seen as unethical. The anthropological theory of cultural relativism is also used by Ashley Drake to build her argumentation.

The Feminist theory is the theoretical framework from which Lisa Eriksson stems, to further build her argumentation upon performativity and lived experiences. The researcher argues that breast ironing ultimately seeks at protecting the girl child by decreasing the level at which she is identified with femininity invoked in the breasts.

The Gender violence is suggested by Susan D. Rose. The author points out that breast ironing is part of a global pattern of violence against women sustained by economic, educational and employment discrimination. Gender based violence is also mentioned in the work of Shahnjayla K Connors. The authors speak of male dominance and violence, as well as lack of political power and security as determinants of breast ironing.

Main Findings

The main claim in the work of Lisa Eriksson concerns the public perception of the practice of breast ironing. The researcher argued that breast ironing cannot simply be labelled a harmful practice, but it also needs to be understood as a means to protect the girl child from harm. Thus, breast ironing is a practice that seeks to protect the girl child by aiming to decrease significant aspects of femininity that are brought about by developed breasts.

This argument of Lisa Eriksson is to an extent similar to the results provided in the study carried out by Ashley Drake. She argued that “the results demonstrate the importance of viewing practices such as breast ironing from the point of view of local people who practice them rather than from the perspective of outsiders.” This is more evident as the author supports that “during my field research, however, the Bamiléké of Dschang offered a very different perspective on the practice. They explained that the custom was not harmful and although it may be practiced for different reasons for different people in Cameroon, it was traditionally performed so that the young girl would not develop breasts too early allowing her to mature properly.”

The similarity in the conclusions of Lisa Eriksson and Ashley Drake is important to note as they build their conclusions upon different theoretical frameworks (see theoretical perspectives in findings section)

John Mizzoni explained that “child labor, breast ironing, divergent sexual practices, and female circumcision are examples of practices that are customary in some cultures and would be seen as ethical in those cultures. In other cultures, however, such practices are not customary, and are seen as unethical.” Here, we see that Mizzoni and Ashley Drake use the same theoretical frameworks, different type of study (empirical vs theoretical), and come to the same conclusions.

The article of Susan Rose found that breast ironing is a gender based violence. “An analysis of the interviews conducted with diverse groups of women who have participated in the GCP in the U.S, the Netherlands, Cameroon, Venezuela, and Bosnia, reveals the similar dynamics invoked in family, intimate partner, and sexual violence. Although these countries represent very different cultural, socio-economic, and political contexts, the women’s images, thoughts and feelings echo one another as they express their experiences of violence. While it is critical to acknowledge the different ways in which violence is enacted and resisted in diverse cultural contexts and resources available to women, it is also important to recognize the similarities across women’s testimonies of violence- a violence that is embedded in a spectrum of patriarchal, cultural, institutional and interpersonal context.”

Shahnjayla Connors’s paper applied social ecology health model to breast ironing. The result showed that “there are a countless number of determinants of breast ironing, from individual behaviors to societal pressures. The combination of male oppression and violence, lack of political power and security, cultural beliefs produce a situation in which mothers turn to breast ironing as a method for protecting their daughters from harm”. The author suggested conclusion that “identifying and gaining a better understanding of the determinants of breast ironing will inform the development of culturally appropriate interventions.”

Apart from the above-mentioned results, Sharmon Lynette Monagan demonstrated that “female genital mutilation, foot binding, breast ironing, and corsetry are patriarchal sanctioned practices.” The author adds that, “like female genital mutilation, they are carried out by women for the benefit of men.”

4. ANALYSIS OF THE RESULTS AND DISCUSSION

Looking at the findings, we notice that there is no quantitative social science research that has been carried out on breast ironing in Cameroon up to date. Consequently, the few researches done so far, have been addressing this problem using statistical information provided by the survey of the German corporation for technical cooperation carried out in 2006. This is a real limitation in the grasping of the problem, as the use of statistical tools and quantitative data collected in a scientific approach are important to produce valid conclusions (Black, 1999). However, the fact that scholars have prioritized qualitative methods denotes the preference for deep epistemological understanding of the issue.

In addition, we also noted in our findings a diversity in the theoretical approaches including patriarchy, relativism and feminist theory. However, the feminist theory has been common to some of the researches. Most of these theories seeks at taking a stand point about the issue of breast ironing in Cameroon. But, in order for us to understand the “why” of the practice at the “root”, it is necessary to integrates a theory such as social order. As a matter of fact, social order “help us to understand how and why the actors choose one alternative over another” (Risman 2004, p.431). According to Lorber (2010, p.9), “gender divides the social world into two binary divisions, confers a legal, social and personal status that overrides individual differences and intertwines with other major social status, racial categorization, ethnic grouping, economic class, age, religion, and sexual orientation.” Lober (2010) further adds that the gender social order influences people to act in gendered ways with respect to their place within the gender structure, without question or reflection.”

The results of this study demonstrate a controversial generalization of the practice of breast ironing with other forms of practices such as female genital mutilation and foot biding. “However, female genital mutilation, much the same as foot biding and breast ironing and corsetry are part of a continuum of female and body sexuality control. These practices like female genital mutilation are carried out by women for the benefit of men.” (Monagan 2010, p.160). Such generalization is questionable since breast ironing is not intended for the benefit of men. Instead, it is performed to protect the girl child against rape or sexual harassment from men (Eriksson, 2014; Tapscott, 2012; Tchoukou, 2014).

From an overall view of this work, we observe that social science research has not yet investigated an important aspect for understanding the practice of breast ironing, that is the extent to which structural factors influence the performance of the practice. In this respect, Cyba (2005) says that “they are factors impacting on motives and actions, bringing about the unforeseen by the actors. Cyba (2005) further points out that in the process of inequalities production or reproduction, the ability of the disadvantaged people and the discriminators to articulate their interests and claims can be justified based on their positions in the distribution process as well as the structural constraints which reside behind the struggle. Risman (2004, p.431) states that the “structural concepts must be observable, external to the individual, and independent of individual motivation”.

5. CONCLUSION

The purpose of this paper was to investigate the social science knowledge of the girl child breast ironing in Cameroon. To that effect, this piece of work critically analyzed the claims, theoretical approaches and research methods established in academic studies. Thus, this research shows that the problem of the breast ironing in Cameroon is largely ignored in social science. In fact, up to date there is no quantitative study addressing the phenomenon. Moreover, the few qualitative works that are focusing on breast ironing do not give an insight of the practice, since none of the studies addresses, among others the correlation between breast ironing and structural factors. Therefore, for a better understanding of the problem, I suggest large-scale sociological research be carried out on breast ironing, integrating quantitative and qualitative methods. Such a study, in the form of a doctoral thesis for instance, will give us an update of relevant statistical data, an insight as to who, why and how this practice is being performed and the effects.

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FUTBOL KULÜPLERİNİN TOKENLERİNİN BITCOİN İLE VOLATİLİTE İLİŞKİLERİ

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Özet: Küreselleşme ve finansal liberilazasyon süreci ile finansal araçlara ulaşmak ve bu araçlara yatırım yapmak daha ulaşılabilir hale gelmiştir. Bunun sonucu olarakta yatırımcılar birçok finansal araca yatırım yapar hale gelmiştir. Bu finansal araçlardan biri de sanal paralardır. Sanal paralar günümüzde yatırımcı ve araştırmacıların çok fazla ilgisini çekmektedir. Bu çalışmanın amacı Bitcoin fiyatları ile taraftar fan tokenlerinden Barcelona ve Manchester City fiyatlarının birbiri ile nedensellik ilişkilerini ortaya koymaktır. Bu amaçla ilgili değişkenlerin nedensellik ilişkilerini belirlemek için, 04.10.2022-01.06.2024 tarih aralığında ilgili değişkenlerin günlük değerlerinin kullanıldığı çalışmada, Augmented Dickey-Fuller birim kök testi ile durağanlık sınaması yapılmış ve Granger nedensellik testi yapılmıştır. Analiz sonuçlarına göre Bitcoin ile Barcelona fan tokeni arasında nedensellik ilişkisine rastlanılmıştır. Bu ilişki tek yönlü bir nedensellik olup Barcelona fan tokeninden Bitcoine doğru tespit edilmiştir. Diğer bir sonuç ise Manchester City ile Barcelona fan tokeni arasında nedensellik ilişkisine rastlanılmıştır Bu ilişki tek yönlü bir nedensellik olup Manchester City fan tokeninden Barcelona fan tokenine doğru tespit edilmiştir. Diğer sonuçlara göre bir nedensellik ilişkisi tespit edilememiştir.

Anahtar Kelimeler: Bitcoin, Fan Token, Nedensellik

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VOLATILITY SCATTERING OF TOKENS OF FOOTBALL CLUBS WITH BITCOIN

Abstract: With the process of globalization and financial liberalization, accessing and investing in financial instruments has become more accessible. As a result, investors have started to invest in many financial instruments. One of these financial instruments is virtual currencies. Virtual currencies attract a lot of attention from investors and researchers today. The aim of this study is to reveal the causal relationships between Bitcoin prices and the prices of Barcelona and Manchester City fan tokens. To determine the causality relationships of the relevant variables for this purpose, in the study where the daily values of the relevant variables were used between 04.10.2022-01.06.2024, stationarity was tested with the Augmented Dickey-Fuller unit root test and Granger causality test was performed. According to the analysis results, a causal relationship was found between Bitcoin and Barcelona fan token. This relationship is a one-way causality and was determined from Barcelona fan token to Bitcoin. Another result is that a causality relationship was found between Manchester City and Barcelona fan tokens. This relationship is a one-way causality and was determined from Manchester City fan token to Barcelona fan token. According to other results, a causal relationship could not be determined.

Keywords: Bitcoin, Fan Token, Causality

1.GİRİŞ

İnsanlık başladığından bu yana trampa ya da diğer ismiyle takas ile başlayan alışveriş işlemleri, ihtiyaçların farklılaşması ve teknolojinin ilerlemesiyle çok farklı şekillerde yapılmaya başlanmıştır. Alışverişte kullanılan para, kredi kartı, online ödeme, sanal kartlar, mobil ödeme gibi çeşitli araçlar ile devam eden bu durum günümüzde dijital para birimlerine kadar ulaşmıştır. Dijital paralar, genellikle bu paraları geliştirenler vasıtasıyla ihraç edilmektedir ve yine aynı kimseler tarafından kontrol edilmektedir (Kılıç & Çütcü, 2018: 235). Yakın zamanda paranın evrimi farklı bir boyuta doğru yol alıp kripto para çeşidini ortaya çıkarmıştır ve bunlardan en yaygın ve değerlisi Bitcoindir. Bitcoin, bir kripto para ve ödeme sistemidir (Şamiloğlu & Kahraman, 2019:179).

Bitcoin ilk olarak Satoshi Nakamoto olarak bilinen kişi ya da bu ismi kullanan bir grup tarafından 1 Kasım 2008 tarihinde yazılan “Bitcoin: A Peer-to Peer Elektronik Cash System (Bitcoin: Kişiden kişiye elektronik para sistemi)” adlı makale ile tüm dünyaca tanınmış ve 3 Ocak 2009 yılında ise ilk Bitcoin kripto para birimi oluşturulmuştur (Guegan, 2018: 1). Bitcoin, dünya üzerindeki kullanıcıların anlık para transferi işlemlerini yapmasına olanak tanıyan, merkezi bir otorite duzenlemesine ve denetimine tabi olmayan bir kripto para çeşididir (Güleç, Çevik & Bahadır 2018: 19). Özellikle bankaların işlemlerden aldığı komisyonların ve çeşitli devlet politikalarının Bitcoin’in tanınmasında ve kullanılmasında önemli bir rol aldığı düşünülmektedir. Bitcoin’in en büyük unsurlarından biri tek bir ülkeye ait olmaması ve tek bir kişi veya grup tarafından üretilmemesidir. Bir diğer önemli unsur ise Bitcoin’in üretiminin maksimum 21 milyonla sınırlandırılmasıdır. Bu sınırlandırma ile Bitcoin’in yaygınlaşması durumunda, arzın bir yerde sabit kalacağı sebebi ile değerinin artmasına neden olabilir (Kanat & Öget, 2018:602).

Son zamanlarda spor kulüpleri de kendi Fan tokenlerini çıkararak taraftarların kulübe olan ilgileri sayesinde finansal kaynak oluşturma fırsatı yakalamaktadır. Fan token alan taraftarlar ise bunun sayesinde finansal piyasalarda yatırım yapma, hem de kulübe ait önemli hizmetler, öncelikli bilet edinimi, özel organizasyonlara katılma fırsatı gibi bireysel avantajlar elde etmektedir. Dünyada futbol, basketbol, formula 1 gibi popüler spor branşlarındaki kulüpler fan token ihraç etmeye başlamıştır. (Teker & Konuşkan, 2022:359) Taraftar tokenleri, oylama ve üyelik hakları sahipliğinin şifrelenmiş defterine erişim sağlayan dijital varlıklardır. Bu tokenler, sahiplerine etkileşimli anketler aracılığıyla kulüplerin kararlarını etkileme, kulüple ilgili içeriğe erişme, kulüple ilgili oyunlara ve yarışmalara katılma ve biletler, dijital rozetler ve kulübe özel NFT’ler gibi ödüller kazanma fırsatı vermektedir. (Demir, Ersan & Popesko, 2022:1) Taraftar tokenleri, token sahibinin bir tür hizmet almasına izin verdikleri için fayda tokenleri olarak sınıflandırılabilir. Bunlar, takım gol attıktan sonra çalınan şarkı, antrenman sahalarının isimleri veya sunulan yeni ürünler gibi konulardaki oy haklarını içerebilir. Diğer hizmetler bazen özel veya imzalı ürünleri, VIP deneyimleri kazanma şansını, maç biletlerini veya oyuncularla tanışmayı içerir. Taraftar tokenlerini tutmanın bir diğer nedeni, yalnızca ilgili kulübü desteklemek değil, aynı zamanda taraftar ürünlerinin amacına benzer şekilde bu desteği başkalarına da göstermek olabilir. Son olarak, fan tokenlerinin bazı oy hakları sunmasına rağmen, şirketteki bir payı veya gelecekteki herhangi bir nakit akışı akışını yansıtmadıklarını ve dolayısıyla menkul kıymet tokenlerinden açıkça farklıdır. (Scharnowski, Scharnowski & Zimmermann, 2023:1-2)

Bitcoin ile fan tokenleri ile ilgili son yıllarda yapılan çalışmalara bakıldığında;

Teker ve Konuşkan 2022 yılında yaptığı çalışmada futbol kulüpleri tarafından ihraç edilen Fan Token fiyat hareketlerini bir veri madenciliği metodu olan Birliktelik Analizi ile incelemiştir. Araştırmasında 01.01.2022-01.08.2022 arasındaki günlük veriler kullanılmıştır. Çalışma sonucunda TRA, LAZIO ve PORTO Fan Tokenlarının sıklıkla birlikte hareket ettiği tespit edilmiş olup, FB, IBFK ve GOZ gibi 3 Türk kulübüne ait Fan Tokenların en az birliktelik kuralı içerisinde yer alan Fan Tokenlar olması sonucu bulunmuştur. Demir v.d., 2022’de yaptıkları çalışmada, futbol maç sonuçlarının kulüplerin token fiyatları üzerindeki etkisini araştırmışlardır. Çalışma sonucunda UEFA Şampiyonlar Ligi’ndeki hem yenilgilerin hem de galibiyetlerin, taraftar tokeninin anormal getirilerini, kayıplarını daha büyük bir etkiyle etkilediği tespit edilmiş olup yerli maçlar ve Avrupa Ligi maçlarının yatırımcılardan benzer tepkiler almadığı bulunmuştur. Scharnowski v.d., 2023 yılında yaptığı çalışmada spor kulüpleri tarafından ihraç edilen, taraftar tokenlerinin ekonomik bir analizini sunmuşlardır. Çalışmada taraftar token fiyatlarının oldukça değişken olduğunu ve yerleşik kripto para birimlerine göre önemli ölçüde daha riskli olduğunu tespit etmişlerdir. Ayrıca fan tokenler birbirleriyle ve onları satın almak için kullanılan ana kripto para birimleriyle yakın bir şekilde hareket etme eğiliminde olduğu ve token getirilerinin, kulübün beklenmedik bir şekilde maç kaybettiği günlerde daha düşük, ancak yatırımcıların taraftar tokenlarına olan ilgisinin arttığı günlerde daha yüksek olduğu sonucuna ulaşılmıştır. Ersan v.d., 2022’de yaptıkları çalışmada taraftar tokenleri ve bunlara karşılık gelen hisse senetleri arasındaki dinamik bağlantıyı TVP-VAR yaklaşımını kullanarak incelemiştir. Juventus FC, AS Roma, Galatasaray ve Trabzonspor tokenleri ve hisse senetleri için 11 Aralık 2020 ile 31 Ocak 2022 arasındaki günlük veriler kullanılmıştır. Çıkan sonuçlara göre herhangi bir tokene iletilen şokların hisse senetlerine iletilen şoklardan daha büyük olduğu ve tokenlerin hem tokenlere hem de hisse senetlerine yönelik şokların net iletilicileri olduğu tespit edilmiştir.

2. MATERYAL VE METOT

Bitcoin ile taraftar fan tokenleri olarak Barcelona ve Manchester City’nin nedensellik ilişkilerinin araştırıldığı çalışmada, 04.10.2022-01.06.2024 tarih aralığında ilgili değişkenlerin günlük değerleri kullanılmıştır. Çalışmada değişkenlere ait seriler investing veri tabanından elde edilmiştir. Ayrıca tüm değişkenlerin logaritmaları alınmıştır.

Değişkenlerin aralarındaki ilişkilerin yönünü tayin etmek için Granger (1969) tarafından geliştirilmiş olan nedensellik testine başvurulacaktır. Granger'in nedensellik testi aşağıdaki denklemlerle yapılmaktadır (Öztürk & Sezen, 2018).

$$Y_t = \sum_{i=1}^m \alpha_i Y_{t-i} + \sum_{i=1}^m \beta_i X_{t-i} + u_t \quad (1)$$

$$X_t = \sum_{i=1}^m \gamma_i X_{t-i} + \sum_{i=1}^m \delta_i Y_{t-i} + v_t \quad (2)$$

Eşitlikte m optimal gecikmeyi göstermektedir. Bu gecikme, bilgi kriterleri yardımıyla belirlenebilmektedir. Granger nedensellik analizinde, bağımsız değişkene ait gecikmelerin, belirli bir anlamlılık seviyesinde, sıfıra eşitliliğinin test edilmesiyle yapılmaktadır. (1) no' lu denklemde yer alan β_i katsayılarının belirli bir anlamlılık seviyesinde sıfırdan farklı bulunduğu takdirde, X' in Y'nin bir nedeni olduğuna karar verilmekte; benzer şekilde (2) nolu denklemde de δ_i katsayılarının da belirli bir anlamlılık seviyesinde, sıfırdan farklı bulunması durumunda da Y'nin X'in bir nedeni olduğu kararı verilmektedir (Öztürk & Sezen 2018).

3. BULGULAR VE TARTIŞMA

Bitcoin, Barcelona ve Manchester City coin ve taraftar tokenlerinin fiyatlarına ait tanımlayıcı istatistikler Tablo 1'de verilmiştir.

Tablo 1. Değişkenlerin ait Tanımlayıcı İstatistikler

	Bitcoin	Barcelona	Manchester City
Ortalama	10.35977	1.109430	1.324794
Medyan	10.25674	1.018847	1.223775
Maksimum	11.19913	1.769855	1.985131
Minimum	9.666283	0.722706	0.955511
Standart Sapma	0.421991	0.261946	0.262832
Çarpıklık	0.438032	0.352999	0.582592
Basıklık	2.271150	1.793470	2.121802
Jarque-Bera	32.84656	49.42365	53.84306
Olasılık	0.000000	0.000000	0.000000
Gözlem Sayısı	607	607	607

Tablo 1'e göre 607 gözlem yapılmış olup, en yüksek ortalama ve standart sapmanın tespit edildiği değişken Bitcoin olarak gerçekleşmiştir.

Çalışmada kullanılan değişkenlerin durağan yapıda olması için birim kök testleri yapılır. Literatürde sıklıkla karşılaşılan ve seriler için uygulanan Augmented Dickey-Fuller (1979) birim kök testi sonuçları Tablo 2'de gösterilmiştir.

Tablo 2. ADF Birim Kök Testi Sonuçları

Değişkenler	Durağanlık seviyesi	Augmented Dickey-Fuller Test İstatistiği Değeri	Olasılık
Bitcoin	1.Fark	-25.72277	0.0000
Barcelona	1.Fark	-20.45118	0.0000
Manchester City	1.Fark	-25.27706	0.0000

Tablo 2’de yeralan Bitcoin, Barcelona ve Manchester City coin ve taraftar tokenlerinin 1. fark değerlerinde durağan olduğu görülmektedir.

Bitcoin, Barcelona ve Manchester City coin ve taraftar tokenleri arasında nedensellik ilişkisinin tespit edilmesi amacıyla Granger nedensellik testi yapılacaktır. Granger nedensellik testine geçmeden önce seriler için uygun gecikme uzunlukları belirlenmiş olup elde edilen sonuçları Tablo 3’de gösterilmiştir.

Tablo 3. Değişkenler Arasındaki Granger Nedensellik Testi

Nedensellik İlişkisi	Ki-kare Değeri	Olasılık Değeri
Barcelona → Bitcoin	7.536698	0.0231
Manchester City → Bitcoin	1.168702	0.5575
Bitcoin → Barcelona	3.324616	0.1897
Manchester City → Barcelona	0.762145	0.6831
Barcelona → Manchester City	10.68377	0.0048
Bitcoin → Manchester City	1.456602	0.4827

Tablo 3’e göre, Bitcoin ile Barcelona fan tokeni arasında %5 önem seviyesinde nedensellik ilişkisine rastlanılmıştır. Bu ilişki tek yönlü bir nedensellik olup Barcelona fan tokeninden Bitcoin’e doğru tespit edilmiştir. Diğer bir sonuç ise Manchester City ile Barcelona fan tokeni arasında %5 önem seviyesinde nedensellik ilişkisine rastlanılmıştır. Bu ilişki tek yönlü bir nedensellik olup Manchester City fan tokeninden Barcelona fan tokenine doğru tespit edilmiştir. Diğer sonuçları göre bir nedensellik ilişkisi tespit edilememiştir.

4. SONUÇ

Küreselleşme ile birlikte iletişim teknolojilerinin artması finansal entegrasyon sürecini çok önemli hale getirmiştir. Bu süreçle birlikte yatırımcılar gerek ulusal gerekse uluslararası finansal araçlar hakkında bilgi sahibi olabilmekte ve yatırımlarını yönlendirebilmektedirler. Bu finansal araçlardan coin ve taraftar tokenleri yatırımcıların çok fazla ilgisini çekmekte ve dikkatle izlenilmektedir. Çalışmada Bitcoin ve taraftar fan tokenlerinden Barcelona ve Manchester City’nin nedensellik ilişkileri Granger Nedensellik testi ile analiz edilmiştir. Çalışmada ilk olarak tanımlayıcı istatistikler, birim kök testi yapılmış ve daha sonra ilgili değişkenler arasındaki nedensellik ilişkilerini ortaya koymak adına Granger Nedensellik testi kullanılmıştır. Ulusal ve uluslararası literatür incelendiğinde Bitcoin ve taraftar fan tokenlerinden Barcelona ve Manchester City ile nedensellik ilişkilerinin incelendiği araştırmalara pek fazla rastlanılmamıştır. Bu anlamda çalışmanın özgünlük sunabileceği ve literatüre katkı oluşturmaya dönüştürmesi düşünülmektedir.

Çalışmada elde edilen bulgulara göre, Bitcoin ile Barcelona fan tokeni arasında %5 önem seviyesinde nedensellik ilişkisine rastlanılmıştır. Bu ilişki tek yönlü bir nedensellik olup Barcelona fan tokeninden Bitcoin’e doğru tespit edilmiştir. Diğer bir sonuç ise Manchester City ile Barcelona fan tokeni arasında %5 önem seviyesinde nedensellik ilişkisine rastlanılmıştır. Bu ilişki tek yönlü bir nedensellik olup Manchester City fan tokeninden Barcelona fan tokenine doğru tespit edilmiştir. Diğer sonuçları göre bir nedensellik ilişkisi tespit edilememiştir.

Çalışmada elde edilen sonuçların, Bitcoin ile fan tokenlere yatırım yapmak isteyen yatırımcılara, ilgili kulüplere ve diğer ilgili unsurlara yatırım kararı konusunda yardımcı olabileceği düşünülmektedir. Ayrıca bu çalışma, farklı coin ve taraftar tokenlerinin de eklenmesi ile yeni yapılacak araştırmalar için yol gösterici olabilir.

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REFLECTION OF DIGITAL TRANSFORMATION ON TAX ADMINISTRATION

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Abstract: The tax administration is defined as the body responsible for the proper processing of taxes and the collection of revenues. It is extremely important for taxpayers to take part in the traditional structure of tax administration, to obtain their data and to follow up tax transactions. However, when the increasing number of taxpayers is taken into account day by day, it is seen that it has become almost impossible for the traditional tax administration to perform all these transactions and more transactions. Today, many new technologies have shown themselves in all areas of people's daily lives. These technologies are technologies such as blockchain technologies, information and communication technologies, artificial intelligence, 3D printers. With the inclusion of these technologies in human life, both the nation and private and public institutions have benefited from the opportunities offered by new technologies. Tax administration is also among the institutions that benefit from the opportunities offered by technology. Dec. With the digital transformation of the tax administration, the administration has benefited in many respects. In this research, the aim is to examine the reflection of digital transformation on tax administration. In the light of the determined purpose, a literature review was conducted on the concepts of digital transformation and tax administration. The information obtained as a result of the literature review was included in the research.

Keywords: Digital Transformation, Digitalization, Tax Administration

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1. GİRİŞ

Günümüzde internetin insan yaşamının tüm alanlarında önemli bir yere sahip olmasıyla beraber bireyler dijital araçlardan daha çok yararlanmaya ve dijital araçları yaşamlarına entegre etmeye başlamışlardır. Gerek çalışma hayatında gerekse gündelik hayatta sıklıkla tercih edilen dijital teknolojiler, hayat standardıyla beraber iş süreçlerinin de değişim geçirmesine yol açmaktadır. Bu tür bir ortam içinde kamu kurumları da insanların değişiklik gösteren gereksinimlerine yanıt sunabilmek adına dijital dönüşüme yönelik önemli vazifeler üstlenmektedirler. Vergi idareleri de dijital dönüşüme maruz kalan bir kamu kuruluşu şeklinde, günden güne sayısı çoğalan mükelleflere daha etkili bir hizmet verebilmek adına faaliyetler gerçekleştirmektedir.

1929'da yaşanmış ekonomik buhranın ardından Keynesyen politikasının başarılı olmaması nedeniyle "Fonksiyonel Maliye" şeklinde isimlendirilen yeni bir maliye politikası ortaya sunulmuştur. Musgrave tarafından bir kalıba oturtulan fonksiyonel maliye görüşünde; sosyal devlet temeline dayanan, kamu maliyesi prensiplerine uygun bir şekilde hükümetin ekonomiye müdahalesi bahis konusu olmaktadır. Hükümet, söz konusu müdahaleyi yaparken üç temel amacı gütmektedir. Bahsedilen amaçlar; adil bir gelir dağılımını sağlamak, istikrar ve ekonomik büyümeyi gerçekleştirmek ve son olarak kaynak dağılımında etkinliği sağlamaktır (Skipin vd., 2020, s. 306-310).

Yukarıda sayılan amaçları yaşama geçirebilmek adına en etkin araç, hükümetin en önemli kaynağı olarak kabul edilen vergilerdir. Vergilerin çeşitleri kadar vergilendirmenin ne şekilde yapıldığı, vergilendirme aşamasında geçen vaktin ve etkinliğin durumu da maliye politikası hedeflerine etkide bulunmaktadır. Vergi dairelerinin işleyişi bu açıdan fazlasıyla önemlidir. Günümüzde bütün kuruluşların gerçekleştirdikleri işlerde kuruluşun sürekliliği, gelişmesi, daha verimli ve etkili çalışması için dijital dönüşüme adapte olması gereklilik arz etmektedir. Devlet kuruluşları başta olacak şekilde bütün sektörlerin kendilerini güncellemesi ve küreselleşmeyle bir bütün olarak kabul edilen dünya ekonomisi ve işleyişine uyum sağlaması gerekmektedir. Bu açıdan vergilendirme sürecini içeren işleyişlerin dijital bir hale gelmesi hem devlet hazinesi hem de mükelleflere önemli katkılar sunmaktadır (Bentley, 2020, s. 367).

Vergileme sisteminde teknolojik olanaklardan yararlanılması, mükelleflere verilen hizmetlerin niteliğinin yükseltilmesi ve kolaylaştırılması oldukça önemli bir husustur. Böylece vergi mükelleflerinin vergilere gönüllü bir şekilde uyma seviyeleri iyileşmekte ve uyum maliyetlerinde düşüşler meydana gelmektedir. Bu duruma bağlı olarak vergi gelirlerinin de artacağı düşünülmektedir. Vergi sisteminde dijitalleşme hem vergi idareleri hem de mükelleflerin işlerini

basitleştirmektedir. Vergide dijital dönüşüm sayesinde kayıt dışı ekonomi oranının azalması ve vergi denetim mekanizmasının işlevselliğinin artması öngörülmektedir. Vergi gelirlerinin artması, vergi tabanının genişlemesi ve kayıt dışı ekonominin azalması gibi eylemlerin ülkedeki gelir dağılımını pozitif olarak etkileyeceğini düşünülmektedir (Bentley, 2020, s. 366).

Bu çalışmada, dünya genelinde tüm alanlarda yaşanan dijital dönüşüm sürecinin vergi idaresine yansımaları incelemek amaçlanmaktadır. Belirlenen bu amaç ışığında, konu ile ilgili daha öncesinde gerçekleştirilmiş olan benzer araştırma ve çalışmalara göz atılmıştır. Yapılan literatür taraması sonucunda elde edilen konuyla ilişkili bilgilere çalışma içerisinde yer verilmiştir.

Bu çalışma, dijital dönüşümün vergi idaresi alanına yansımalarının incelenerek literatüre katkıda bulunulması, literatürde dijital dönüşüm ve vergi idaresi konularını birlikte ele alan araştırmaların kısıtlı olması nedeniyle dijital dönüşümün vergi idaresine yansımaları konusundaki bilgi eksikliğinin giderilerek literatürde bulunan boşluğun doldurulması ve gelecekte konuyla ilgili yapılacak araştırmalara örnek teşkil etmesi açısından önem taşımaktadır.

2. DİJİTALLEŞMENİN VERGİLENDİRME ÜZERİNDEKİ ETKİSİ

Bilgi ve İletişim Teknolojileri (BİT)’nde meydana gelen dönüşüm, insanların yanı sıra devlete de büyük oranda etki etmektedir. Söz konusu değişim insanların ve firmaların gereksinimlerini karşılayabilmek adına devlet tarafından gerçekleştirilmektedir. Dijitalleşme çerçevesinde maliyetleri düşürmek, üretkenlik ve etkinliği artırmak, kaynak israfının önüne geçmek gibi birçok nedenden kaynaklı kamu hizmetleri verilmesinde büyük değişiklikler meydana gelmiştir (Sevinç ve Akyıldız, 2021, s. 121). Kamu hizmetlerinde yaşanan değişimin alt kümesi şeklinde nitelendirilebilen vergi idareleri de vergi sisteminin etkin işleyişini gerçekleştirmeye çaba göstermektedir. Vergi dairesiyle vergi mükellefi arasında meydana gelen etkileşimlerin dijitalleşme dahilinde değişime maruz kalması, vergi kontrolünü farklı bir sisteme taşımaya, vergi dairesi ve sisteminin etkin işleyişini sağlamaya yol açmaktadır (Skipin vd., 2020, s. 306-310).

Halkın dijital dönüşümü, platform ve dijital ağ tabanlı dijital iş fırsatları, küresel ticaret, artan küresel bağlantı ve entegrasyon benzeri dijital değişimin sunduğu avantajlar, vergi dairesine de etki etmektedir. Küresel, sosyal ve ekonomik açıdan meydana gelen değişimler farklı avantajların yanı sıra dezavantajları da yanında getirebilmektedir. Bu sebeple vergi kaçakçılığı, vergiden kaçınma ve bilgi alışverişi benzeri çoğu nedenden kaynaklı vergi idareleri de söz konusu değişime uyum sağlayarak önemli yapısal ve politik değişimleri uygulamaya geçirmişlerdir (Bentley, 2020, s. 367). Hükümetin en önemli ve büyük sektörleri arasında yer alan vergi idaresinin dijital dönüşümü, avantajların yanı sıra dezavantajları da yanında getirmektedir. Dijital dönüşümün dezavantajları, vergi idaresi ile iletişim kanalının kolayca değiştirilmesi veya kağıt tabanlı formattan dijital tabanlıya geçilmesinin dışında bir durum olarak kabul edilmektedir (Pitić vd., 2019, s. 133).

İlk başta kağıt tabanlı olarak gerçekleştirilen işler, gitgide artarak dijitalleştirilmiştir. Yeni analitik araçların üretilmesi, vergi idaresinin üstündeki yükü azaltmıştır. Söz konusu yenilikler arasında üçüncü taraflar vasıtasıyla doğrulanan raporların sunulması, Katma Değer Vergisi (KDV) faturalarının online yatırılması gibi pek çok yenilik vergi idaresini değiştirmektedir (Skipin vd., 2020, s. 306-310).

Gelişimini sürdüren çoğu devlet, vergi idarelerini dijitalleştirmiştir. Örnek olarak “İspanya Dijital Vergi İdaresi”, mükelleflerine farklı hizmetleri dijital dönüşüm aracılığıyla aktarmaktadır. Söz konusu yeni teknolojiler arasında yer alan görüntülü sohbetler, anlık sohbetler ve sanal asistanlık benzeri teknolojik yeniliklerden yararlanılmasıyla vergi mükelleflerine anlık hizmet sunulabilmektedir. Örnek olarak Avustralya Vergi İdaresi, vergi mükelleflerine günün her anı hizmet sunmak adına sanal asistan oluşturmuştur. Bahsedilen sanal asistan ile mükelleflerin sorduğu sorulara yanıt sunabilmek adına tasarlanmış ve herhangi bir insan müdahalesine gerek duymaksızın sistemden vergisel konuları çözüme kavuşturma olanağı sunmuştur (Britacom, 2021, s. 34). Örneklerle bakıldığı zaman, dijitalleşen vergi idaresiyle mükelleflerin dijital vergiler üstünden işlerinin büyük bir kısmını kolay bir şekilde halledebildikleri gözlemlenmektedir. Böylece devletler içinde hem vakit hem de maliyet açısından tasarruf sağlanmaktadır.

Bahsedildiği üzere dijitalleşmenin vergi idaresine yansımaları bakıldığı zaman, çoğu avantajın yanı sıra bazı dezavantajların meydana geldiği de görülmektedir. Elektronik ticaretin günden güne gelişmesiyle beraber vergi idaresi de söz konusu gelişme nedeniyle bazı güçlüklerle karşılaşmıştır. Söz konusu güçlüklerin başında belirsiz gelir karakterizasyonu, eksik vergilendirilen konuların patlak vermesi ve vergi gelir kayıplarına neden olması benzeri problemler yer almaktadır (Pitić vd., 2019, s. 133).

Dijital dönüşüm, gündelik yaşamın çoğu yönünü değişime uğrattığı gibi toplumsal ve ekonomik ilişkilerde de farklılıklara neden olmuştur. Dijitalleşmenin yol açtığı dönüşümün hızı ve genişliği fazlasıyla önemli bir husustur ve birçok kamu politikası da söz konusu dönüşümün etkisindedir. Bu nedenle politikaların geliştirilerek uygulanabilmesi adına yeni

araçların keşfedilmesi nedeniyle politika oluşturma'nın doğası da bu durumdan payını almaktadır (OECD, 2017, s. 39-47).

Son dönemlerde meydana gelen teknolojik gelişmelerle beraber gerçekleştirilen işlemlerin kapsamı ve öneminde de değişiklikler yaşanmıştır. Özellikle BİT'ten ekonomik ilişkilerde yararlanılması, ekonomiye yeni anlamlar katmıştır. Vergi de farklılaşan söz konusu ekonomik ilişkilerden etkilenirken, farklı risklerle de karşılaşmaktadır. Dijital ekonominin vergilendirilmesi, firmaların müşterileriyle iletişimini ve maddi olmayan varlıklara ilişkin güvenini değiştirip vergi yükümlülüğünün ne şekilde belirlendiğini ve borcun nerede ödenmesi gerektiği benzeri konulara etki etmektedir (Kavoya, 2018, s. 8).

Dijital ekonomi ve özellikle dijital dönüşümün özendirildiği birtakım yeni iş modellerinin vergilendirilmesiyle alakalı farklı problemler meydana gelmektedir. Bahsedilen problemler arasında firmaların fiziksel varlığı olmaksızın müşterilerine satış gerçekleştirerek ciddi karlar sağlamaları yer almaktadır. Uluslararası vergi sistemlerinde buna benzer kazançların vergiye tabi kılınması bazı problemler yaratmaktadır. Bunun nedeni, vergi sisteminin fiziki mevcudiyet sistemiyle çalışmasıdır. Fiziki mevcudiyetin mevcut olmadığı durumlar söz konusu olduğundaysa buna benzer kar oranlarının vergiye tabi kılınması mümkün olmamaktadır (Jones vd., 2018, s. 9). Dijitalleşmeyle beraber firmaların fiziksel veya hukuksal bir varlığa gereksinim duymamaları, sağladıkları karları vergi harici tutmakta, bahsedilen durum da devletleri büyük vergilerin haricinde bırakmaktadır (Mert ve Bayar, 2020, s. 32).

Dijital dönüşümün vergilendirmedeki etkilerinden bir diğeryse vergi idarelerinin hizmet ve gayri maddi varlıkların uluslararası ticaretinde KDV tahsil etme gücüdür. Bahsedilen durum anonimlik, vergi cennetlerinden yararlanarak deniz aşırı işlemler gerçekleştirilmesi, vergi tutarının belirlenmemesi ve dijital ekonomide yer alan firmaları tanıma gücünden kaynaklanmaktadır (Juswanto ve Simms, 2017, s. 6). Dijital ekonominin vergilendirilmesini düzenleyebilmek oldukça güçtür. Bunun nedeni çok sayıda dijital firma çeşidi bulunmaktadır ve hepsi özel bir şekilde incelenmektedir. İlgili vergiye tabi işler de değişiklik göstermektedir. Dijital platform tarafından insanlara sunulan hizmetlerle insanlar arasında meydana gelebilecek hizmetler adına vergilendirme hususları birer birer incelenmelidir. İnternet aracılığıyla hizmetlerin sağlanması, dağıtılması ve pazarlanması mükelleflere sanal işlerle yeni gelir akışlarına erişim sağlamaktadır. Söz konusu işler sanal para veya gerçek para birimleri biçiminde sonuçlanmaktadır. Söz konusu işler sanal olsa bile dijital ekonomide bulunması vergisel sonuçlara yol açmaktadır. Bu sebeple vergi mükellefleri, işlerini yerine getirebilmek adına vergi bilgisine gereksinim duymaktadır. İşlemler genellikle ya doğru bir şekilde tanımlanamamakta ya da kaydedilememektedir (Wassermann ve Bornman, 2020, s. 3).

3. VERGİ İDARESİNDE DİJİTAL DÖNÜŞÜMÜN TEMEL BİLEŞENLERİ

Günümüzde dijitalleşme olgusu gerek hükümetlerin bütün kuruluşlarında gerekse çalışma ortamlarında ilgi duyulan bir konuya dönüşmüştür. Neredeyse tüm sektörlerin dijital açıdan değişim geçirdiği günümüzde, dijital dönüşümün değer oluşturmada temel unsurları önemli bir konu haline gelmiştir. Dijitalleşmenin, vergi idaresinin hedeflerine uygun hale getirilmesi adına dijital araçların çalışan yeteneklerinde, süreçlerde ve kurumda etkili bir rol üstlenmesi gereklilik arz etmektedir. Bu nedenle dijital araçlardan etkili bir şekilde yararlanılması ve vergi idaresinin işlemlerini olabilecek en iyi şekilde gerçekleştirebilmesi adına temel bileşenlerin sağlam temelde inşa edilerek çalıştırılması zorunludur. Gelenekselden dijitalleşme yönelik değişim sürecinde kamu kuruluşları ve özel sektörde yaşanan problemlerin önüne geçmek için dijital geleceğe hazırlanmak amacıyla bazı hedefler oluşturulmaktadır. Bahsedilen hedefler şu şekilde sıralanabilmektedir (Deloitte, 2016, s. 3-4):

- Dijital eğitim ve öğretim
- Performans ölçümü
- Operasyonel çerçeve
- Vergi teknolojisi ve Altyapının oluşturulması
- Yasal çerçeve
- Uyum stratejisi

Uyum Stratejisi

Dijital vergi, mükelleflerine elektronik ödeme, dosyalama ve kaydın yanında bilgi ve eğitim de vermektedir. Genel anlamıyla elektronik vergi sistemi, mükellefler adına günün her anında ulaşım sağlayacak, faaliyet ve bilgiler adına tek bir nokta üzerinden ulaşım sağlanacak detaylı bir internet portalı sunmaktadır. Uyum stratejisiyse, söz konusu internet portalı üstünde vergi idaresinin problemlerinin tespit edilmesinde destek sunmaktadır. Modern çağda uyum maliyetleri, insan müdahalesi gerektirdiği için söz konusu durum maliyetleri ciddi oranda artırmaktadır. Teknoloji sadece gelirler adına değil hem idare hem de mükellef adına insan müdahalesini azaltabilmek için tercih edilmektedir. Örnek olarak mükelleflerden bilgi talep edildiği zaman gerekmediği müddetçe buna benzer taleplerin insan müdahalesi yapılmadan üreteceği verilerle sınırlandırılmaktadır. Vergi politikaları oluşturulurken ise hazırlanan politikanın başarı veya

başarısızlığının göz önünde bulundurularak değerlendirilmesi ve vergi toplama mekanizmalarının dikkate alınması gerekmektedir (Hope, 2021, s. 15).

Etkin bir vergi idaresinin temel vazifelerinden olan uyum stratejisi, idarenin birincil vazifesidir. Vergi idaresinin adaptasyonunu kolaylaştırabilmek adına o sistemde bulunması gerekli olanların en uygun biçimde işleme alınmasına imkan sunulması gerekmektedir. Öncelikle vergi mükellefinin olması, gönüllü bir şekilde kaydının gerçekleştirilmesi ve gerçekleştirilen kaydın olabildiğince kolay yerine getirilmesi fazlasıyla önem arz etmektedir. Stratejik uyum kapsamında yer alan bir diğer husus, vergi idaresinin yükümlülüklerini tespit edebilmek adına güvenilir ve üçüncü taraf kaynaklar üzerinden sağlanan verilerle beyannamelerin öncesinden doldurulması gerekliliğidir. Ayrıca bilgilerin, bankalar vasıtasıyla etkili bir şekilde toplanması gerekmektedir. Son olarak vergi kurumlarının elektronik dosyalama sistemleri, telefon, ödeme kolaylıkları, danışma kuruluşları, broşürler ve bilgi formu benzeri araçlarla vergi mükelleflerine kolayca ulaşabilmeleri ve mükelleflere müşteri memnuniyeti yaşatmaları gerekmektedir (Bird, 2010, s. 3).

Yasal Çerçeve

Dijital dönüşümün yasal çerçevesi, mükellefler ve vergi idaresi adına fazlasıyla önem taşımaktadır. Dijital dönüşümün vergi hukuku ilişkilerindeki etkisi, vergi hukuku sisteminin içeriğinde yer alan temel bileşenlerin tümünü içeren çok boyutlu bir yapıdadır. Dijital teknolojilerin gelişimi, yeni vergi hukuku ilişkilerinin doğmasına, söz konusu ilişkilerde katılımcıların sahip olduğu yeni yasal yükümlülük ve hakların meydana gelmesine, daha öncesinde var olan yükümlülük ve hakların kaldırılmasına neden olmaktadır. Bahsedilen hak, gizlilik hakkıdır. Bu hakkın belirli bir tezahürü mevcuttur ve diğer hakların yanında profil yaratma dahil olacak şekilde otomatik karara varmaya tabi tutulmama hakkını kapsamaktadır. Söz konusu hakkın istisnasına sadece yasaya sahip olan kişi izin verdiği miktarda onay verilmekte, bu yasa “veri sahibinin hak ve özgürlüklerini ve meşru menfaatlerini korumaya yönelik uygun önlemleri” içermektedir. Örnek olarak blok zincir sisteminde akıllı sözleşmeler uygulanmaktayken, yargı seviyesinde de dahil olacak şekilde sonuçların değerlendirilmesine izin verecek biçimde tasarlanması gerekmektedir. Gizlilik hakkı, bir bilgi paylaşımında gerekli olan verinin kaydedilmesidir. Bu sebeple vergi mükelleflerinin bireysel bilgileri direkt olarak blok zincirde paylaşılamamaktadır (Boucher, 2021, s. 26).

Kimi devletlerde, vergi idarelerine farklı kuruluşlardan veri aktarılmasına izin veren mekanizmalar mevcuttur. Söz konusu veri paylaşımları, hükümetin diğer kuruluşları arasında da yapılabilmektedir. Çoğunlukla kaçakçılık ile mücadele adına vergi mükellefinin verileri kullanılıyor olsa da söz konusu paylaşımlar arasında mükellefin özel verileri de bulunmaktadır. Mükelleflere ilişkin muhafaza edilmesi gereken diğer kişisel veriler ise biyometrik bilgileri, medeni hali, kimlik numarası ve adresidir. Vergi mükellefine ilişkin söz konusu verilerin gizliliğinin sağlanarak muhafaza edilebilmesi adına vergi idareleri dahil olacak şekilde bütün devlet kuruluşlarının yasal kapsamda söz konusu hakları muhafaza etmesi gerekmekte ve bu verilerin paylaşılmasına izin verilmemektedir (Kalyon, 2022, s. 109).

Operasyonel Çerçeve

Operasyonel çerçeve, vergi idaresinin çekirdek planlamasını meydana getirebilmek adına süreçlerin hazırlanmasını ve çeşitli prosedürleri içermektedir. Söz konusu durum, bir yönetim tasarımı sırasında uyum stratejisi, yönergeler, kurum yapısı, model, yönetim raporlaması içerisinde üstlenilen sorumluluk ve rolleri içermektedir. Bu çerçeve, bütün vergi idareleri adına aynı uyuma sahip olmasa bile devlet, sosyal ve kültürel nitelikler açısından çeşitli fikir kalıplarını gerektirebilmektedir. Dijital dönüşüm ve değişen teknolojiler, vergi yöneticileri adına farklı imkanlar sunsa da devletlerin vergi idarelerini dijitalleşme gayretleri farklılıklar içermektedir (Ernst ve Young, 2017, s. 6).

Vergi idareleri, performanslarını artırarak geliştirebilmek adına istenen amaca hangi yolla ulaşabileceklerini tespit etmek için daha detaylı operasyonel hedeflere bölünmüşlerdir. Çalışmalar; denetimlerin kapsamının genişletilmesi ya da elektronik dosyalamanın artırılması gibi vazifelerdir. Tüm hedefler çoğunlukla toplu hedefe ulaşabilmek adına stratejiyi yansıtan farklı çalışmalarla desteklenmektedir. Stratejinin bir parçası şeklinde bazı operasyonlar yapılması gerekli görülmektedir. Tercih edilen tedbirlerin olabildiğince zamanlılık, nicelik ve nitelik kıstaslarını somutlaştırması gerekmektedir (Martikainen, 2012, s. 58).

Vergi Teknolojisi ve Altyapısı

Dünya genelinde ekonominin yıkıcı teknolojiler ile beraber tekrardan biçimlenmesi, vergi idaresini vergi mükellefleri ile iletişim sağlayabilmek adına dijitalleşmeye yönlendirmektedir. Vergi idaresinin dijital dönüşümüyle ulusal ve yerel eşgüdümli bir şekilde yönetim modeli meydana gelmektedir. Dijital devlete geçiş yapılması, vergi mükelleflerine yüksek seviyede online hizmetler vermeyi amaçlamaktadır ve bu nedenle hükümetlerin gereken vergi teknoloji ve altyapısını sağlamaları gereklilik arz etmektedir (Britacom, 2021, s. 4). Kamu görevlerinin işlevlerini gerektiği şekilde gerçekleştirebilmesi adına teknolojik yenilikler çoğu devlet tarafından takip edilerek desteklenmektedir. Kamu sektörü,

dijitalleşmeye ilişkin tekrardan yapılanma süreci içerisinde yer almaktadır. Çalışma süreçlerinde dijital teknolojilerden yararlanılmasının düzgün bir şekilde yürütülmesi adına hükümet tarafından bazı hazırlıklar gerçekleştirilmektedir. Söz konusu hazırlıkların arasında, hizmetin en uç noktalara kadar ulaşması bakımından köylerde sinyal sağlayıcı istasyonların inşa edilmesi, internete ulaşımın sağlanabilmesi adına altyapı faaliyetlerinin gerçekleştirilmesi, dijital okuryazarlık eğitimlerinin verilmesi ve ulusal veri merkezlerinin inşa edilmesi benzeri birçok hizmet yer almaktadır (Rahmi ve Gangodawilage, 2022, s. 24).

Değişim Yönetimi, Eğitim ve Öğretim

Dijitalleşme, vergi idaresinde önemli dönüşümlere neden olmaktadır. Bundan kaynaklı vergi idaresi çalışanlarının da yeni vergi teknolojilerine yönelik kişisel becerilerini geliştirmeleri adına eğitim görmeleri gerekmektedir. Vergi idaresinde dönüşümün sona ermesi ve etkili bir şekilde ilerleyebilmesi adına idari çalışanın teknoloji ile bütünleşmesi gereklilik arz etmektedir. Modern kurumlarda eğitim ve gelişim, tabiatı gereğince karmaşık ve dinamik bir süreç olarak gelişmektedir. Eğitim, bütün kurumlar adına personellerin becerilerini artırmak, organizasyonel gelişime neden olan ve personellerin verimliliklerini yükselten değerli bir araç olarak kabul edilmektedir. Bununla birlikte personellerin dinamik ve güncel kalmaları adına eğitim almaları gerekmektedir. Dijital vergi idaresinin daha iyi bir şekilde anlaşılabilir ve etkili işleyebilmesi adına vergi mükelleflerinin bilinçlendirilmelerinin yanı sıra çalışanların da eğitim almaları ve teknolojiyi etkili olarak kullanmaları gerekmektedir (Zahed vd., 2021, s. 594).

Performans Ölçümü

Performans yönetimi, insanların performanslarında devamlı iyileşmeler sağlayıp örgütsel verimliliği iyileştirmeyi ve stratejik odaklanmayı hedeflemektedir. Etkili ve verimli yönetimde, vergi idaresinin performans düzeyini belirleyebilmek adına performans ölçümü fazlasıyla önem arz etmektedir. Vergi idaresinde performans ölçümü; çalışanın bireysel performansını ölçme, bütünlük, finansal performans, vergi mükelleflerinin memnuniyetlerini ölçme benzeri unsurlara odaklanmaktadır (Mansor ve Tayib, 2012, s. 137). Vergi idarelerinin performans ölçümü temel olarak üç seviyeye dayandırılmaktadır. Birinci seviye kişisel ölçüm olarak ifade edilmektedir ve performansın öncesinden belirlenen standartlar ışığında kişisel çalışan seviyesinde ölçümü kapsamaktadır. İkinci seviyede operasyonel ölçüm yer almaktadır. Operasyonel ölçüm, kurumun belirli vazifeleri etkili olarak gerçekleştirmesini temsil etmektedir. Son olarak üçüncü seviye ise stratejik ölçüm seviyesidir. Bu ölçüm ise kurumun performans ölçümü ile ilgilenip genel performans ve vazifede stratejik hedefleri amaç olarak belirlemektedir (Crandall, 2011, s. 4).

4. DİJİTAL DÖNÜŞÜMÜN VERGİ İDARELERİNE SAĞLADIĞI FAYDALAR

Mükellef Odaklı Çözümler

Vergi idarelerinin dijital dönüşümü, özellikle vergi mükellefleri adına fazlasıyla önem taşımaktadır. Vergi idarelerinin dijital dönüşümü hususunda yeni teknolojilerin önemli bir etkisi mevcuttur. Meydana gelen dönüşümle beraber vergi mükelleflerinin beyannamelerini e-ortam üzerinde sunabilmeleri, idareye 7/24 ulaşım sağlayabilmeleri, mükelleflerin gelir ve servet harcamaları ile ilgili e-ortamda verileri elde etmeleri ve e-denetim yapabilmeleri dijital dönüşümün sunduğu yeniliklere örnek olarak gösterilebilmektedir (Güzeloğlu, 2016, s. 115). Vergi idarelerinde gerçekleştirilen ilk hizmet çalışmaları, vergi idarelerinin internet sayfalarında mükelleflere bilgi aktarmakla başlamıştır. İkinci nesil hizmetlerdeyse vergi mükelleflerinin üst kısımda belirtilen işlemleri internet sayfaları üzerinden kolayca gerçekleştirebilmelerine imkân sunulmuştur. Yakın geçmişte ise mükelleflere çözüm sunabilmek ve birden çok platform üzerinden ulaşım sağlayabilmek adına kesintisiz hizmet sağlayıcıları inşa edilmiştir (OECD, 2016, s. 77).

Vergiye Dayalı Kararlar ve Otomatik Süreçler

Günden güne artan vergi mükellefleriyle alakalı büyük verileri işleyebilmek adına teknolojiye dayanarak yararlanılması yaygınlaşmıştır. Vergi idareleri, vergi mükellefleri adına doğru vergi miktarını belirleyebilmek adına onların bilgilerine gereksinim duymaktadırlar. Çoğu ülkede mükelleflerin vergilendirme amacıyla alakalı vergi kurumlarına veri sağlamaları gerekli görülmektedir. Bu duruma göre vergi mükellefleri arasında uyumun sağlanabilmesi adına idarecilere büyük vazifeler düşmektedir (Wanjagi ve Ruto, 2020, s. 32).

Gelir Toplama Sürecinde Yaşanan Değişim

Vergi idaresinin temel gayesi, vergi mükelleflerinin vergi kanunlarına uymalarını sağlamak, mükelleflerin hizmet tecrübelerini iyileştirmek ve etkili vergi tahsilatını yapmaktır. Mükelleflerin vergiye yönelik görüşlerinin iyileştirilmesi, gelir toplama süreci içerisinde idareye etkinlik kazandıran faktörler arasında yer almaktadır. Vergi tahsilatında etkinliğin

sağlanması adına dijital teknolojilerden yararlanılması, vergi idarelerine fayda sağlayan bir sistem olarak kabul edilmektedir. Farklı kaynaklar üzerinden sağlanan vergilerin çapraz kontrolle bilgi sağlayabilmesi ve kaçakçılık çalışmalarının olabildiğince kontrole alınması vergi tahsilatında verimliliği artırmaktadır. Vergi idarelerinin dijital dönüşümü, sistemin işleyişini önemli oranda değiştirmiştir. Söz konusu değişim vergi tahsilatında da etkisini göstermiştir. Vergi uyumunu geliştirip vergi tahsilatını üst seviyeye çıkarabilmek, dijitalleşmeden önce vergi idaresini zorlarken günümüzde e-vergi sistemlerinden yararlanılması vergi tahsilatını artırmaktadır (Ajape vd., 2017, s. 136).

Beyana Bağımlılığın Azaltılması

Son dönemlerde vergi sürecinde meydana gelen değişimler arasında, öncesinden doldurulan vergi beyannameleri yer almaktadır. Öncesinden doldurulan vergi beyannameleri, idarelerin mükellefe ilişkin sağladığı verilere dayanıp online ortam içerisinde beyannamelerin öncesinden doldurulması anlamına gelmektedir. Öncesinden doldurulan beyannameler, mükellefler tarafından online ortam içerisinde incelenebilmektedir ve gerektiğinde kağıt formatına çevrilebilmektedir (OECD, 2017, s. 43). Bahsedilen sistemde öncesinden doldurulan vergi beyannamelerini vergi mükelleflerinin yalnızca kontrol etmesi yeterlidir. Söz konusu teknolojiyenin yararlanılmasında vergi mükelleflerinden sadece doğrulama ve düzeltme işlemlerini gerçekleştirmeleri beklenmektedir. Öncesinden doldurulan beyannameler, özellikle yıllık beyanname uygulaması gerçekleştiren İskandinav devletlerinde sık sık tercih edilmektedir. Beyannamelerin öncesinden doldurulması hem vergi idaresine hem de mükellefe yarar sağlamaktadır. Böylece maliyetler ve uyum süreci azalmakta, fazla ödenen vergiler adına geri ödeme hızlıca yerine getirilmekte, beyanname doldurmayla geçen süre ve kayıt tutma maliyetleri de düşmektedir (İbrahim, 2013, s. 449).

Riskli Mükellef Tespitinde Kolaylık

Vergi idaresi, mükelleflerin sağladıkları tüm gelirlerin belirli bir kısmını kamu gereksinimlerini gidermek adına vergi şeklinde toplamakla yükümlüdür. Ancak kimi vergi mükellefleri, vergilerini ödemekten veya doğru söylemekten kaçınmaktadırlar. Özellikle vergi uyumu ve vergi bilincinin az olduğu vergi mükelleflerinde sık sık gözlenen vergiden kaçınma davranışı ve vergi kaçakçılığı, vergi idaresini de sık sık denetime zorlamaktadır. Geleneksel vergi idaresinde buna benzer risk barındıran mükelleflerin öncesinden belirlenebilmesi ve belirlenen riskli mükelleflerin takip edilmesi çok kolay olmamakla beraber bu durum dürüst mükellefleri de güç durumda bırakabilmektedir. Vergi idaresinin dijitalleşmesiyle vergi mükelleflerinin denetlenmesi kolay bir hal almış, farklı analitik ve denetim mekanizmalarının kullanımıyla beraber mükelleflere ilişkin daha çok bilgi sahibi olma olanağı doğmuştur (Jimenez vd., 2013, s. 19).

Şeffaflık ve Güvenilirlik

Vergi idarelerinde şeffaflık olgusu, “vergi idaresinin mükellefe ve kamuya karşı şeffaf olması” olarak ifade edilmektedir. İdarenin mükelleflerine karşı şeffaf olması, vergiye yönelik işlerin net ve açık bir şekilde yerine getirilmesi, mükelleflerin vergi idaresinde bulunan verilerine erişebilme hakkı, vergi idaresinin gerçekleştirdiği işlere yönelik mükellefleri bilgilendirme hakkı benzeri farklı çeşitleri mevcuttur (Yavaşlar ve Canyaş, 2018, s. 8). Şeffaflık, yerel kamu çalışmalarının etkinlik düzeyini iyileştirmenin garantisi şeklinde nitelendirilmektedir. Kamu çalışmalarının şeffaf bir şekilde gerçekleştirilmesi, kamuya yönelik güveni temsil etmektedir. Vergilendirmede de şeffaflık fazlasıyla değerli bir prensiptir. Karmaşık yapıya sahip bir vergi sisteminde, vergi kurumları tarafından takdir yetkisi, yolsuzluk ve kayırma benzeri işlemler ile karşılaşan vergi mükelleflerinin sisteme duydukları güvende zedelenme meydana gelebilmekte ve bu durum sonucunda kaçakçılık veya vergiden kaçınma yöntemlerine başvurabilmektedirler. Söz konusu ortama karşı vergi mükelleflerinin yasal olmayan yollara yönelmemeleri adına vergi idaresinin üst seviyede mükelleflere karşı güvenilir ve şeffaf olduğunu kanıtlaması gereklilik arz etmektedir. Aksi bir durum söz konusu olduğunda, vergi idaresinin kendisine karşı güvenilir ve şeffaf olmadığı fikrine sahip olan mükellef, vergi kaçırma ve vergilerini ödememe gibi yöntemlere başvurabilmektedir (Lachheb vd., 2016, s. 217).

Zaman ve Kırtasiye Kayıplarında Önlem

Dijital dönem, bireylerin gündelik hayatı ve faaliyetleri üstünde büyük bir değişikliğe yol açmıştır. Söz konusu değişiklik hizmet, bankacılık, üretim, ticaret ve tarım benzeri alan fark etmeksizin insanlara online platformlardan işlerini ucuz ve hızlı bir şekilde halletmelerini sağlamıştır. Vergi idareleri, vergi mükelleflerinin isteklerini karşılayabilmek adına dönüşen ortama uyum sağlayarak dijital teknolojilerden yararlanmaya yönelik çalışmalar gerçekleştirmiştir (Vuković, 2018, s. 2).

5. TÜRKİYE’DE VERGİ TEKNOLOJİLERİ UYGULAMASI

Gelir İdaresi Başkanlığı, vergi mükelleflerinin vergiye uymalarını sağlayabilmek için vergisel yükümlülüklerin çok daha basit, çabuk ve maliyetleri azaltacak biçimde bütün hizmetlerinde otomasyon altyapısından aktif bir şekilde

yararlanılmasını sağlayıp ve teknolojiye meydana gelen yeniliklerle beraber yeni hizmetler sunmaktadır. Gereksinimler ışığında kuvvetli ve etkili bir iletişim ağı aracılığıyla bilgi ve teknoloji kaynaklarını sürekli olarak geliştirmektedir.

Öncelikle 1999'da yürürlüğe girmiş internet vergi dairesi uygulaması, vergi idaresinin şeffaflığı bakımından ilk ve önemli uygulamalar arasında yer almaktadır. Bahsedilen uygulamanın ardından idarenin hem mükellefler hem de idare bakımından elektronik uygulama faaliyetleri devam etmiştir (Gib, 2021, s. 22-150).

Ülkeler, meydana gelen ekonomik ve sosyal yeniliklerden uzak duramamaktadırlar. Değişim ve dönüşüme adapte olarak dijital dönüşüme adım atmaktadırlar. E-devlet, bilgi ve teknoloji devleti şeklinde nitelendirilmektedir. Ayrıca küreselleşme ile e-devlet ilişki halindedir. Sonuç olarak ülkelerin dijital dönüşüme başlangıçları ile küreselleşme adımlarının atılması aynı tarihlere denk gelmektedir. Ülkelerin elektronik uygulamalardan amaçları şu şekildedir (Ay, 2006, s. 66):

- Kolay, rahat ve hızlı erişimi sağlamak.
- Katılımı artırmak.
- Hizmetin nitelikli olmasını sağlamak.
- 7/24 kesintisiz hizmet anlayışı.
- Saydamlık
- Kağıt tasarrufunun sağlanması.
- Giderlerin azaltılması.

Vergi idaresinin birinci uygulaması elektronik beyanname uygulaması olarak bilinmektedir. Elektronik beyannameler ile vergi idaresi özelinde bilgiler günden güne birikmektedir. Bahsedilen uygulama ile beraber analiz, denetim, değerlendirme, arşivleme ve istatistik işlerinin zaman, maliyet ve hız bakımından tasarrufu sağlanmış ve toplanan bilgilerle denetimin dijitalleşmesini etkilemiştir. Elektronik fatura uygulamasıysa iş hayatının önem arz eden faktörleri arasında yer almaktadır. Türkiye'de uygulanan vergi teknolojileri ise şu şekildedir (İçer vd., 2021, s. 74):

E-Fatura

Elektronik Fatura, Türkiye Cumhuriyeti'nde 5 Mart 2010'dan beri uygulanmaktadır. Bir fatura üzerinde yer alması gerekli bütün verileri kapsayan ve merkezi bir platformdan iletilen elektronik belge çeşitleri arasında yer almaktadır. Geleneksel kağıt faturalara kıyasla elektronik fatura, işlerin daha saydam olarak yerine getirilmesine katkıda bulunmaktadır. Elektronik fatura sisteminin kullanılabilmesi adına vergi mükelleflerinin elektronik fatura uygulamasına kayıt olmaları gerekli görülmektedir. Kaydedilen mükellefler sistem üzerinden fatura düzenleyebilmekte ve kendilerine düzenlenmiş faturaları alabilmektedirler (Kara ve Yılmaz, 2017, s. 10).

E-Defter

E-defter, muhasebeciler tarafından düzenlenmesi zorunlu defterler içerisinde yer alması gereken verileri içeren e-kayıtların tümü şeklinde ifade edilmektedir. E-defter, kağıt defterler ile aynı hukuksal niteliklere sahiptir. Farklı bir ifadeyle elektronik defter, zorunlu defterlerin e-dosya şeklinde düzenlendiği, kağıda basılmaksızın kaydedildiği, özgünlük ve bütünlüğün mali mühürle sağlandığı ve kaynağın değişmediği düzenlemeler bütünü olarak tanımlanmaktadır. Elektronik defter, defterlerin kağıt üstünde tutulma zorunluluğunu ortadan kaldırarak vergi mükelleflerini saklama, doğrulama ve basım yüklerinden soyutlayan bir sistem olarak ifade edilmektedir. Bununla beraber raporlama ve denetimin kullanılmasına uygun bir veri şeklinde saklanmasına imkan sunduğundan beklenen yarar gelecek dönemde daha iyi görülecektir. Elektronik defter uygulamasının kullanılması adına "Extensible Markup Language" formatına sahip bir kural olarak nitelendirilen ve toplumlar arası geçerliliği olan "Extensible Business Reporting Language" baz alınıp hazırlanması gerekmektedir (Doğan vd., 2015, s. 9-40).

E-Arşiv

İşletmelerin ticari muameleleri sebebiyle tüm satın alım ve satım işlemleri esnasında fatura kesmeleri gerekmektedir. Bazı alanlardaki işlem adetlerinin çokluğuna istinaden düzenlediği faturalarının sayısı ciddi oranda çoğalmaktadır. Bahsedilen durum sonucunda da bu kadar fazla faturanın mevzuata uygun kapsamda arşivlenerek saklanması zorluklar yaşanabilmektedir. Elektronik arşiv, işletmelerin zorlukla yürüttükleri söz konusu süreçleri etkili olarak sürdürmelerine yardımcı olan bir uygulama şeklinde ortaya çıkmıştır. Elektronik arşiv, faturanın, Gelir İdaresi Başkanlığı tarafından belirlenen kıstaslara göre dijital ortamda düzenlenerek saklanması ve rapor edilmesini sağlamaktadır. Bu uygulamadan yararlanmak isteyen mükelleflerin ilk olarak elektronik fatura uygulamasına kaydolmaları gerekmektedir (Karasioğlu ve Garip, 2019, s. 437)

E-İrsaliye

Bir ürün satışının sona ermesinin ardından o ürünün hareketlerini e-ortam üzerinden takip edilebilmesi adına kağıt üzerinde hazırlanan irsaliye yerine e-ortamda gönderilerek muhafaza edilen irsaliye türü e-irsaliye olarak

isimlendirilmektedir. E-irsaliye, kağıtta düzenlenen irsaliyenin bütün hukuksal özelliklerine sahiptir. Yükümlülüğün kapsamı haricinde olan mükellefler adına e-irsaliye uygulamasına geçmek isteğe bağlı olmaktadır. Bahsedilen içerikte mükelleflerin elektronik arşiv ve elektronik fatura uygulamalarına tabi olmaları, elektronik irsaliye düzenlemeleri ve muhataba iletmeleri adına gereken bilgi işlem hazırlıklarının tamamlanarak başvurunun gerçekleştirilmesi gerekmektedir (Karasioğlu ve Garip, 2019, s. 437)

E-Gider Pusulası

Gider pusulası; defter tutması zorunlu olan serbest meslek sahipleri, basit usule sahip olan kişiler, birinci ve ikinci sınıf tüccarlar ve firma adına düzenlenmiş ispatlayıcı ürünlerin alınması ve satılmasında vergi mükellefiyeti bulunmayan çiftçiler tarafından kullanılmaktadır. E-gider pusulası ise kağıtla düzenlenen belgenin dijital ortam içerisinde düzenlenip muhatap olunan kişi ya da kuruma dijital ortam içerisinde ya da talebi doğrultusunda kağıt belge şeklinde iletilmesini sağlayan, üretim şekliyle dijital ortam içerisinde saklanmasına yardımcı olan ve e-ortamda oluşturulan bir uygulama olarak ifade edilmektedir. E-gider pusulası e-ortamda iletilmektedir ya da istenildiği zaman Gelir İdaresi Başkanlığı'na bildirilmektedir. E-ortamda düzenlenen pusulalar, yeni belge türü şeklinde kabul edilmemektedir. Ayrıca kağıt üstünde düzenlenen gider pusulalarıyla benzer hukuksal niteliklere sahiptir (Kara ve Yılmaz, 2017, s. 8-1).

E-Beyanname

Vergi dairesine kağıt olarak iletilen beyannamelerin e-ortam içerisinde verilmesine elektronik beyanname denilmektedir. Uygulamaya ilişkin birinci yasal düzenleme 1 Eylül 2004'te "5228 sayılı Bazı Kanunlarda" ve "178 sayılı Kanun Hükmünde Kararnamede Değişiklik Yapılması Hakkında Kanun" ile yapılarak yürürlüğe konulmuştur. Yürürlüğe konan kanun ile 1 Ekim 2004'ten sonra e-beyanname gönderimi ihtiyari bir şekilde kullanılmaya başlanmıştır. Sonrasında yayımlanmış yasal düzenlemeler ile beraber uygulamaya dahil olan beyanname, sektör ve mükellef türleri şeklinde uygulama zorunlu hale getirilerek yaygınlaştırılmıştır (Kara ve Yılmaz, 2017, s. 8-1).

E-Muhasebe Fişi

Gelir İdare Başkanlığı tarafından yayımlanmış kılavuz içerisinde açıklanan formata göre veri bütünlüğünün sağlanabilmesi adına muhasebe programlarına kaydedilen işlerin nitelikli e-sertifika ya da mali mühürle onaylanıp zaman damgasıyla e-ortamda saklanarak istenildiği zaman kullanılmaktadır. Elektronik muhasebe fişi, elektronik deftere katılan mükellefler tarafından fişlerin e-ortamda düzenlenmesine ilişkin zorunluluk gerektirmeyen, isteğe bağlı bir şekilde tercih edilen bir uygulamadır.

E-Serbest Meslek Makbuzu

E-serbest meslek makbuzu, 509 numaralı genel tebliğle belgenin elektronik bir şekilde hazırlanması, muhatabın isteği doğrultusunda kağıt olarak ya da elektronik bir şekilde teslim edilmesi, e-ortamda saklanarak ibraz edilmesi ve son olarak idareye elektronik bir şekilde rapor edilmesine yönelik esasları tekrardan düzenlemiştir. Serbest meslek mükelleflerinden uygulama geçişi yönelik 1 Ocak 2020'den beri faaliyetini sürdüren kişiler 1 Haziran 2020 tarihinden sonra faaliyetlerine başlayacaklar adına işe başladıkları ayı takiben üçüncü ayın son gününe dek uygulamaya dahil olmaları ve e-belge düzenlemeleri gerekmektedir.

6. SONUÇLAR

Dijital dönüşüm, kamu alanında bazı yeniliklere yol açmış olsa da özellikle vergi idaresinin dijital dönüşümü hem topluma hem de kamuya yararı dokunan teknolojik bir devrim niteliğindedir. Vergi idaresinde yaşanan dijitalleşme, vergi idaresini işlem potansiyeli açısından kapsamlı bir değişime yönlendirmiştir. Söz konusu dönüşümle beraber idare hantal ve ağır yapısından sıyrılıp daha saydam, işlem potansiyeli yüksek ve modern bir yapıya sahip olmuştur. Dijitalleşmenin vergi idaresine yansması ile vergi idaresi manuel bir şekilde yerine getirdiği işlemleri yapay zeka aracılığıyla kolay bir şekilde gerçekleştirmeye başlamıştır. Böylece uzun süre alan işlemler daha kolay yöntemlerle gerçekleştirilebilir bir hale gelmiştir. Ayrıca idare, dijitalleşmeyle beraber kırtasiye ve vakit kayıplarını da önlemiştir. Vergi idaresinde teknolojiye aktif bir şekilde yararlanılması aracılığıyla uzun süre kuyruk bekleyen vergi mükellefleri, istedikleri her an idarede yapacakları bir işlemi kendileri gerçekleştirmeye potansiyeline sahip olmuşlardır. Ayrıca mükelleflerin vergi idaresine günün istedikleri anında ulaşma sağlayabilmeleri, onların vergiye uyumlarını, idareye güvenlerini ve idarenin mükellefleri denetlemesini de daha kolay bir hale getirmiştir.

Vergi idarelerinde teknolojiye aktif bir şekilde yararlanılması mükellef ve idare arasında bulunan ilişkini kuvvetlendirmiş olsa da özellikle vergi idaresi açısından söz konusu dönüşüm önemli imkanlar tanımaktadır. Geleneksel yapıya sahip idare, mükellefe ilişkin bilgi sahibi olabilmek adına sadece mükellefin paylaştığı veriler doğrultusunda işlemlerini gerçekleştirebilmekteydi. Ancak günümüzde idarelerde söz konusu durum değişmiştir. Gelişen ve değişen

vergi idaresiyle mükelleflere karşı saydam bir idare yaratılmıştır. Böylece çoğu devlette vergiye uyumun arttığı tespit edilmiştir. İdarenin e-platformlara taşınması ile mükellefler işlemlerini vergi idaresine gitmeden gerçekleştirme olanağına kavuşmuşlardır. Ayrıca yeni teknolojilerden yararlanan vergi idaresi, veri analitiği ve büyük veri aracılığıyla mükelleflere ilişkin diğer kuruluşlardan da sağladığı veriler sayesinde daha çok bilgiye sahip olmaktadır. Böylece riskli mükellefler saptanarak vergi kaçakçılığı ve vergi kaçırma benzeri durumlar engellenebilmektedir. Mükelleflerin vergi idaresine istedikleri zaman ulaşabilmeleriyle mükellefler yüz yüze iletişim sağlamak yerine, gerçekleştirecekleri işlemleri birkaç saniyede e-ortamda gerçekleştirmektedirler.

Dijitalleşen vergi idarelerine bakıldığı zaman çoğu devlette birbirinden farklı faaliyetlerin gerçekleştirildiği gözlemlenmektedir. Örnek olarak Avustralya’da elektronik dosyalama sistemine geçiş yapılmış ve öncesinden doldurulan beyannameler aracılığıyla mükelleflerin idareye kolay erişimleri sağlanmıştır. Böylece uzun vakit alan beyanname doldurma işlemi kolay bir şekilde yapılabilir bir hal almış ve meydana gelebilecek olan hatalar en az düzeye indirilmiştir. Ayrıca ülkede Alex olarak adlandırılan uygulamayla mükelleflerin sorunlarını çözüme kavuşturabilmek adına yapay zeka teknolojisi kullanılmaktadır. Kullanılan Alex isimli yapay zeka aracılığıyla mükellefler idareye gitmek yerine sorunlarını yapay zekayla çözebilmektedirler. Avustralya’nın bahsedilen dijital dönüşüm örnekleri Türkiye’yle kıyaslandığı zaman, Türkiye’de de öncesinden doldurulan beyannameler ve çevrimiçi vergi idare sisteminin var olduğu görülmektedir. Ancak Türkiye dijital açıdan gelişmiş olsa da henüz Türkiye’de bu kapsamda bir yapay zeka sistemiyle alakalı hizmet bulunmadığı gözlemlenmektedir.

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BIST İNŞAAT SEKTÖRÜNÜN TÜRKİYE İNŞAAT VERİLERİ İLE İLİŞKİSİ

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Özet: İnşaat sektörü gerek mikro gerekse de makro ölçekte ekonominin temel taşlarından biridir. İnşaat kavramı beraberinde oluşturduğu lokomotif etkisiyle birçok ekonomik alanın gelişimini etkilemektedir. Gerek işgücü piyasasına verdiği destek gerekse de doğrudan ve dolaylı olarak mal ve hizmet piyasasına etkileri çok büyüktür. Bu durum ulusal ve uluslararası anlamda araştırmacıların ilgisini çekmiştir. İnşaat sektörü ekonomik anlamda bu kadar önemli iken İnşaat sektörünün hisse senetleride önemini artırmaktadır. Bu çalışmanın amacı BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksinin birbiri ile nedensellik ilişkilerini ortaya koymaktır. Bu amaçla ilgili değişkenlerin nedensellik ilişkilerini belirlemek için, 04.05.2020-02.05.2024 tarih aralığında ilgili değişkenlerin aylık değerlerinin kullanıldığı çalışmada, Augmented Dickey-Fuller birim kök testi ile durağanlık sınaması yapılmış ve Granger nedensellik testi yapılmıştır. Analiz sonuçlarına göre BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksi arasında nedensellik ilişkisine rastlanılamamıştır.

Anahtar Kelimeler: BIST, İnşaat, Nedensellik

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RELATIONSHIP BETWEEN BIST CONSTRUCTION SECTOR INDEX AND TÜRKİYE CONSTRUCTION DATA

Abstract: The construction sector is one of the cornerstones of the economy both on a micro and macro scale. The concept of construction affects the development of many economic areas with the locomotive effect it creates. The support it provides to the general labor market and its direct and indirect effects on the goods and services market are very large. This situation has attracted the attention of researchers at national and international levels. While the construction sector is so important in economic terms, the stocks of the construction sector are also increasing their importance. The aim of this study is to reveal the causal relationships between the BIST Construction Sector Index and the Construction Turnover Index. For this purpose, in the study where the monthly values of the relevant variables were used in the period of 04.05.2020-02.05.2024, the Augmented Dickey-Fuller unit root test was used to test stationarity and the Granger causality test was performed. According to the analysis results, no causal relationship was found between the BIST Construction Sector Index and the Construction Turnover Index.

Keywords: BIST, Construction, Causality

1.GİRİŞ

Günümüzde insanların yaşamlarının farklı unsurları küreselleşme olgusu ile ilişki kurularak açıklanmaktadır. Küreselleşme kavramını açıklayabilmek için insanlık tarihine odaklanmak ve teknolojik gelişmelerle birlikte insanlık kavramının sürecini anlamak gerekmektedir. İnsanlık tarihi kavramı, kişilerin hayatta kalması, insanlığı yeniden ortaya çıkarma çabası olarak nitelendirilebilir. Çok genel bir ifade ile bu çabanın iki unsura sahip olduğu düşünülebilir. İlk unsur, insanların birbirleri ile ilişkilerinin düzenlenmesi, meydana gelen anlaşmazlıklara çözüm sunulması, toplumsal sistemler ortaya çıkarılması ve refah seviyelerinin yükselmesi için etkin yönetim uygulamalarının geliştirilmesidir. İkinci unsur ise insanların doğayı kendileri adına daha kolay yaşanabilir kılmak için bir mekân oluşturma çabasıdır. İnsanlar, aralarındaki mücadelelerde ya savaşmak suretiyle ya da masa etrafında tartışarak oluşturmakta, bir şekilde anlaşma sağlanarak ve yıkılan her dünya düzeninin yerine bir yenisini oluşturarak gelecek oluşturmaktadırlar. İnsanların doğa ile mücadelesi de var oluşlarından günümüze değişerek devam etmektedir. İlk önce doğadan aldıkları kaynaklarla yaşamlarını sürdüren insanlar daha sonra buldukları ile yetinmeyerek doğayı kendileri için tekrar inşa etmeye çalışmışlardır. Bundan dolayı

inşaat kavramı insanlığın varoluşu ile başlamıştır da denebilir. İnşaat faaliyeti çok fazla boyut içerir, insanların ihtiyacının karşılanması, üretim tesislerinin inşa edilmesi, ulaşım, iletişim, haberleşme ağlarının döşenmesi, eski olanların yenilenmesi, yükselen nüfus için yeni binaların oluşturulması, altyapının kurulması, bir süreç olarak varlığını devam ettirecektir. İnşaat unsurları yerel, bölgesel, ulusal ve uluslararası ilişkilerin toplamıdır.(Eşkinat & Tepecik, 2012: 26) Yeni teknolojilerin oluşturduğu alt yapının kurulması, ulaşım yollarının, iletişim şebekelerinin ve binaların inşa edilmesi inşaat sektörünün ilgilendiği konulardandır. Zaman ve mekân farkının bittiği bir dünya oluştuğunda inşaat sektöründeki unsurların da küresel ölçekte örgütlenmesi arzulanmaktadır. (Eşkinat & Tepecik, 2012: 30)

İnşaat sektörünün ülke ekonomileri ile ilişkisi üretim, istihdam, finans, çevre gibi çeşitli faaliyetler ile oluşabilmektedir. Literatürdeki yaygın uygulamalara göre söz konusu bu unsurlar daha çok gelişmekte olan ülke ekonomilerinde daha fazla göze çarpmaktadır. Ülkelerin iktisadi gelişim sürecinin ilk zamanlarında inşaat sektörünün ekonomik büyümeyi destekleyici rolü açısında oluşturulan görüşlerin temel unsuru, inşaat sektörünün ortaya çıkartmış olduğu iki ana unsurdur. Geri ve ileri bağlantı olarak isimlendirilen bu faaliyetler sayesinde inşaat sektöründeki üretim süreci, bir taraftan ekonomideki değişik sektörlerden girdi almak suretiyle ilgili sektörleri canlandırmakta diğer taraftan da çıktılarını diğer sektörlerle girdi olarak oluşturmaktadır. Bundan dolayı ekonomik unsurları canlandırarak başta üretim ve istihdam üzerinde olumlu gelişmeler yaratabilmektedir. Fakat, literatürde inşaat sektörünün ekonomik unsurlara olan destekleyici rolünün az olduğu ve uzun dönemde etkilerinin azaldığı anlamında görüşler de bulunmaktadır. (Bayrak & Telatar, 2021:1284) İnşaat sektörü bina ve bina dışı inşaat farklılaşması ilk önce olmak üzere karayolu, demiryolu, havayolu, liman, baraj, köprüler vb. altyapı yatırımlarını bünyesinde bulunduran büyük kapsamlı bir iktisadi unsur alanıdır. Kullanılan girdiler ve bu girdilerin çeşitliliği bakımından geri besleme etkilerinin çok yüksek olduğu ve istihdama olan etkisi bakımından da ekonomik büyümenin ulaşılması ve sürdürülmesinde çok önemli bir role sahiptir. Aynı zamanda kamu ve özel sektör tarafından yapılan inşaat sektörü bir bütün olarak düşünüldüğünde farklı mal ve hizmetlerin üretilmesi için gerekli olan altyapıyı ve üstyapıyı sağlamaktadır. (Alper, 2017:240)

İnşaat sektörü ve ekonomik gelişmelerle ilgili son yıllarda yapılan çalışmalara bakıldığında;

Torun 2022' de yaptığı çalışmasında Türkiye'de ekonomik büyüme rakamları kamuoyuna açıklandığı zaman Türk inşaat sektöründe endeks getirilerini etkileyip etkilemediği ve Türk inşaat sektörünün yarı-güçlü formda etkin olup olmadığını Etkin Piyasalar Hipotezi kullanarak ve olay çalışması yöntemi incelemiştir. Araştırmada 2012 yılı 4. çeyrek ile 2021 yılı 4. çeyrek arasındaki dönem ele alınmış olup çalışma sonucunda Türkiye'de ekonomik büyüme rakamları kamuoyuna açıklandığı zaman Türk inşaat sektörünün bu verilere hızlı, tam ve doğru bir şekilde tepki gösterdiği ve dolayısı ile Türk inşaat sektörünün oluşturduğu endeksin (BIST INSAAT) yarı güçlü formda etkin olduğu sonucuna ulaşılmıştır. Koç, Kaya ve Şenel 2017 yılında yaptıkları çalışmada İnşaat Ciro Endeksi, İnşaat Üretim Endeksi, İnşaat İşgücü Girdi Endeksleri ve İnşaat Malzemeleri Sanayi Bileşik Endekslerinin yıllar içerisindeki değişimi incelenerek ülkemiz inşaat sektörünün genel durumu değerlendirilmiştir. Araştırma sonucunda, Türkiye inşaat sektörünün hem üretim hacmi hem de ciro bakımından her yıl büyümesine rağmen sektöre olan güven ve beklentinin oldukça düşük seviyede olduğu sonucuna varılmıştır.

2. MATERYAL VE METOT

BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksine ait nedensellik ilişkilerinin araştırıldığı çalışmada, 04.05.2020-02.05.2024 tarih aralığında ilgili değişkenlerin aylık değerleri kullanılmıştır. Çalışmada değişkenlere ait seriler investing veri tabanından ve TÜİK veri portalından elde edilmiştir. Ayrıca tüm değişkenlerin logaritmaları alınmıştır.

Değişkenlerin aralarındaki ilişkilerin yönünü tayin etmek için Granger (1969) tarafından geliştirilmiş olan nedensellik testine başvurulacaktır. Granger'in nedensellik testi aşağıdaki denklemlerle yapılmaktadır (Öztürk & Sezen, 2018).

$$Y_t = \sum_{i=1}^m a_i Y_{t-i} + \sum_{i=1}^m \beta_i X_{t-i} + u_t \quad (1)$$

$$X_t = \sum_{i=1}^m \gamma_i X_{t-i} + \sum_{i=1}^m \delta_i Y_{t-i} + v_t \quad (2)$$

Eşitlikte m optimal gecikmeyi göstermektedir. Bu gecikme, bilgi kriterleri yardımıyla belirlenebilmektedir. Granger nedensellik analizinde, bağımsız değişkene ait gecikmelerin, belirli bir anlamlılık seviyesinde, sıfıra eşitliliğinin test edilmesiyle yapılmaktadır. (1) no' lu denklemde yer alan β_i katsayılarının belirli bir anlamlılık seviyesinde sıfırdan farklı bulunduğu takdirde, X' in Y'nin bir nedeni olduğuna karar verilmekte; benzer şekilde (2) nolu denklemde de δ_i katsayılarının da belirli bir anlamlılık seviyesinde, sıfırdan farklı bulunması durumunda da Y'nin X'in bir nedeni olduğu kararı verilmektedir (Öztürk & Sezen 2018).

5. BULGULAR VE TARTIŞMA

BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksinin değerlerine ait tanımlayıcı istatistikler Tablo 1’de verilmiştir.

Tablo 1. Değişkenlerin ait Tanımlayıcı İstatistikler

	BIST İnşaat	İnşaat Ciro Endeksi
Ortalama	3.523853	2.247927
Medyan	3.447868	2.231215
Maksimum	4.034618	3.013932
Minimum	2.989779	1.672098
Standart Sapma	0.344032	0.347017
Çarpıklık	0.142673	0.184886
Basıklık	1.526624	1.930775
Jarque-Bera	4.598362	2.613276
Olasılık	0.010341	0.00729
Gözlem Sayısı	49	49

Tablo 1’e göre 49 gözlem yapılmış olup, en yüksek ortalama ve standart sapmanın tespit edildiği değişken BIST İnşaat Sektör Endeksi olarak gerçekleşmiştir.

Çalışmada kullanılan değişkenlerin durağan yapıda olması için birim kök testleri yapılır. Literatürde sıklıkla karşılaşılan ve seriler için uygulanan Augmented Dickey-Fuller (1979) birim kök testi sonuçları Tablo 2’de gösterilmiştir.

Tablo 2. ADF Birim Kök Testi Sonuçları

Değişkenler	Durağanlık seviyesi	Augmented Dickey-Fuller Test İstatistiği Değeri	Olasılık
BIST İnşaat	1.Fark	-7.303308	0.0000
İnşaat Ciro Endeksi	1.Fark	-10.38756	0.0000

Tablo 2’de yeralan BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksinin 1. fark değerlerinde durağan olduğu görülmektedir.

BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksi arasında nedensellik ilişkisinin tespit edilmesi amacıyla Granger nedensellik testi yapılacaktır. Granger nedensellik testine geçmeden önce seriler için uygun gecikme uzunlukları belirlenmiş olup elde edilen sonuçları Tablo 3’de gösterilmiştir.

Tablo 3. Değişkenler Arasındaki Granger Nedensellik Testi

Nedensellik İlişkisi	Ki-kare Değeri	Olasılık Değeri
BIST İnşaat → İnşaat Ciro Endeksi	3.914502	0.1412
İnşaat Ciro Endeksi → BIST İnşaat	1.947178	0.3777

Tablo 3'e göre, BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksi arasında %5 önem seviyesinde nedensellik ilişkisine rastlanılmamıştır.

6. SONUÇ

İnşaat sektörü gerek ulusal gerekse de uluslararası literatürde kendisine çok fazla yer bulmuştur. İnşaat sektörünün ekonomi ile ilişkisi son derece yüksektir. Bunun sebebi üretimde kullanılan mal ve hizmetler ve işgücüne olan pozitif etkisinin yanında diğer ekonomik faaliyetlere lokomotif etkisinden dolayıdır. Bundan dolayı inşaat sektöründe olan değişimler diğer sektörleri de etkileyebilmektedir. Bu çalışmada BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksine ait nedensellik ilişkileri Granger Nedensellik testi ile analiz edilmiştir. Çalışmada ilk olarak tanımlayıcı istatistikler, birim kök testi yapılmış ve daha sonra ilgili değişkenler arasındaki nedensellik ilişkilerini ortaya koymak adına Granger Nedensellik testi kullanılmıştır. Ulusal ve uluslararası literatür incelendiğinde BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksi ile nedensellik ilişkilerinin incelendiği araştırmalara pek fazla rastlanılmamıştır. Bu anlamda çalışmanın özgünlük sunabileceği ve literatüre katkı oluşturmaya düşünülmektedir.

Çalışmada elde edilen sonuçlara göre BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksi arasında %5 önem seviyesinde nedensellik ilişkisine rastlanılmamıştır.

Çalışmada elde edilen sonuçların, BIST İnşaat Sektör Endeksi ve İnşaat Ciro Endeksine yatırım yapmak isteyen yatırımcılara, sermaye sahiplerine ve diğer ilgili unsurlara yatırım kararı konusunda yardımcı olabileceği düşünülmektedir. Ayrıca bu çalışma, farklı makroekonomik faktörlerin de eklenmesi ile yeni yapılacak araştırmalar için yol gösterici olabilir.

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STRATEGIC AWARENESS IN SMALL AND MEDIUM-SIZED ENTERPRISES (SMES) IN AZERBAIJAN WITH CASE STUDIES

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Abstract: Strategic awareness is the ability of a business to recognize, assess, and respond to both internal and external factors that influence its competitive position. For small and medium-sized enterprises (SMEs), which operate with limited resources and often face intense competition, strategic awareness can be a critical determinant of survival and growth. This article explores the role of strategic awareness in Azerbaijani SMEs, highlighting its importance for competitive advantage, resilience, and long-term sustainability. Strategic awareness, defined as an organization's ability to monitor and adapt to internal and external changes, is essential for the growth and sustainability of small and medium-sized enterprises (SMEs) not only in Azerbaijan but also all over the world. In Azerbaijan, SMEs play a critical role in the national economy, comprising 99% of all registered businesses but contributing only about 7% to the country's Gross Domestic Product (GDP) (State Statistical Committee of the Republic of Azerbaijan, 2023). This discrepancy highlights the need for enhanced strategic awareness within Azerbaijani SMEs to improve their economic impact, competitiveness, and adaptability to a rapidly changing global market. Strategic awareness enables SMEs to adapt to market changes, optimize resources, and capitalize on growth opportunities. In the article notable case studies of Azerbaijani SMEs that have demonstrated strategic awareness, showcasing how they have navigated challenges and leveraged opportunities effectively were introduced.

Keywords: Strategic awareness, SME, Azerbaijan, Case Studies

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1. INTRODUCTION

Strategic awareness involves the continuous monitoring of an organization's environment, including market trends, customer needs, technological developments, and competitor behavior. It enables SMEs to anticipate changes, identify opportunities, and mitigate risks in their respective industries. Unlike larger firms with extensive strategic departments, SMEs often rely on agile decision-making and quick responses to changes. This makes strategic awareness a vital tool in ensuring that their limited resources are effectively allocated to areas that generate the highest return.

According to Grant (2019), strategic awareness allows businesses to align their internal capabilities with external market demands, which is particularly crucial for SMEs that lack the scale and financial strength of larger corporations.

In rapidly changing business environments, strategic awareness is essential for SMEs to remain competitive. The ability to detect and react to shifts in consumer preferences, emerging technologies, or regulatory changes gives SMEs a chance to adjust their strategies accordingly. For instance, digital transformation has reshaped how businesses interact with customers. SMEs with high strategic awareness have been able to embrace digital tools to reach wider audiences and optimize their operations, while those with low awareness have struggled to keep pace (Mazzarol, 2015).

SMEs typically face greater exposure to external shocks, such as economic downturns or supply chain disruptions, due to their smaller size and lower financial reserves. Strategic awareness helps these businesses to anticipate potential threats and build resilience by diversifying their product offerings, investing in technology, or developing contingency plans. A study by Gunasekaran et al. (2011) emphasized that SMEs with robust strategic awareness were better positioned to weather the 2008 financial crisis compared to those that lacked foresight.

In addition to mitigating risks, strategic awareness also enables SMEs to seize growth opportunities. Whether through market expansion, innovation, or partnerships, SMEs that are attuned to emerging trends can capitalize on new avenues

for growth. This agility is particularly important in fast-moving industries such as technology and consumer goods, where early movers often enjoy a competitive edge (Barbero et al., 2012).

For instance, during the COVID-19 pandemic, many SMEs that demonstrated strategic awareness quickly pivoted their business models to adapt to the new normal, such as shifting to e-commerce or offering remote services. Those that were slow to respond were often left behind.

Despite its importance, developing strategic awareness can be challenging for SMEs. Limited financial and human resources, as well as a lack of access to market intelligence, can hinder their ability to stay informed about industry developments. Furthermore, many SMEs are focused on short-term operational concerns, leaving little room for long-term strategic planning (Storey, 2016).

To overcome these challenges, SMEs need to foster a culture of continuous learning and encourage employees at all levels to stay informed about market trends. Collaborating with industry partners, joining business networks, and investing in technology that enables real-time data analysis can also help SMEs improve their strategic awareness.

Leadership plays a critical role in promoting strategic awareness within SMEs. Owners and managers need to take an active role in scanning the external environment and ensuring that their teams are equipped to respond to new challenges and opportunities. A study by Kraus et al. (2020) found that SMEs led by managers with strong strategic thinking skills were more likely to develop successful growth strategies and outcompete their peers.

Leaders should encourage open communication and empower employees to contribute to the strategic process. By involving staff in decision-making, SMEs can benefit from diverse perspectives and ideas, which enhances their overall strategic awareness.

Azerbaijan, a country rich in natural resources and strategically positioned at the crossroads of Europe and Asia, has been experiencing rapid economic development. Small and medium enterprises (SMEs) are pivotal to this economic growth, contributing significantly to job creation and innovation. To harness their full potential and navigate the complexities of a dynamic market, SMEs in Azerbaijan must develop strong strategic awareness. This article delves into the importance of strategic awareness for SMEs in Azerbaijan, highlighting its impact on their performance and growth, supported by relevant references.

2. MATERIAL AND METHOD

In the article case studies were used in order to depict the importance of strategic awareness in different areas in Azerbaijan SME's.

2.1. Case studies of different SME's in Azerbaijan

Azercell Telecom

Overview: Azercell Telecom, a leading telecommunications provider in Azerbaijan, has been a prominent example of strategic awareness in the SME sector.

Strategic Awareness: The company has continuously adapted its services and business strategies to align with technological advancements and changing consumer demands. Azercell's strategic focus includes expanding its 4G and 5G network capabilities, offering innovative digital services, and enhancing customer experience.

Key Strategies:

- **Technological Innovation:** Azercell invested significantly in upgrading its network infrastructure to provide high-speed internet and reliable connectivity (Aliyev, 2021).
- **Customer-Centric Approach:** The company launched new data packages and mobile applications tailored to consumer needs, enhancing customer satisfaction and loyalty.

Outcome: Azercell's strategic awareness and adaptation have solidified its market leadership and allowed it to maintain a competitive edge in the rapidly evolving telecom sector.

Gilan Holding

Overview: Gilan Holding is a diversified conglomerate with interests in construction, agriculture, and tourism. The company has demonstrated strategic awareness by effectively managing its diverse portfolio.

Strategic Awareness: Gilan Holding has strategically expanded its operations into various sectors, leveraging its resources and expertise to adapt to market demands and economic shifts.

Key Strategies:

- **Diversification:** The company diversified its business operations to mitigate risks associated with economic fluctuations in a single sector (Mammadov, 2023).
- **Sustainable Practices:** Gilan Holding incorporated sustainability into its construction and agricultural projects, aligning with global trends and regulatory requirements.

Outcome: By diversifying

Outcome: By diversifying its operations and adopting sustainable practices, Gilan Holding has managed to achieve stable growth and reduce vulnerability to sector-specific risks. This strategic approach has enabled the company to capitalize on emerging opportunities and maintain a strong market presence across various industries.

Xalq Bank

Overview: Xalq Bank is one of the prominent financial institutions in Azerbaijan, providing a range of banking services to individuals and businesses.

Strategic Awareness: Xalq Bank has demonstrated strategic awareness through its emphasis on digital transformation and customer-centric banking solutions.

Key Strategies:

- **Digital Banking:** The bank invested in developing its digital banking platforms to enhance customer accessibility and streamline banking processes (Jafarov, 2022).
- **Market Expansion:** Xalq Bank expanded its services to underserved regions, increasing its market reach and customer base.

Outcome: Xalq Bank's strategic focus on digital innovation and market expansion has led to increased customer satisfaction, operational efficiency, and market share.

Azertekstil

Overview: Azertekstil is a textile manufacturing SME in Azerbaijan that specializes in producing high-quality fabrics and garments.

Strategic Awareness: Azertekstil has successfully navigated the challenges of the textile industry by focusing on quality, innovation, and export markets.

Key Strategies:

- **Quality Enhancement:** The company invested in advanced manufacturing technologies and quality control processes to produce competitive products (Huseynov, 2023).
- **Export Expansion:** Azertekstil developed an export strategy to tap into international markets, diversifying its revenue streams beyond the domestic market.

Outcome: By enhancing product quality and expanding into export markets, Azertekstil has increased its market share and achieved sustainable growth.

Baku Electronics

Overview: Baku Electronics is a leading retailer of electronics and home appliances in Azerbaijan.

Strategic Awareness: The company has demonstrated strategic awareness by focusing on customer service and expanding its product range.

Key Strategies:

- **Customer Experience:** Baku Electronics implemented strategies to improve customer service and enhance the shopping experience, including after-sales support and personalized services (Guliyev, 2022).
- **Product Diversification:** The company expanded its product offerings to include a wider range of electronics and smart home devices.

Outcome: The emphasis on customer service and product diversification has helped Baku Electronics to maintain a competitive position in the retail market and attract a loyal customer base.

3. RESULTS

These case studies illustrate the critical role of strategic awareness in the success of SMEs in Azerbaijan. By understanding market dynamics, leveraging technological advancements, and adopting customer-centric approaches, these companies have demonstrated how strategic awareness can drive growth and competitive advantage. As the Azerbaijani market continues to evolve, maintaining strategic awareness will remain essential for SMEs aiming to thrive and sustain their success.

Azerbaijan's economy has been undergoing significant shifts, particularly due to the country's efforts to diversify away from oil dependence. The government's focus on promoting non-oil sectors such as agriculture, tourism, and manufacturing presents both opportunities and challenges for SMEs. Strategic awareness allows Azerbaijani SMEs to recognize these trends and adjust their business models accordingly (OECD, 2020).

For example, SMEs that identified the growing demand for local agricultural products and adapted by modernizing their operations have benefited from government subsidies and export opportunities. On the other hand, SMEs that failed to recognize these trends missed out on potential growth (Azerbaijan SME Development Agency, 2021).

Digital transformation is another key area where strategic awareness is crucial. Many SMEs in Azerbaijan have lagged in adopting digital technologies, which limits their competitiveness in both local and international markets (European Bank for Reconstruction and Development, 2021). SMEs with greater strategic awareness recognize the importance of integrating digital tools for e-commerce, supply chain management, and customer relationship management.

During the COVID-19 pandemic, SMEs that quickly adopted online platforms were able to continue operations and even expand their reach. Those that lacked the foresight to invest in digital technologies were more severely impacted by lockdown measures (OECD, 2020).

Azerbaijan has introduced several reforms aimed at improving the business environment for SMEs, including tax incentives, reduced bureaucratic hurdles, and better access to finance (World Bank, 2022). Strategic awareness enables SMEs to stay updated on these regulatory changes and take advantage of new opportunities.

For instance, the introduction of the SME Development Agency (KOBIA) in 2018 provided Azerbaijani SMEs with greater access to support programs, financial resources, and advisory services. SMEs that were aware of these resources have been able to leverage them for expansion and modernization (Azerbaijan SME Development Agency, 2021).

Azerbaijan's economy is susceptible to global economic trends, particularly fluctuations in oil prices. SMEs with strategic awareness can better prepare for these uncertainties by diversifying their revenue streams and improving operational efficiency. Those that remain overly reliant on a single market or product line face greater risks during economic downturns (Asian Development Bank, 2020).

For example, SMEs involved in tourism were severely affected by the pandemic, but those with diversified operations, such as combining tourism with agricultural or retail activities, were better positioned to survive the crisis.

4. DISCUSSION AND CONCLUSIONS

Strategic awareness is a vital component for SMEs seeking to navigate today's complex and fast-changing business environment. It enables businesses to anticipate market shifts, mitigate risks, and capitalize on opportunities for growth. Despite the resource limitations that many SMEs face, cultivating strategic awareness can offer significant advantages in terms of resilience and competitive positioning. By fostering a proactive and agile mindset, SMEs can leverage their strategic awareness to achieve sustainable growth and long-term success.

Despite its importance, strategic awareness in Azerbaijan's SME sector is still underdeveloped. There are several challenges to fostering strategic awareness, including:

- **Limited Access to Market Information:** Many SMEs in Azerbaijan lack access to comprehensive market data and analytics, making it difficult for them to identify trends or anticipate changes (World Bank, 2022).
- **Short-term Focus:** Many SME owners in Azerbaijan tend to prioritize short-term gains over long-term strategy. This limits their ability to invest in innovation or adapt to market changes (OECD, 2020).
- **Financial Constraints:** Access to finance remains a significant barrier for Azerbaijani SMEs, making it difficult for them to invest in new technologies or expansion efforts (European Bank for Reconstruction and Development, 2021).

To improve strategic awareness among SMEs, the Azerbaijani government and business support institutions must play an active role. Initiatives like the SME Development Agency (KOBIA) and government-backed financial assistance programs can provide SMEs with the tools and knowledge they need to better understand their markets and adapt strategically.

Moreover, collaboration between SMEs, universities, and research institutions can foster innovation and enhance SMEs' ability to track market trends and technological advancements (Azerbaijan SME Development Agency, 2021).

Finally, strategic awareness is crucial for the survival and growth of SMEs in Azerbaijan. With the country's economy undergoing significant transformation, SMEs that can recognize market shifts, adopt new technologies, and respond to regulatory changes will be in a better position to succeed. However, challenges such as limited access to information, financial constraints, and a short-term focus continue to hinder the development of strategic awareness in many Azerbaijani SMEs. Strengthening institutional support and encouraging long-term strategic thinking are essential to unlocking the full potential of SMEs in Azerbaijan.

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APPLICATION OF ARTIFICIAL INTELLIGENCE IN MODERN HUMAN RESOURCE MANAGEMENT

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Abstract: Artificial Intelligence (AI) is developing Human Resource Management (HRM) by making the processes more optimized and supporting decision making with data. We can find AI applications in different HR functions like recruitment, employee engagement, performance management, and workforce analytics. The development of Information and communication technology has great impact on different markets. As globalized world moves into more sophisticated market economy labour market also changes. Currently majority companies require more talented and qualified employees and managers to manage the company efficiently and rapidly. So, application of AI in different areas will give more opportunities to managers. This article shed light not only to AI's role in HRM practices and its potential to address traditional HR challenges, but also examining the ethical considerations and limitations. The literature and industry reports are provided in the article, and a comprehensive understanding of AI's integration into HRM has been explained.

Keywords: Artificial Intelligence, Human Resource Management, Recruitment, Employee Analytics, Performance Management, Ethical Considerations

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1. INTRODUCTION

Currently, we can see that traditional HR practices have been already changed and the adoption of Artificial Intelligence (AI) in Human Resource Management (HRM) has grown rapidly. The application of AI can be seen in different functions like recruitment, talent management, employee engagement, and performance management. With the help of AI, organizations can schedule their diverse workflows, increase decision-making, and personalize employee experiences. The application of machine learning (ML), natural language processing (NLP), and predictive analytics offers HR professionals tools that develop efficiency, minimize bias, and help align human capital strategies with organizational goals (Kaplan & Haenlein, 2020). This paper provides an in-depth analysis of the role of AI in modern HRM, covering key applications, benefits, challenges, and future directions.

2. AI IN RECRUITMENT AND TALENT ACQUISITION

One of the earliest and most impactful areas where AI has made a significant contribution in HRM is recruitment. Taking into consideration this fact, we can see that AI-powered tools make job candidate sourcing, screening, and matching easy, significantly reduce the time for hiring and also it improves the quality of hired personnel. Based on job requirements AI can scan big pools of CVs and job applications for identifying suitable candidates, thus saving valuable time of HR teams.

For example, in order to predict suitability of candidates for a role, platforms like HireVue use AI-driven algorithms in analyzing video interviews by evaluating candidates' language, facial expressions, and voice tone (Pillai & Sivathanu, 2020). Similarly, based on data-driven assessments, LinkedIn Talent Insights offers AI-powered talent acquisition analytics for identifying skill gaps and recommend potential hires (Black & van Esch, 2021). These tools have led to more informed hiring decisions and reduced human bias, especially during the initial stages of recruitment (Upadhyay & Khandelwal, 2018).

While AI significantly accelerates recruitment, concerns about algorithmic bias persist. AI systems trained on biased data may unintentionally perpetuate historical inequities in hiring, favoring candidates from specific demographics. Amazon's AI-based recruitment tool was found to favor male candidates because it was trained on resumes submitted predominantly by men (Dastin, 2018). That is why, HR specialists must be very careful and make it sure that AI systems are regularly evaluated for bias and fairness.

2.1. Benefits of AI in Recruitment

- Reduced time-to-hire: AI can process and analyze resumes much faster than manual methods (Lambe & McMahon, 2021).
- Improved candidate experience: AI-powered chatbots like Mya interact with applicants to answer queries, schedule interviews, and provide updates, enhancing the overall candidate experience (Black & van Esch, 2021).
- Enhanced hiring accuracy: AI tools assess not only technical skills but also personality traits and cultural fit, which are often critical to long-term success (Tambe et al., 2019).

3. AI IN PERFORMANCE MANAGEMENT

Today, performance management systems is also reshaped by introducing real-time feedback, personalized development plans, and forecasting analytics. Traditional performance reviews are typically conducted annually, but together with these facts, they have often been criticized for their lack of objectivity and frequency. In this context, AI-driven tools address these limitations by providing continuous monitoring and data analysis thus resulting in more accurate assessments.

Workday and BambooHR are two examples of AI-driven platforms that allow for real-time tracking of employee performance. These platforms utilize data analytics to identify top performers, track productivity trends, and predict future performance. This continuous assessment model enables managers to provide immediate feedback and support personalized development plans for employees (Bhardwaj et al., 2020).

3.1. Benefits of AI in Recruitment

- Objective assessments: AI removes much of the subjective bias present in traditional performance reviews (Jarrahi, 2018).
- Continuous feedback: Employees receive more frequent feedback, allowing them to correct behaviors or improve skills promptly (Sharma et al., 2020).
- Predictive insights: AI can forecast potential performance issues and provide managers with early warnings, enabling proactive intervention (Bhardwaj et al., 2020).

4. AI IN EMPLOYEE ENGAGEMENT AND WELL-BEING

AI has become instrumental in monitoring and promoting employee engagement and well-being. AI tools use sentiment analysis and behavioral data to gauge employee morale and engagement levels. For instance, Humanyze provides AI-driven analytics on employee collaboration and communication patterns to identify disengagement or burnout risks (Tambe et al., 2019).

Moreover, AI-based platforms such as Grokker offer personalized wellness programs, helping employees balance their work-life schedules and mental health. These tools provide insights into stress levels, working hours, and emotional well-being, allowing organizations to take preventative measures to enhance employee satisfaction (Zhao et al., 2021).

4.1. Benefits of AI in Employee Well-being

- Proactive interventions: AI can identify potential risks to employee well-being and recommend personalized interventions (Biron et al., 2021).
- Personalized support: AI-driven wellness platforms offer tailored recommendations for stress management and work-life balance (Sharma et al., 2020).
- Increased productivity: Engaged and satisfied employees are more productive and contribute to a positive organizational culture (Kaplan & Haenlein, 2020).

5. CHALLENGES AND ETHICAL CONSIDERATIONS

Despite the advantages of AI in HRM, its integration is not without challenges. A significant concern is the ethical use of AI, particularly regarding privacy, bias, and transparency. AI systems process massive amounts of employee data, raising privacy concerns about how data is collected, stored, and used. Ensuring data protection is critical, and organizations must comply with regulations such as the General Data Protection Regulation (GDPR) (Holland et al., 2020).

Moreover, AI's reliance on historical data can perpetuate existing biases if not carefully monitored. Algorithms may reflect societal inequalities, such as gender or racial bias, leading to unfair hiring or promotion practices (Dastin, 2018). Organizations must ensure that AI systems are transparent, fair, and regularly audited to minimize these risks.

5.1. Ethical Concerns

- Algorithmic bias: Biased training data can result in discriminatory hiring or performance assessments (Jarrahi, 2018).
- Privacy concerns: AI systems that monitor employee behavior may infringe on privacy rights if not regulated properly (Holland et al., 2020).
- Lack of transparency: Employees may mistrust AI-driven decisions if the algorithms are opaque or not well understood (Kaplan & Haenlein, 2020).

6. FUTURE DIRECTIONS

The future of AI in HRM is promising, with advancements in Natural Language Processing (NLP), Robotic Process Automation (RPA), and predictive analytics set to further transform the field. NLP could improve communication between employees and HR systems, allowing for more nuanced analysis of employee feedback and concerns. RPA, on the other hand, will automate repetitive tasks such as onboarding and payroll, freeing HR professionals for more strategic initiatives (Biron et al., 2021).

As AI continues to evolve, HR departments will likely see increased integration of AI with other technologies like big data and the Internet of Things (IoT). These integrations will offer more sophisticated tools for workforce planning, employee development, and organizational performance monitoring (Sharma et al., 2020).

7. DISCUSSION AND CONCLUSIONS

AI has emerged as a transformative tool in modern HRM, enabling more efficient, accurate, and personalized HR processes. From recruitment to employee engagement and performance management, AI is reshaping how organizations manage their workforce. However, its adoption comes with ethical concerns, particularly regarding bias, privacy, and transparency. Moving forward, organizations must balance AI's benefits with its challenges to ensure fair and ethical HR practices.

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TECHNOLOGY AND CYBER-CRIMES: AN EXAMINATION OF EVOLUTION OF CYBER-TERRORISM WITH TECHNOLOGY AND ITS IMPLICATIONS FOR TURKEY

Mücahit Ergün, Gülşen Aydın

Abstract: The rapid advances in cyber technologies have led to the rise of cyberspace as a new field for criminal activities. Among other cybercrimes, cyber terrorism has risen to prominence due to its negative impact on security on the national and global level, in addition to its repercussions for safety of individuals. This study aims to address the evolution of cyber terrorism, in general, and the evolution of cyber threats targeting Turkey, in particular. To achieve this objective, it employs the taxonomy developed by Plotnek & Slay, which evaluates cyber terrorism on the basis of actors, goals, methods, motivating factors, impact of actions, and intentions. The study is structured as follows. The introduction discusses why the issue of cyber terrorism is of paramount importance and is closely associated with unprecedented technological development marking the last three decades. The second section explores the concept of cyber crimes and cyber terrorism. Second, the emergence and evolution of the cyber terrorism crime is examined. The third section brings the evolution of cyber terrorism crimes targeting Turkey under scrutiny. The study concludes with emphasizing the daunting change in both scale and intensity of the cyber terrorism with technology and the need for the necessity of better integration of technology into security policy formation at both national and global levels.

Keywords: Technology, Cyber Crimes, Cyber Terrorism, Security, Türkiye.

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1. INTRODUCTION

The rapid advances in cyber technologies have led to the rise of cyberspace as a new field for criminal activities. Among other cybercrimes, cyber terrorism has risen to prominence due to its negative impact on security on the national and global level, in addition to its repercussions for safety of individuals. We aim to address the evolution of cyber terrorism, in general, and the evolution of cyber threats targeting Turkey, in particular. To achieve this objective, we have identified the key features of cyber-terrorism.

2. MATERIAL AND METHOD

Having carried out a comprehensive and intensive survey of the literature, we have found two studies that provide definitions of cyber terrorism by focusing on its key features.

These studies are Al Mazari et al. (2018) and Plotnek and Slay (2020).

2.1. Simulation

Key taxonomy 1: al mazari et al. (2018)

Key Taxonomy II: Plotnek And Slay (2020)

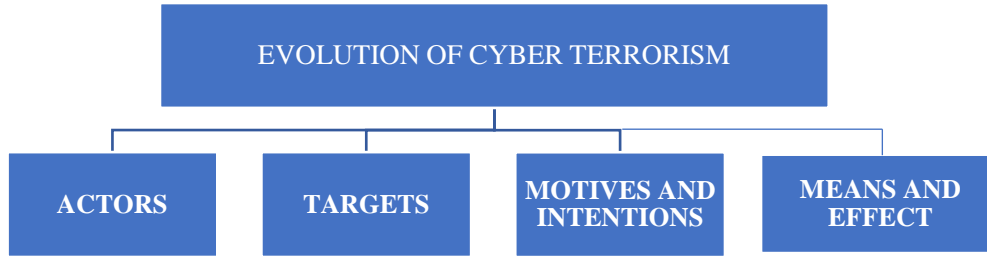


Figure 1. STAGES OF CYBER TERRORISM EVOLUTION

Table 1.

Actors	Means And Effect
Targets	Motives And Intentions

3. RESULTS

THE EVOLUTION OF ACTORS IN CYBER TERRORISM AGAINST TÜRKİYE

MOTIVES-INTENTIONS OF CYBER TERRORISM TARGETING TÜRKİYE

THE EVOLUTION OF TARGETS IN CYBER TERRORISM AGAINST TÜRKİYE

THE EVOLUTION OF MEANS AND THE EFFECT OF CYBER TERRORISM AGAINST TÜRKİYE

4. DISCUSSION AND CONCLUSIONS

To conclude, it can be argued that cyber-terrorist attacks against Türkiye have evolved in parallel to the evolution of cyber terrorism in the rest of the world with the rapid advance in technology.

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A Theoretical Approach to the Digital Colonialism in the Context of Media Imperialism

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Abstract: Classical colonialism is based on the appropriation of land and infrastructure, the exploitation of labor, knowledge, and the products thereof, and the consolidation of state power. As pervasive as classical colonialism was in the past centuries in the context of human history, digital colonialism in today's world poses an equally dominant and encompassing threat, especially for the Global South. This functioning has evolved over the centuries, with new technologies incorporated into it. To illustrate, during the late 19th century, the British Empire employed a telegraphic communication system using undersea cables. Whether decolonized countries have attained complete independence remains a topic of debate in the contemporary postcolonial era. In contrast to the previous system, in which the colonizer appointed a governor, these countries now rely on the West through international corporations. The advent of a new world order has precipitated many consequences, including the deepening of inequality, the intensification of state-corporate surveillance, and the ascendance of sophisticated security and military technologies. While these developments may appear novel to some, they have constituted a constant feature of the global status quo for decades. In the absence of a robust alternative movement, the situation is likely to deteriorate further. The consolidation of US-based international media ownership and the concomitant decline in independent media organizations have established and perpetuated unequal relations between countries, with the more powerful nation benefiting the most. This article puts forward a conceptual framework for how the United States is remaking colonialism in the Global South through its dominance of digital technology and the context of media imperialism. Although only 10% of the world's population speaks English, 60% of the web content is in English. While the Internet may appear available to everyone, it is controlled by a few major corporations, overshadowing other businesses. Furthermore, due to the lack of resource optimization, technologically advanced countries can dominate over less developed countries. The control of the digital ecosystem by Big Tech companies gives them direct power over computer-mediated experiences, allowing them to exert influence over political, economic, and cultural spheres of life, which can be described as imperial control. Like the colonialism of the classical era, imperialist powers appropriate the raw material of data, process it, and transform it into a global service, thereby consolidating their dominance and subordinating others to themselves. Governments and significant technical corporations must collaborate to develop strategies to curtail the existing form of global domination by U.S. Big Tech companies that control Big Data, the center of surveillance capitalism. The solution to digital colonialism is a digital ecosystem that decentralizes technology.

Keywords: Digital Colonialism, Media Imperialism, Global South, Big Tech Companies.

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INTRODUCTION

Imperialism characterizes the economic, political, and military relations that ensure the subordination of economically underdeveloped countries to developed ones. "Imperialism is the most appropriate word to describe the system of unequal relations in the world economy." Imperialism is the attempt of a state or nation to influence other states or nations through expansionist policies in line with its interests, to put it more concretely. (Barrat-Brown,1972). While colonialism is a policy of expansion aimed at capital and exploitation of material resources, the driving force in terms of the principles and spirit of imperialism is ideology. This ideological basis should never be forgotten in communication studies, especially international communication. Only in this way is it possible to understand the role played by the media in the process of propagating the lie of neo-imperialist, neo-colonialist globalization. Mass media - in other words, media - that eliminate spatial and temporal limitations with the convenience provided by the developments in technology in question are the most critical element of the transfer process of the said ideologies to the target Third World countries, which are seen as global markets.

John Tomlinson (1991) considered cultural imperialism to be too broad a term to give an easy or single definition, instead arguing that a definition "must be gleaned from its discourse." The definition of cultural imperialism, which is common in cultural imperialism studies and presented by Schiller (1976), is as follows: "Cultural imperialism is the sum of the processes by which a society is brought into the modern world system and its dominant layer is attracted, sometimes by pressure, coercion, and sometimes by bribery, to shape social institutions, conforming to and even supporting the values and structures of the dominant center of the system." This definition is consistent with world systems theory and emphasizes the effectiveness of modernity and the inequalities of power and class structure. More controversially, it assumes that the term is only appropriate for the "modern" era, with the USA unquestionably the dominant center of the system and concentrating its critical energy on advanced capitalism (Mirrlees, 2020).

Oliver Boyd-Barrett (2015) has preferred the term "media imperialism" because of the benefit of a focused discourse that helps reveal the complexity of media operations, although it is less encompassing than cultural imperialism. Although these terms have some common roots and are sometimes used interchangeably, they also have different histories. For example, in the media sociology between the 1960s and 1970s, the term "media imperialism" was primarily based on the contrast to the "modernization paradigm" previously dominating the literature. While modernity theorists see the media as an essential tool in "national development," media imperialism theorists see the media infrastructure, institutions, and content as a part of Western imperialism. It enables the media to voluntarily impose continued exploitation on the people of the Global South and the developing world, regardless of whether they are politically autonomous.

For the past decade, journalists and industry experts have framed the internet, personal computers, smartphones, and social media as the foundation of our "global village." There is no doubt that digital technologies are helping some people create virtual "villages," but the persistence of the "digital divide" means this is certainly not the case for everyone. Currently, just under half of the world's population does not have internet access, and just over 32 percent own a smartphone. Moreover, access to the internet and smartphones is useless for billions of illiterate people, let alone searching on Google or managing a Facebook profile.

Contrary to the dominant discourse, it is impossible to discuss a truly inclusive, participatory, and universally accessible digital ecosystem in today's conditions. Technology has served the interests of the most powerful empires for hundreds of years. The Internet and the World Wide Web are used by imperial states and corporations for profit and national security goals, not to provide public goods or world peace (Boyd-Barrett, 2006). US internet and social media companies dominate the global system and transcend borders in search of new investments, markets, consumers, and user data (Jin, 2015).

Jandrić and Kuzmanić (2015), in their study titled "Digital Postcolonialism," argue that postcolonial theory, which examines the effects of colonialism and imperialism on societies, can be applied to digital media and internet studies. In this way, light can be shed on issues such as the digital divide, cultural appropriation, and the continuity of colonial power. Thus, the gap between postcolonial and digital media studies can be filled by providing a theoretical framework to understand the complex relationship between digital technology and postcolonialism.

2. METHOD

This research presents a theoretical framework for understanding the complex relationship between digital technology and postcolonialism. Literature research, one of the qualitative research methods, was used to analyze the concept of digital colonialism under theoretical approaches to international communication. Documents, information, and documents related to the subject were accessed, classified, criticized, and analyzed. Media imperialism and cultural imperialism are two tightly articulated theses. Both are the cause and effect of each other. Both include system critique (political economy) and institutional analysis.

2.1. Colonialism

For centuries, the global system has been structured to serve the geopolitical, economic, and cultural interests of powerful imperial countries at the expense of less powerful ones. When dominance over the seas was combined with advances in weapons technologies, the leading imperial centers of the 17th and 18th centuries were Amsterdam, Lisbon, London, Madrid, Paris, and Saint Petersburg. But by the mid-18th century, England had become the world's most important industrial capitalist Empire, competing and collaborating with the less powerful French and Dutch Empires. From the nineteenth century to the mid-twentieth century, the empires of the United States, Austria-Hungary, Germany, and Japan emerged and clashed in the global system. From 1945 to 1991, the United States struggled with the Soviet Empire and, in the early twenty-first century, faced a possible rivalry or a new rival, China. In the hyper-commercial capitalist world, the dominant states of the Global North now seek dominance of the digital ecosystem (Colás, 2008).

The colonial movements of the past have metamorphosed at the hands of the Global North, which now owns international media systems and maintains its hegemony over consumer cultures through global culture. Western culture, art, and literature contributed to the continuation of this colonial order by strengthening it from the 18th century to the present day. Napoleon Bonaparte's Egyptian expedition in 1798 is shown as the origin of Orientalism. Nearly five hundred scientists; French mathematicians, astronomers, natural scientists, civil and mining engineers, architects, drafting technicians, and writers, participated in the expedition that aimed to make Egypt a French colony, and at the end of this expedition, especially the depiction of the east was reflected in works of art and literature. The first significant work defined as Orientalist is shown as the album *Description de l'Égypte* (*Description of Egypt*), which was prepared based on the impressions of these expeditions and published on the orders of Emperor Napoléon Bonaparte (Germaner, 2013). Colonial conquest typically entails the stripping of valuable resources from indigenous peoples and the ownership and control by colonial powers of critical infrastructure that facilitates foreign control.

In many parts of the Global South, critical infrastructures such as railways were designed by colonial powers to serve the mother country, not to benefit indigenous populations. In the order that emerged with European colonialism, raw materials were extracted by the exploited local workforce and sent back to the Empire. In some cases, colonial powers imported cheap, machine-made industrial products into villages, undermining local artisans and their ability to establish competing industries. The architectural design of the production system was not designed to benefit the local population but to serve the urgent needs of Europe (Jedwab, Kerby, and Moradi, 2017). Postcolonialists say that the West owes its current glory to its colonies. The question that needs to be asked here is whether the countries freed from colonialism have fully gained independence. It does not seem possible to answer this question positively. Because these countries that are freed from colonialism will continue to be exploited in different ways. Now, instead of a governor appointed by the colonialists, these countries are again dependent on the West by the bourgeoisie and international companies. At the point reached by today's communication technologies, the classical colonialism of centuries ago is being formulated through digital technologies.

2.2 Cultural Imperialism

Just as colonialism in its classical sense was dominant and widespread in the past centuries, digital colonialism in today's world poses a dominant and encompassing threat, especially for the Global South. Deepening inequality, state-corporate surveillance, advanced security technologies, and increased military technologies are just a few consequences of this new world order. This situation, which may seem new to some, has been an immutable part of the global status quo for decades. The problem will worsen if a strong movement is organized against this. Imperialism is the product of an unequal relationship, and this inequality does not work to the advantage of the weaker party. Cultural imperialism also distinguishes dimensions of a process that go beyond economic exploitation or military force. The concept of cultural imperialism, which is used as a framework to explain events in the fields of international relations, anthropology, education, science, history, literature, and sports, as well as in the field of communication, emerged in the 1960s and has been a focus of research since the 1970s.

Herbert Schiller, who proposes to use the concept of cultural imperialism to explain and describe the multinational companies, including the media, of developed countries that dominate developing countries, focuses on media technology and communication as a tool that works for the spread, protection, and improvement of the capitalist system. Today, the picture of the world presented by the "corporate media" generally reflects narrow-minded and prejudiced interests and the values of sellers, buyers, and the product. Keeping information as far away from the public as possible is one of the primary functions of corporate media. Another vital point that democrats and liberals in the USA have in common is that communication giants support the corporate media. Mass media, which eliminates spatial and temporal limitations with the convenience of technological developments, is the most critical element in transferring ideologies to target third-world countries, which are seen as global markets. Herbert I. Schiller, with his work *Mass Communications and American Empire* (1969), was the first to systematically address the presentation of mass media, structures, and products of the West, along with other technological products, to underdeveloped countries, within the international economic and political context, outside of frameworks such as cultural exchange. As Schiller points out, American communications and information policy after World War II helped expand and spread aggressive and assertive industrial-electronic cooperation that sought to expand the American socio-economic system ideologically and geographically. In Schiller's sense, cultural imperialism is a subset of the general imperialist system. It does not have a free character on its own. Cultural and economic spheres are indistinguishable from each other. After all, everything described as cultural output/product is also ideological and serves the interests of the system (Schiller, 1991). Globalization has transformed the media's traditional role as a reflective force. The media has become a productive force and the engine of the economic and political ruling class. The media, once in the hands of patriarchal capitalists and families, have now become part of large conglomerates. While the media sector creates popular culture and elite culture as commodities, it also shapes public opinion (Chrisman, 2013).








2.3 Media Imperialism

Today's modern hyper-corporations, through their concentration mechanisms, are taking over various media sectors in many different countries of every continent, thus becoming the central actors of liberal globalization thanks to their economic weight and ideological importance. These large groups constantly seek to increase their size by taking over new companies. Moreover, they also put pressure on governments to eliminate laws that prevent the formation of monopolies and duopolies and restrict concentrations. As Ignacio Ramonet points out, the groups that make up the corporate media today, with the concern of continuing their growth, do not consider being a "Fourth Estate," nor denouncing cases of abuse of law, nor correcting the disorders in the functioning of democracy to improve the political system, as a civic goal and putting it. Ignacio Ramonet explains the situation in his article "Set the Media Free" as follows (Akner, 2014): "The power of the media has now been added to the traditional oligarchy and classical reactionary forces. Claiming that they collectively speak for freedom of expression, they attack any program that defends the interests of the vast majority of people, which is the media face of globalization, and the Liberal ideology of globalization reveals it in its most obvious and caricatured form."

Oliver Boyd-Barrett first presented various perspectives on media imperialism in his study of international news agencies in the 1970s. The media power that emerged in the world's foremost centers expanded with 19th-century imperialism. Studies on media imperialism focus mainly on media giants' history, ownership, economies, and operations. In all his works, Boyd-Barrett examined the inequalities of media power and its impact on nations. There are at least three forms of relationship in media imperialism: First, processes of imperialism are carried out, encouraged, transformed, undermined, and resisted by and through the media in various senses. Second, the media themselves, the meanings they produce and distribute, and the political-economic processes that sustain them are shaped through ongoing processes of empire-building and maintenance and bear vestiges of once-existing empires. Third, some media behaviors can be considered imperialist without reference to broader frameworks. These may be international (as in the unequal exchange of news), relationships imposed on the national press by Western international news agencies (during the 19th and 20th centuries), or national (as in the case of powerful entertainment and news media exerting undue commercial and political influence over a particular national area). – Rupert Murdoch/NewsCorp influence in the UK comes to mind). Today, three international news agencies dominate the global news market: AFP, REUTERS, and AP (Boyd-Barrett, 2020).

Although some global media conglomerates are European, American media products dominate global markets (See Table 1). These foreign conglomerates invest in American media companies. Foreign companies have recently acquired many American film studios, but these acquisitions have not affected the structure of Hollywood films. Australian-American media mogul Rupert Murdoch owns more television stations in America than anyone else. German giant Bertelsmann also purchased the largest printing house in America (Crane, Kawashima, and Kawasaki, 2002).

Table 1. The World's Top Media Companies by Market Cap (Seth, 2024).

	Apple (AAPL): \$3.22 Trillion
	Netflix (NFLX): \$290.80 Billion
	Disney (DIS): \$181 Billion
	Comcast (CMCSA): \$153.64 Billion
	AT&T (T): \$137.02 Billion
	Sony (SONY): \$103.66 Billion
	Thomson Reuters (TRI): \$75.80 Billion
	Charter Communications (CHTR): \$43.05 Billion
	Fox (FOX): \$15.48 Billion
	Paramount Global (PARA): \$7.24 Billion

According to Boyd-Barrett, there are four different forms of media imperialism. The first of these is the mass communication phenomenon itself. This technology has also been developed and prepared unidirectionally in the developed world. The second is regulating this technology in government institutions such as the BBC or commercial structures pioneered in the USA. The third element is the professional norms of media production, which were first developed in Western countries and exported to other countries in its completed form. The last is the nature of media narratives, the actual nature of programming, or the concept of news itself. These were also modeled in the West, exported to the developing world in a ready-made form, or imitated by those who grew up there (Sparks, 2007).

2.4 The Searches for Solutions to Existing Inequalities and Imbalances in Communication

The New World Information and Communications Order (NWICO) Discourses were presented by a committee chaired by UNESCO's Sean McBride as part of a series of conferences organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO), which also included the Non-Aligned Movement (NAM). It was realized with the publication of "Many Voices, One World" in 1980. The UN has supported NWICO's view that the solution to economic inequalities is a cultural problem, not a purely economic one. While avoiding mention of imperialism, the report's language consisted of ideas of dependency and its application to communication inequalities between nations arising from political, economic, and cultural spheres and processes within and outside institutional structures and nation-states. The International Commission for the Study of Communication Problems was established in 1977 by Amadu Mohtar M'Bow, then director-general of UNESCO. This Commission is also known as the MacBride Commission, as it takes its name from the Nobel Peace Prize-winning Irish statesman who was the chairman of the Commission. The Commission consisted of 16 members. The Commission emerged when there were new technological developments in communication (Thussu, 2015).

Today, the MacBride Report is an illuminating text for reading the themes of cultural imperialism and media imperialism, two closely interconnected theses in international communication. The MacBride Report tries to take precautions against the favors of developed countries that appear to be simple technological aid with postcolonial concerns. In the relevant article, developed countries are advised to help developing countries "sincerely and in good faith." Thus, well-intentioned technological aid should not become economic exploitation in the future.

It is stated that the MacBride report was prepared not only for developing countries but for all humanity. It is impossible to achieve freedom, independence, and reciprocity in the worldwide exchange of information unless the necessary changes are made worldwide. The Commission also confirms that the imbalance in the flow of information and news between countries and the inequality in the distribution of communication resources persist. In addition, the Commission sees transnational companies as a threat to cultural unity and national independence (Carlsson, 2005).

The New World, Information and Communication Order is neither an agreement with legal sanction nor an approach directly put forward by the official bodies of UNESCO. This concept is an understanding that has been shaped due to the mutually supporting work of many researchers. Its main feature is that it is a set of propositions that embody the reactions of Third World countries, parallel to the fact that the phenomenon of communication gained importance in the 70s.

The United States withdrew from UNESCO membership in December 1984. One of the main reasons for the US withdrawal is the perception that the UNESCO secretariat supports the New World Information and Communications Order. Thus, it has been seen that the countries that control the flow of information in the international media oppose the fair use and dissemination of information and communication. US official sources attribute this withdrawal decision to "UNESCO increasingly adopting an attitude towards Western countries and abandoning the defense of its founding ideals, which are to defend the principles of freedom of thought and expression" (Raube-Wilson, 1986). Inspired by liberal theory and in harmony with its internal ideological tradition, the USA sees the "free circulation of information" as a concept against censorship, and state control puts forward its arguments at the international level in this direction.

2.5 The New Imperialism Threat to Freedoms in The Postcolonial Era: Digital Colonialism

2.5.1 Digital Colonialism

Digital colonialism is the final point reached in human history by cultural and media imperialism regarding international communication. With a semiotic approach, although at first glance they seem to be the providers of unlimited access to information and entertainment and the free circulation of information, inspired by liberal theory, Big Tech companies are representatives of a new type of colonialism with a connotative dimension. Although the increasing dominance of companies in domestic markets in the USA, which has adopted the principle of free circulation of information and ideas inspired by liberal media theory, has been the subject of many critical analyses, the global influence of these companies is not often mentioned in academic studies. "Big Tech companies," which is the name given to the five most prominent companies in the Information Technologies Sector in the USA, Google, Amazon, Apple, Facebook, and Microsoft, are not only global in terms of their scope but are essentially colonial in nature, and this is called "digital colonialism."

Digital colonialism means using digital technology to establish political, economic, and social domination over a nation or country. The US uses the internet to spy on populations in nearly every country on the planet with the help of Big Data companies that collect, process, commodify, and sell user data to advertising companies. Today, US internet and social media companies are developing a business model known globally as platform capitalism that focuses on extracting and

using a specific type of raw material: data (Srnicek 2017). Companies like Facebook and Google collect user data, turn that data into a persona (or demographic) approximation, put a price tag on it, and sell it to advertising companies.

Within the scope of digital colonialism, foreign powers, led by the United States, establish infrastructures designed according to their own needs in the Global South while ensuring economic and cultural dominance and imposing privatized forms of governance. Large companies are developing digital technology to provide their dominance over critical functions in the technology ecosystem to accomplish this task. In this way, they can accumulate profits through revenues from rent (in the form of intellectual property or access to infrastructure) and surveillance (in the form of Big Data). It also gives them control over the flow of information (such as the distribution of news and broadcasting services), social activities (such as social networks and cultural exchange), and many other political, social, economic, and military functions mediated by their technologies.

The free flow of information doctrine defended by the USA, inspired by liberal theory, advances and expands the interests of the culture industry in the world market and gives it an imperial character. This doctrine views the freedom to transmit and receive information across borders without hindrance by the state as a human right and uses it to build a global order of liberal, democratic, peaceful states (Rosenberg 1982); this was why the USA withdrew from UNESCO. During the Cold War, the U.S. state, at the behest of U.S.-based globalizing cultural industries, tried to roll back the protectionist cultural policies of other countries to pave the way for the free flow of American cultural products and services. In the globalizing 1990s, the free flow of information was combined with clear arguments for a global audiovisual free trade regime against national cultural policy protections, foreign ownership regulations, and content quotas. The U.S. government does these through the General Agreement on Tariffs and Trade (GATT) and the General Agreement on Trade in Services (GATS). It has been pushed by the World Trade Organization (WTO). It has also pushed for the free flow of U.S. internet hardware, software, services, and digital information through its Global Information Infrastructure (GII) initiative, encouraging governments and companies outside the U.S. to privatize internet infrastructure, liberalize digital trade, and remove barriers to ICT competition (Mirrlees, 2020).

It is estimated that approximately 5.4 billion people - or 67 percent of the world's population - will use the internet by 2023, with an estimated 1.7 billion people online during this time, which represents a 45 percent increase since 2018. However, 2.6 billion people in this case are still offline (ITU, 2024). Digital colonialism is based on domination over the computer tools that make up the material of the digital world, namely software, hardware, and network connection. Digital colonialism is integrated with the usual tools of capitalism and authoritarian rule, from labor exploitation to the domination of public policies by corporate interests and economic planning, from ruling class hegemony to propaganda. Control of the code forms the basis of digital dominance (Kwet, 2021). In his book *Code: And Other Laws of Cyberspace*, Lawrence Lessig (2000) argued that computer code shapes the rules, norms, and behaviors of computer-mediated experiences in ways similar to architecture in physical space (such as imperial railroads or ports designed for colonization). Consequently, code is law because it can usurp legal, institutional, and social norms that affect society's political, economic, and cultural spheres.

In his doctoral thesis titled "Digital Colonialism: South Africa's Education Transformation in the Shadow of Silicon Valley," Kwet (2019) states that digital colonialism derives its power from software, hardware, and network connection, which are the three fundamental pillars of the digital ecosystem, and that Big Tech companies have established their empires in the Global South. Facebook's Free Basics service provides an illustrative case study of the strategies employed by major technology companies to expand their influence in the Global South. According to Kwet, the practice enables Facebook to act as an internet watchdog for people experiencing poverty and violates net neutrality laws: zero-rated offerings place content providers on an unequal footing. Many countries have ended Free Basics, partly due to public outcry. However, Internet.org has integrated more than 100 million users from more than 60 countries, including South Africa, into the Facebook ecosystem. Seventy-five percent of web publishers' traffic now comes from Google (46%) and Facebook (29%). The centralization of services in the hands of these companies gives them centralized control over communications through code. These two companies filter search results and news feeds with proprietary black box algorithms, giving themselves enormous power to shape who sees what news. "Left-wing outlets have published data suggesting that Google censors socialist views while Facebook favors mainstream liberal media." Accordingly, platforms also regulate freedom of expression and association. If an online social network detects specific keywords and patterns of speech, it may censor them or ban the user. U.S. multinationals can regulate the press, expression, and organization in foreign lands as they see fit.

In the 19th century, the telegraph communication used by the British Empire was provided by submarine cables, and thus, the British news agency Reuters dominated international lines. Britain's dominance on international lines meant that news agencies worldwide were under British control. This situation was expressed as "whoever controls the telegraph lines controls the news." In this way, the British Empire also provided the necessary tools for its central control in its overseas territories, that is, its colonies (Silberstein-Loeb, 2014). A similar situation applies to Big Tech companies today. The

oceans are lined with fiber optic cables that companies like Google and Facebook have purchased or leased to enhance data collection and monopolization further. Therefore, as in the past, it would not be wrong to say that "whoever controls the fiber lines also controls the digital ecosystem."

These examples illustrate how the structural dominance of the technology ecosystem undermines local sovereignty through privatized forms of political, economic, and social governance, which helps the United States maintain copyright paywalls, control information flows, spread platform monopolies, displace local autonomy, filter communications, and deepen dependence on the United States. In turn, corporations increasingly profit from Big Data surveillance, an exploitative human rights violation against the Global South. The situation becomes even worse with the "feedback results" of Big Data: Whoever has more and better quality data provides the best artificial intelligence service. Users offer more data as a condition of better service, and the chain continues like this. Just like in classical colonialism, imperialist powers seize data, which is their raw material, in one fell swoop; It processes it and transforms it into a worldwide service, and in this way, it strengthens its sovereignty and subordinates others to itself.

2.5.2 Free Software Movement and Internet Decentralization

Classical colonialism focused on appropriation and control over land and infrastructure; it was based on the usurpation of labor, knowledge, products obtained through them, and state power. In colonialism's classical sense, Europe usurped lands in foreign countries, created settlements, and established infrastructures such as ports and railways to obtain cheap raw materials and provide the highest economic benefit. This process has evolved over the centuries, with new technologies incorporated into it. In the late 19th century, telegraph communication was used by the British Empire, and it was provided by cables laid under the sea. Innovations in information recording, archiving, and editing systems used by American military intelligence were tested for the first time with the intervention in the Philippines (Young, 2015).

Today's heavy construction equipment, Cloud server farms, dominated by Amazon and Microsoft, used to store aggregate and process Big Data, are proliferating rapidly. We see that the codes, initially shared freely and widely by programmers, are increasingly privatized and copyrighted. In the 1970s and 80s, the US Congress began to tighten copyright laws on software. In response to this attitude of Congress, a counter-movement known as "Free and Open Source Software" (F/OSS) gives users the right to use, process, modify, and share software. This restrictive licensing annoyed and disliked people who were used to and enjoyed modifying software. In the mid-80s, Richard Stallman started the Free Software Movement (McGowan, 2004).

In his article titled "Why Software Should Not Have Owners," Stallman (2004) justifies the establishment of F/OSS by comparing totalitarian and liberal media theories. According to Stallman, the reason for information control in the Soviet Union was political; In the USA, the motive was profit. However, the actions, not the motivation, influence us. Whatever the reason, every attempt to prevent information sharing leads to the same methods and harshness. According to Stallman and others, banning software sharing means breaking the bonds of society.

One of the most important works that accelerated F/OSS as a movement is Eben Moglen's (2003) article "The dotCommunist Manifesto". In his article, the author says, "By destroying the private property system in ideas, we create a truly just society in which the free development of each is the condition for the free development of everyone" and continues: "Throughout the digital society the classes of knowledge workers--artists, musicians, writers, students, technologists, and others trying to gain in their conditions of life by copying and modifying information--are radicalized by the conflict between what they know is possible and what the ideology of the bourgeois compels them to accept. Out of that discordance arises the consciousness of a new class, and with its rise to self-consciousness, the fall of ownership begins."

In response to the rise of cloud centralization in 2010, Professor Eben Moglen launched FreedomBox, a global project to empower ordinary people to regain control over the internet infrastructure. FreedomBox consists of a free and open-source software system and inexpensive hardware. As computer processors and network bandwidth costs have fallen to low levels, it is now affordable for people to host digital services. Using FreedomBox, people can run their cloud to store and access their data. It provides society with tools to decentralize Internet services such as social networks and provides network services such as onion routing through the Tor network to protect against third-party snooping of Internet traffic. FreedomBox empowers its users to avoid the "data mining, censorship, and surveillance" of centralized silos that characterize today's web. It makes web servers personal, affordable, and manageable so that users can host the necessary web services at home on their devices with free software they can trust (Freedombox.org, 2024).

The imperial dominance of Big Tech companies in the digital ecosystem reformulates the exploiter-exploited relationship in the classical colonial period. Internet users who unconsciously contribute to "Big Data" are the new exploited of the postcolonial age. Because artificial intelligence uses Big Data to "learn." For example, millions of images are required to

define the letter "A" in different fonts and forms. If we adapt this situation to humans, the sensitive details of people's private lives become a precious resource that technology giants constantly try to obtain.

The Free Software community has benefited countries in the Global South by creating an environment of corporate control and a non-profit "digital commons." However, the spread of this The Free Software Community in the Global South brought objections from companies. While Microsoft made a patronizing objection to Peruvian government officials for abandoning the use of its patented software, it also tried to prevent governments in Africa from using GNU/Linux's open-source operating systems in ministries and schools (Kwet, 2019).

3. RESULTS

Cecilia Rikap (2021) draws attention to a complex commodity chain created by Big Tech companies in her book "Capitalism, Power and Innovation, Intellectual Monopoly Capitalism Uncovered." According to Rikap, technology giants cause labor exploitation by generating rent from this complex commodity chain, just like in the classical colonial period. Apple is the best example of a company that bases its production on a commodity chain. Lower-tier manufacturers such as phone assemblers in the production facilities of Taiwan-based Foxconn, minerals extracted from Congo for phone batteries, and chip manufacturers required for processors work entirely in line with Apple's demands and desires. Software, hardware, and network connectivity then lead to corresponding forms of domination. The monopoly power of multinational corporations is used for resource extraction – economic domination – and commodities through rent and surveillance. By controlling the digital ecosystem, large technology companies control computer-mediated experiences, which gives them direct power over political, economic, and cultural spheres of life; this is called imperial control or digital colonialism. One of the faces of digital colonialism is the heavy exploitation of the unspecialized labor force of the countries of the Global South to supply the materials vital for digital technologies. We have known for a long time that more than 70% of Cobalt, which is the main ingredient in the production of batteries used in cars, smartphones, and computers worldwide, is supplied from the Democratic Republic of Congo. Fourteen families in Congo filed a lawsuit against Apple, Tesla, Alphabet, Dell, and Microsoft, accusing them of using child labor in the cobalt mining industry.

When we look at it from past to present, it is observed that nothing has changed much in the exploitation of African people. During the colonial period, companies colonized areas inhabited by indigenous peoples for profit and power. In his article titled "Digital Colonialism: The Evolution of American Empire," Kwet (2021) describes Africa's bad fortune by quoting Lapiere and Sharife and Bond: "The Dutch East India Company was established in 1602. In 1650, the Dutch East India Company in South Africa founded the first European colony, the Cape Colony. In the following decades, white settlers stole land from Indigenous peoples, imported enslaved people, employed indigenous people, imposed racist laws, committed horrific acts of physical and psychological violence, and spread racist doctrines that rationalized colonial conquest. Shortly after the discovery of diamonds (1867) and gold (1876), the struggle for mineral-rich lands culminated in the Anglo-Boer War, with the British and Afrikaners putting aside critical differences. They formed the Union of South Africa, uniting in a racist agreement that further dispossessed blacks of their land and enacted racist laws for white minority rule. A handful of companies dominated much of the economy in a short time. The Oppenheimer family dynasty controlled nearly all of the country's diamonds, half of its gold and platinum, and a quarter of its coal. With their accumulated wealth, they acquired critical stakes in many other sectors, including banking, steel, automotive, electronics, and agriculture."

Mineral mining generally has adverse effects on employees' health and living spaces. Lithium's largest reserves are in Chile, Argentina, Bolivia and Australia. Workers' wages in Latin American countries are far below the standards of welfare countries, especially considering the working conditions they are exposed to. In addition, Southern countries are an efficient source of cheap labor for technology giants, which includes those creating data annotations for AI datasets, call center workers, and content moderators for social media giants like Facebook. Content moderators often have psychological disorders since they filter out disturbing, violent, and sexual content from social media notifications.

The economic power of American technology giants goes hand in hand with their influence in political and social spheres. As with other industries, the traffic between technology company management and the US government is very active. Technology companies and their business partnerships spend serious time with the authorities on policies prioritizing their private interests and digital capitalism in general.

4. DISCUSSION AND CONCLUSIONS

Simultaneously with the developments in communication technologies, radical changes have occurred in the industrial fabric of mass communication. This change has caused the press, once defined as the fourth power, to lose its primary function. Now, media companies' freedom of enterprise trumps all freedoms. Anglo-Franco-Americans dominate an international network of global, regional, and national news agencies worldwide. It is challenging for ordinary citizens,

who are consumers of culture industry products, to accurately analyze the attitude of international media groups towards specific political issues and to understand the ownership and organic ties of the companies that are the leaders of global news networks.

To analyze the international media correctly, the concepts of media imperialism and cultural imperialism, two tightly articulated theses, are pretty functional; Both are cause and effect of each other. According to Boyd-Barrett, media imperialism is the process by which media ownership, structure, distribution, or content in any country, alone or in combination, is subject to significant external pressure from the media interests of another country or countries. On the other hand, Herbert Schiller aimed to decipher the role of communication in the internationalization of American imperialism or how communication opportunities were used to maintain the existence of this Empire. In this sense, he tried to reveal how the USA uses international communication flow with the motto of "free flow of information" to legitimize the one-way flow from the USA to other countries. Schiller refers to the USA as the dominant center of the system. We can compare the concept of domination to the concepts of domination and hegemony. Schiller's works are considered among the first in this field and the first in the 20th century. It is assumed to be valid for the future.

The trend of cross-ownership (monopolization) and conglomerateization results from media globalization; It tends to blur the idea of monopolization and polyphony. The transnational circulation of culture has led to an acculturation that encourages commercialization and commodification. Ownership and control of digital technology are essential power sources in the digital society. It is observed that at the last point reached by communication technologies, digital colonialism is reconstructing classical colonialism in the postcolonial age with its commodity chain. Technology giants, which build their business relations through the commodity chain and benefit from the global south's knowledge, capital accumulation, and command of essential functional components, eliminate relatively large-scale secondary companies that produce massively by undercutting prices.

There is no change in the exploitative fate of the global south. Lithium and Cobalt were added to the precious metals that needed to be mined, but there was no improvement in workers' wages and working conditions. For Big Tech companies, the global south is still a source of cheap labor. In the new order, all workers, including those working in mineral mines, call center workers, content moderators of social media giants, and those who create data descriptions for artificial intelligence datasets, represent labor exploitation during the classical colonialism period.

For internet decentralization technologies to be victorious against digital colonialism, many conditions must be met: First, they must be user-friendly, with simple interfaces accessible to the masses; devices should be affordable for people experiencing poverty; ISPs should be prohibited from restricting decentralization and privacy technologies such as Bit Torrent, Tor, and adequate funding for development is required. Because technology is designed in this way to attack state-corporate power concentrated in the United States, it will require a powerful push from below, which means that public engagement is necessary, which requires an understanding of how activism and technical architecture integrate with power and social justice. This situation can only be possible with the concept of the "fifth power" pointed out by Ignacio Ramonet, that is, with the power of the citizens, because the "fourth power" has already lost its function.

However, with the absolute dominance of Big Tech companies over the digital ecosystem, it seems extremely difficult to deal with Digital colonialism. Today, US technology companies have achieved almost absolute dominance over the digital ecosystem. Governments and law enforcement agencies in the Global North repeatedly establish partnerships with tech giants. In 2013, Edward Snowden publicly revealed that through the PRISM program, Microsoft, Yahoo, Google, Facebook, PalTalk, YouTube, Skype, AOL, and Apple shared all information with the National Security Agency. The disclosures did not stop there, and it was also revealed that the data stored by companies and transferred to the internet was added to government databases for use by states. All Southern countries, from the Middle East to Africa and Latin America, were also targeted by the National Security Agency.

In other words, proprietary and nonfree software, cloud centralization, and control over network connectivity are used to exert power over individuals and communities. When we look at what the monopoly power of US-based Big Tech companies causes, the picture that emerges is like a collage of many forms of domination. Digital colonialism has revived Classical Colonialism in the Global South. The dominance of Big Tech companies in the digital ecosystem has brought imperial control, supervision, surveillance, and, most importantly, technological hegemony.

Understanding how postcolonial theories can be applied to overcome these challenges is necessary. To close the digital gap between the global south, which cannot produce its communication technologies, and the global north, which represents productive cultures in this field, policies aiming to challenge dominant narratives, protect cultural heritage, and develop diversity and inclusive digital technologies should be developed.

The engine of the expansion of the US empire is imperialism, and it has forged a close alliance between US corporations and the diplomatic and military institutions of the US state for over a century. In his article titled "US Empire and Cultural Imperialism, A Reconceptualization, and Twentieth-Century Retrospective," Tanner Mirrlees (2020) states that the ostentatious and arrogant rhetoric of the intellectual staff of the U.S. Empire portrays the USA as the "acceptable face of cultural imperialism" in the modern world. This situation has made international communication and media studies again crucial for analyzing the path of a new type of imperial order of digital colonialism and taking the necessary precautions.

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The Concept of Healthy Building and Factors Affecting Sick Building Syndrome in Dwellings

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Abstract: Considering that people spend 90% of their time indoors, the indoor environment is by far the most important environment for human health in the modern world. It is thought that indoor environments are linked to numerous ailments related to indoor air quality, including lung cancer, allergies, and airborne infections. The risk of illnesses linked to indoor air quality is, nevertheless, understood to be relatively low in the "Healthy Building" concept if there is no moisture issue endangering the building and all indoor spaces—including wet areas—are suitably ventilated. Numerous scientific investigations show that potentially dangerous compounds known as indoor air pollutants are emitted by various building materials and harm the interior environment's quality. Sick building syndrome is a term used to describe a variety of particular symptoms caused by the interaction of numerous dangerous substances (pollutants) and indoor environment components, reflected in the comfort and health of building users. Sick building syndrome, which frequently causes a drop in workforce productivity, is becoming a substantial public health problem in many countries, mainly developed countries, and generates significant economic loss. However, it is observed that there is a lack of concrete data on the concept of healthy building and sick building syndrome, which has become a widespread problem. Indoor air quality, which can be defined as ventilation level or Carbon Dioxide (CO₂) concentration, is influenced by "Volatile Organic Compound" (VOC) emissions from building surface materials and furniture, building occupants, and their activities. Total VOC concentration values are critical in developing effective strategies for creating a healthier and more comfortable living environment. The quantity and variety of physical, chemical, and biological contaminants in the interior environment present an urgent need for measures within the building production process to address potential health risks to building users. The literature research paper is about indoor air quality, which aims to describe healthy buildings and sick building syndrome, explain how to maintain indoor air quality through material used and architectural design, how chemical occurs and degrade air quality in the house, and how to measure, simulate and analyze through models.

Keywords: Healthy Building, Sick Building Syndrome, Indoor Environmental Quality, Indoor Air Quality (IAQ), Volatile Organic Compounds (VOCs), Total Volatile Organic Compounds (TVOC)

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1. INTRODUCTION

Rapid urbanization, combined with rapid population growth and migration dynamics, creates problems that are difficult to solve regarding the environment and natural resources. Numerous environmental issues of today have a detrimental impact on people's quality of life and raise questions about how cities will develop. One of the primary objectives of all professional organizations in architecture and engineering is to create a safe and comfortable physical environment for things like housing, rest, and work. Therefore, a healthy indoor climate should be created for the user along with conditions that determine the indoor environment quality, such as appropriate space, volume, ventilation, indoor air quality, thermal comfort, natural and artificial lighting, and visual and acoustic comfort for the activities (Karaca, 2022). Furthermore, the building design should not harm the user or the environment while meeting these basic requirements. Industrialized societies are progressively facing similar indoor air quality issues, even though climatic conditions, physical settings, and lifestyles differ from one country or even region to another.

However, the thermal environment is not the only thing that changes inside spaces or homes. Additionally, the building envelope prevents any open-air flow. Pollutants from nearby sources are diluted less. As a result, interior air pollution is constantly higher than outside air pollution due to human activity, building materials, and indoor activities. This served as the foundation for the necessity for ventilation and the IAQ conversation. In addition, many other elements that

characterize our natural environment—such as light, noise, temperature, and electric and magnetic fields—have altered since humankind began.

Problems with indoor air quality are often classified into five categories. These include inadequate ventilation, pollutants from sources and activities within the structure, biological contamination induced by external sources, a lack of humidity control, and insufficient indoor areas cleaned or maintained. Indoor ventilation levels, in particular, decrease significantly in buildings created without accounting for the prevailing wind effect in architectural planning, i.e., in buildings that do not fulfill passive air conditioning conditions. However, many ventilation systems do not effectively distribute clean air to building users. Thus, with insufficient fresh air diffusion in inadequately ventilated indoor spaces, indoor pollution levels and pollutant concentrations increase, threatening users' health. While many indoor pollutants come from sources inside the building, others can enter the building from outside air or soil.

According to the World Health Organization (WHO) Indoor Air Quality Guidelines (2010), the air quality of residences, offices, schools, healthcare facilities or all other private and public buildings, where people spend a large part of their lives, is the primary determinant of a healthy life (World Health Organization, 2010). The current lifestyle, changing on the axis of ever-developing technology, makes buildings more livable and comfortable while increasing the time spent indoors. On the other hand, since most people's activities take place in indoor spaces characterized by different air quality, exposure to poor Indoor Air Quality (IAQ), in other words, exposure to airborne pollutants, poses the health risk associated with Sick Building Syndrome (SBS) (Kelly and Fussell, 2019).

The elderly, children with asthma or other respiratory conditions, and pregnant women are the most susceptible to long-term indoor air pollution. For example, students spend around six to eight hours daily in air-polluted microenvironments like playgrounds and classrooms (Raysoni et al., 2017).

Indoor air quality is not constant and is affected by building use and operation, occupant activities, and changes in the outdoor climate. Therefore, within the planning framework for the building production process, there is a need to determine the performance targets expected from the building, energy efficiency, and criteria regarding the building's use, maintenance, repair, and operation. The requirements for air quality and thermal comfort are outlined in many international standards and guidelines. To design and assess the energy performance of buildings, the European standard EN 15251 Indoor environmental input parameters cover indoor air quality, thermal environment, lighting, and acoustics. It also explains design criteria for system sizing (European Committee for Standardization, 2007).

There are two methods to assess indoor air quality: the concentration of carbon dioxide (CO₂) and the required level of ventilation. The primary sources of indoor volatile organic compounds are now well-recognized as flooring, construction materials, and consumption. The primary way volatile organic compounds affect how people perceive air quality is through odor loading (Senitkova and Bucakova, 2005). According to the World Health Organization, VOCs are classified as organic compounds with melting and decomposition points between 50 and 260°C and below room temperature, respectively. Humans can detect volatile organic compounds (VOCs) by smell and chemical senses. Choosing materials and designs that limit volatile organic compounds (VOCs) is advised because some flooring, consumer goods, building materials, and equipment release VOCs (Tang and Wang, 2018). Nearly 1000 organic materials TVOC have been detected in the interiors of buildings (Kraus and Senitkova, 2017).

The air indoors comes from the outdoors. With outdoor air come pollutants from, e.g., traffic, soil, vegetation (e.g., pollens), and industries. Air can be purified, humidified, heated, and cooled on its passage through the supply air system. It can also receive impurities from filters, internal insulation, and deposited dirt. If there is moisture in the system, this can result in the proliferation of micro-organisms, which may pollute the air supply. Once inside the room, the air receives further contaminants from people, animals, furniture, furnishings, and building materials. Also, there is pollution from activities (such as hobbies, cooking, cleaning, and open fires) and smoking. The picture is complicated because pollutants can be absorbed to and emitted by surfaces in the room, chemical processes can occur in the indoor air, and particulate matter such as dust settles on the floor and other surfaces and is later stirred up again.

Inorganic gases such as nitrogen dioxide and ozone irritate the airways and may act as contributory factors (adjuvant factors) in developing hypersensitivity of the airways. Both gases are significant for the chemical conversion of VOCs in indoor air. Examples of sources of nitrogen dioxide indoors are gas cookers or infiltration into the building of exhausts from vehicular traffic or a garage. The sources of ozone are outdoor air, electric discharges in copiers, laser printers, and ionizers. The most important source of carbon dioxide is man. High contents of carbon dioxide (>1000 ppm) in a room indicate that ventilation can not cope with the occupancy level in the room at that time.

Interest in organic compounds has mainly focused on volatile compounds (VOC) and formaldehyde. The concentration of measured individual VOC or the total content of VOC (TVOC) may vary significantly in time and space depending on the sources available and the methodology used for sampling and analysis.

From an environmental standpoint concerning human health, the indoor environment is vital. Within-building air is the research focus. This study's primary goal was to conduct a thorough literature review on the relationship between healthy building factors and indoor air quality. Additionally, the study examined the TVOCs from interior building materials, the values of TVOCs obtained from residential characteristics, and the matching of building materials as fundamental factors that affect indoor environmental quality. The concept of healthy building and the term Sick Building Syndrome, which refers to a series of building user complaints and diseases, are discussed within the scope of this study. To clarify both concepts, the factors and sources that cause Sick Building Syndrome are presented through a housing example. Indoor air quality, one of the essential components that affect indoor environmental quality, is tested as part of the study using the IA-Quest simulator. TVOCs from interior building materials in a 90 m² 2+1 residential building in Konyaalti, Antalya, where a family of four lives, were studied. The TVOC values derived from mutual interviews with residential users and the matching of building materials in the IA-Quest software database are tested using simulation within the scope of concrete information.

2. SICK BUILDING SYNDROME

The symptoms are linked to the occupancy periods of buildings, that is, the settlement of people. For example, when considering a workplace, symptoms disappear when the worker leaves the work site. A phenomenon known as "sick building syndrome" arises when several building residents have a non-specific set of symptoms without a known reason. Although the precise source of the symptoms is usually unknown, it is occasionally suggested that low concentrations of pollutants may cause a person to become more sensitive to them or that a mixture of particular substances may have negative consequences. Sick building syndrome was first recognized by the medical community in the 1970s. 1970 saw the emergence of allergy respiratory illnesses in workers in air-conditioned offices (Banaszak et al., 1970). In 1976, an epidemic of legionnaires' disease broke out in Philadelphia as a result of contamination of cooling towers, and as a result, epidemics were recorded all over the world (Fraser et al., 1977). The term "sick building" was later used particularly about worker health when the World Health Organization coined the term "sick building syndrome" in 1986 (WHO, 1986).

The source of chemical pollutants is pollution from air intake events and automotive exhaust, often entering through plumbing vents in buildings. Through windows and other openings, combustion reaction-related emissions such as carbon monoxide, sulfur dioxide, and nitrogen oxides are brought into the building. In addition, carbon monoxide from photocopiers, carpets, and nearby traffic and parking garages, which negatively affect indoor air quality, contribute to indoor and outdoor toxin sources (Kakoulli et al., 2022; Paleologos et al., 2021). All sources mentioned emitting volatile organic compounds (VOCs), including formaldehyde and other hazardous substances (Sarkhosh et al., 2021). Indoor air pollution is also caused by combustion products released by gas appliances, wood-stove fireplaces, and vent-free kerosene and gas space heaters. These products include carbon monoxide, nitrogen dioxide, and respirable suspended particles (Kumar et al., 2023).

Air humidifiers or air conditioning (HVAC) systems do not distribute air effectively to people in the building but instead emit pollutants such as cigarette smoke or pollen (Banerjee et al., 2021). Bacteria, viruses, fungi, and algae are found in drainage channels and areas where moisture and water accumulate on ceiling tiles, carpets, or insulation with inadequate ventilation, such as heating, ventilation, and air conditioning pipes. Electronic equipment that emits electromagnetic radiation, which ionizes the air, includes computers, TVs, and microwaves. Strong magnetic fields produced by extensive wiring without adequate grounding might cause cancer (Joshi, 2008).

Excessive work stress and distraction, poor interpersonal interactions and communication among building occupants, and insufficient and incorrect lighting due to a lack of sunlight all contribute to psychologically unfavorable symptoms (Jensen and Voordt, 2019). Regarding ergonomics, other negative factors include the brightness of computer screens, an uncomfortable posture while working, and a lack of proper ventilation inside the building (Fan et al., 2022). A building's source of pollution emissions is typically traced back to the chemical produced by the cleaning agent, which lowers the air quality inside. It is critical to guarantee that the parameters that will avoid negative health impacts on employees and others in confined settings served by mechanical ventilation and air conditioning systems, including air-cooled systems, comply with minimum standards.

Health concerns caused by confined buildings, often known as modern diseases, are defined in medical studies. People may experience headache, dizziness, drowsiness, feeling of fatigue, nasal congestion, postnasal drip, sneezing, feeling of burning and dryness in the throat, scratchy cough, watery eyes, flushing, itching, muscle aches, feeling of tightness in the

chest, dry skin, itching on the skin, problems such as nosebleeds, smell and taste disorders, and difficulty in concentration are stated as health problems caused by the building (Igwe et al., 2023; Sari and Widajati, 2024).

Sick Building Syndrome (SBS) is now commonly known to be caused by indoor air pollution in buildings. In addition to the various elements that pollute building air, the fact that central heating and ventilation systems only change 20% of the air to save energy contributes to this pollution. Air conditioners are thought to reduce the concentration of negative ions in the interior air, which aids in the production of SBS (Zainal et al., 2019; Sarkhosh et al., 2021). The decrease in negative ions in the inhaled air increases the secretion of serotonin in our bodies, resulting in symptoms such as headaches, migraine attacks, dizziness, weakness, tiredness, and impaired focus. It is claimed that one out of every four buildings in America possesses traits that contribute to Sick Building Syndrome. A study of 3,500 persons in Denmark discovered that 27% of those working in smart buildings experienced eye, nose, or throat irritation, while 36% experienced general symptoms such as headache, weariness, and weakness (Paleologos et al., 2021).

According to the research issued by the center's Healthy Buildings team, founded by the Harvard University Public Health section with the goal of "improving human life," a healthy structure must meet nine essential characteristics. The center pioneers research on how the physical environment created by today's buildings impacts human health, welfare, and productivity to create healthier buildings in the future. Nine items detail the fundamental guidelines for creating a healthy building (Allen and Macomber, 2020). The nine basic conditions in this list that must be met for a healthy building are summarized in Table 1. below.

Table 1 The nine basic conditions for a healthy building (Allen and Macomber, 2020).

Ventilation	Indoor spaces should be adequately ventilated following the guidelines, polluting sources and nanoparticles should be removed, and filtering should be done where necessary.
Indoor Air Quality	Low-emission building materials and furnishings should be utilized, and humidity levels should be regulated to reduce vapors and smells.
Thermal Health	Thermal comfort requirements must be met, and daily humidity and temperature must be maintained at the same levels.
Moisture	Finding and removing condensation points and moisture sources inside the building envelope should be the focus of routine inspections.
Dust and Pests	Surfaces require routine cleaning. Preventive steps like caulking access holes, avoiding moisture buildup, and adequately disposing of trash can help prevent pest issues.
Safety and Security	Building safety issues and stress levels may be decreased with emergency action plans, proper illumination, monitoring, incident reporting procedures, and fire safety precautions.
Water Quality	Water should often be tested using a water filtration system and updated with National Drinking Water Standards to remove contaminants. It is vital to take precautions against water stagnation in pipelines.
Noise	The methods for reducing interior noise and shielding against outside noise are essential. Sources should keep maximum reverberation duration under 0.7 seconds and background noise below 35 dB.
Lighting and views	Direct sightlines to external windows should be available in every work and living space. Enough natural light and appropriate lighting levels should be present without creating glare.

The effects of buildings on user health and comfort have been a frequently discussed topic in recent years. According to research, there has been an increase in allergy cases in many countries in recent years, and researchers agree that the reason for this is the indoor environment. Today's population spends 90% of their time inside, 70% of that time at work, and 20% at home, according to the World Health Organization. Reports published on the subject state that "Sick Building Syndrome" is encountered in 30% of even newly constructed or renovated buildings. According to the Swedish Environmental Health Report, 18% of the adult population in the country has health complaints and symptoms caused by the indoor spaces they live in.

Sick Building Syndrome (SBS) is a disease that occurs when the person does not have any infection related to them and is caused by the building. Within the scope of this syndrome, it is stated that 15-20% of building users experience health problems such as headaches, fatigue, lack of concentration, dry mouth and eyes, allergies caused by daily stress, sinus congestion, sore throat, and upper respiratory tract problems, depending on the building they are in (Niza et al., 2024). Symptoms like weariness, nausea, dizziness, and shortness of breath can all be brought on by buildings. They can also irritate the skin, eyes, nose, and throat. Frequently, these signs are referred to as Sick Building Syndrome (SBS). Typically, these infections are mild and go away after the patient leaves the facility. One common explanation for this is low ventilation rates. An allergy to indoor air pollution primarily causes sick building syndrome. These contaminants might appear as smoke or fine dust (Sun and Sundell, 2013).

Given how complex the interior environment is, it is inevitable that other factors also contribute to the problem of sick building syndrome, even if low indoor air quality is primarily assumed to be the cause. In the inside buildings, thermal factors like humidity and temperature and microbiological agents like dust mites and chemical pollutants can induce sick building syndrome symptoms (Sundell et al., 2021; Menteşe, 2022). A comfort-based classification system for indoor air pollution's health impacts can be proposed. Unknown causes may contribute to sick building syndrome, although poor ventilation, psychological issues, and building hygiene are likely to be connected. Table 2 summarizes the factors designated as potential causative agents (Jafari et al., 2015; Sarkhosh et al., 2021; Aziz et al., 2023).

Table 2. Indoor air contaminants and health impacts.

Pollutants	Source	Health impacts
TVOC	Building construction materials, furnishing	Multiple acute and chronic risk
CO ₂	Human life activities	Sick building syndrome (SBS)
Temperature	Services	Sick building syndrome
Humidity	Services	Sick building syndrome
Odors	Services	Sick building syndrome
ETS	Smoking	SBS, multiple acute and chronic risks, cancer
CO	Combustion	Acute risk: respiratory, neurological
NO _x	Combustion	Acute risk: respiratory
O ₃	Laser printers	Rhinitis poses an acute danger
Fibers	Materials	Chronic risk: cancer
Radon	Geology, materials	Chronic risk: cancer

The overall concentration of indoor chemical components substantially correlates with sick building syndrome, and the construction site is more likely to have sick building syndrome symptoms. Increasing the quantity of outside air that enters building interiors is necessary to reduce exposure to indoor contaminants that may elicit symptoms similar to sick building syndrome. Building materials, construction, and indoor activities should be selected according to the best indoor air quality principle.

As the most dangerous non-occupational indoor air pollutants for human health because of potential health effects and frequent exposure, environmental tobacco smoke (ETS) is primarily composed of some volatile organic compounds (VOCs) and radon, which is known for its carcinogenicity (Grimsrud and Hadlich, 1999; Soni et al., 2018; Bai et al., 2022). In contrast, risks from other well-known indoor air pollutants such as odors, fibers, and ozone have been assumed to be lower in non-occupational environments. Finally, some other indoor air pollutants are not included in any risk category due to inadequate exposure data. Based on measurements, it is possible to assume that more than 50% of exposure above standards for radon, formaldehyde, and nitrogen oxides will be achieved in buildings (Karakitsios, 2015; Springston, 2021).

3. MATERIAL AND METHOD

Our health is affected by factors such as the indoor environment, which is the focus of this research. The concept of healthy building and associated risk factors affecting sick building syndrome were studied from the previous studies within this research paper. Other methods used within the scope of the research are querying and modeling the emission characteristics measured for various building materials by selecting them from the IA-Quest database, as well as interviews and observations with the housing users chosen as a sample.

Controlling these sources is the most efficient way to enhance indoor air quality, according to the National Research Council of Canada (NRC), which identifies construction materials used within buildings as the primary sources of indoor pollutants. For this reason, the Indoor Air Quality Emission Simulation Tool, or IA-Quest, was created as indoor air quality forecasting software. The National Research Council of Canada (NRC) created the Indoor Air Quality Emission Simulation Tool (IA-Quest), which is used to estimate the influence of certain materials' VOC emissions based on the quantity of materials utilized and ventilation rates in a model interior of choice.

Materials may be chosen based on low emissions by using the database of materials and measured emissions that IA-Quest offers. Furthermore, via evaluating the emissions of volatile organic compounds (VOCs) from furnishings and building materials, the tool assists in measuring the effects of low-emitting materials and efficient ventilation techniques on indoor air quality.

The database and the simulation component make up the two components of the IA-Quest program. Information on the emissions of numerous VOCs, TVOCs (total volatile organic compounds), and health-relevant "target" VOCs from widely used construction materials in Canada is available in the database. Additionally included are testing conditions and sample information.

IA-Quest's simulation component uses a predefined ventilation rate and schedule to determine the potential pollutant concentrations in a room resulting from its materials' emissions. A basic one-site mixing model is assumed in the concentration calculation. The database included with the software provides information on the materials' emission characteristics.

Users must have the following details to simulate indoor air concentrations of chemicals from one or more building materials: the volume of the area, the rate and schedule of ventilation, the materials (chosen from the database), and the following specifications for each material: input, simulation duration, and surface area that is exposed or emitting along with the timings of retrieval from and to space. The program determines indoor air concentrations using a mass balance technique, as shown by the following formula:

$$V \cdot \frac{dc}{dt} = Q \cdot C - Q \cdot C_{in} + \sum^n EF_i \cdot A_i \quad (1)$$

The variables C (mg/m^3), V (air volume: m^3), Q (ventilation rate: m^3/h), and C_{in} represent the concentration of volatile organic compounds (VOCs) in air, surface area (A_i) of the i^{th} source (m^2), emission factor (EF_i) of the i^{th} source (m^3), air volume (m^3), ventilation rate (m^3/h), and number of sources (n).

In houses, having appropriate indoor air quality is very important. Users' productivity, focus, and daily functioning are all impacted by the indoor air quality of the dwelling units. Additionally, it can have an impact on long-term facility users' health. The model experimental house is approximately 145 m^3 in size with an apartment flat floor space is 90 m^2 . Table 3. displays the material attributes of the assessed usable area. White paint is applied to the walls and ceilings using a traditional internal plaster. Traditional MDF laminate flooring is used. The polycarbonate windows include an external blind system for shade. The furniture in the dwelling is traditional wood-looking plastic surface-coating furniture that is both moveable and stationary.

Carbon Dioxide (CO_2) concentration and ventilation level are two factors that affect indoor air quality. "Volatile Organic Compound" (VOC) emissions from furniture, building surfaces, and building occupants and activities all impact indoor air quality. The research measures the effects of chemical pollutants from interior building materials on the indoor environment quality in a 90 m^2 and 2+1 residential building chosen in Antalya. The influence of current materials on VOC emissions was modeled using the Indoor Air Quality Emission Simulation Tool (IA-Quest) based on the number of materials used and ventilation rates in the selected home building. With the help of IA-Quest, which calculates "Volatile Organic Compound" (VOC) emissions from building surfaces and floors, low-emission materials and effective ventilation techniques may be chosen. Building components, including walls, doors, floors, ceilings, and windows, are considered while evaluating the simulation of TVOC concentration.

4. DISCUSSION OF RESULTS

This study's review analysis was derived from the literature survey, and the TVOC concentration versus time from the IA-Quest simulation diagram for the modeled housing with the established schedule was used to simulate indoor air concentrations of four different chemicals from four different materials in a room with a weekly ventilation schedule.

Within the scope of the research, in addition to the literature review and simulation on the subject, observation and interviews with the dwelling users were also conducted. According to the characterization of the housing used as a sample for the research, it has a 90 m^2 usable floor area. The sample house (dwelling) selected for simulation is located in the Konyaalti district of Antalya province on Turkey's Mediterranean coast.

According to the Köppen and Geiger (1968) climate classification, Antalya is in the "temperate-arid-climate with hot summer- Csa" class. The prevailing wind in the city's center blows in the northwest-southeast direction, with a cold wind in winter and a hot wind in summer. Thanks to the interaction of the northeasterly wind with the sea, it gains a cooling feature in summer. The dwelling, whose satellite image is shown in Figure 1. is the apartment located at the corner of a five-story apartment building.

Figure 2. shows the exterior view of the apartment, and Figures 3., 4., 5., and 6. shows the interior views. The apartment is located northwest, outside the prevailing wind direction. The dwelling does not have enough natural ventilation

conditions since it is parallel to the prevailing wind direction and has facade openings in the North and West directions, which causes insufficient ventilation in terms of indoor air quality. The lack of sufficient ventilation and the fact that the windows and doors of PVC joinery are closed during the day cause unwanted odor formation in the interior. The testimony of the housing users also supports this situation. In addition to construction materials such as walls, ceilings, and flooring, the materials used in fixed equipment and furniture are also PVC-containing, negatively affecting indoor air quality. For this reason, users prefer to keep at least one window open in the transom position throughout the day, even in winter.



Figure 1. Site Plan of the housing.



Figure 2. Exterior view from sample flat.

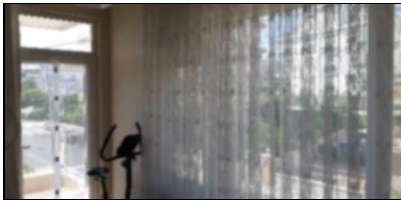


Figure 3. Living Room.



Figure 4. Bedroom.



Figure 5. Kitchen.

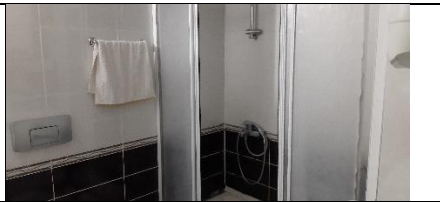


Figure 6. Bathroom.

The results obtained from the literature review and observations were also tested through simulation. The IA-Quest simulation tool was used for this purpose. Figure 7. shows a case example of the simulation selected from its database. The results obtained by loading the data related to the dwelling consisting of room size, window-door openings, interior construction materials, and fixed/movable reinforcement features into the simulation software are shown in the graphs in Figures 8, 9, 10, and 11. Figures 8, 9, 10, and 11 show the TVOC concentration against time from the IA-Quest simulation diagram for the house sample modeled with the established schedule of ventilation rates for various interior environmental settings. The ventilation rates set based on the suggested comfort value (TVOC concentration of less than 200 mg/m³) were compared to the values of TVOC concentration.

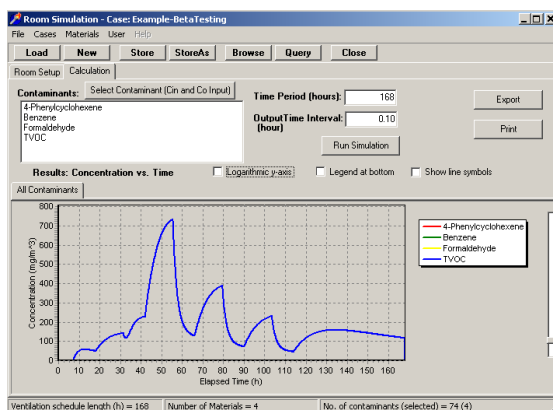


Figure 7. An example of a Ventilation Schedule Tab for a week.

Demand-controlled ventilation is beneficial for removing pollutants from indoor environments at all expectation levels. The advantage was higher for ventilation designs that were more methodically managed. The recommended ventilation rate parameter, the resident pollution level (TVOC concentration), showed a strong positive association with the declining trend of the planned air exchange level. A greater air exchange level should be built into and used in the inhabited room with the highest air pollution. The TVOC emissions from furnishings and building materials are tracked regarding ventilation rates. The ventilation duration is determined by the ventilation rate requirement, which is 2.0 units per hour. Additionally, the housing receives less airflow during non-use times than usage (0.15 per hour).

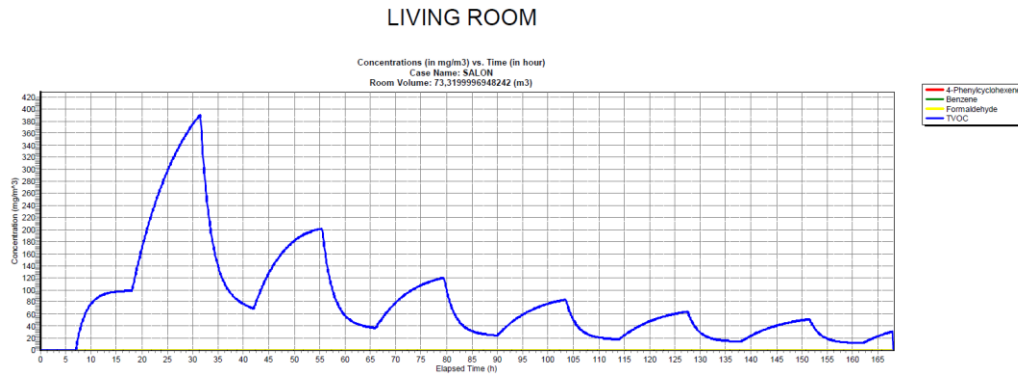


Figure 8. The TVOC concentration in the living room is shown against time using the ventilation rate simulation diagram from IA-Quest.

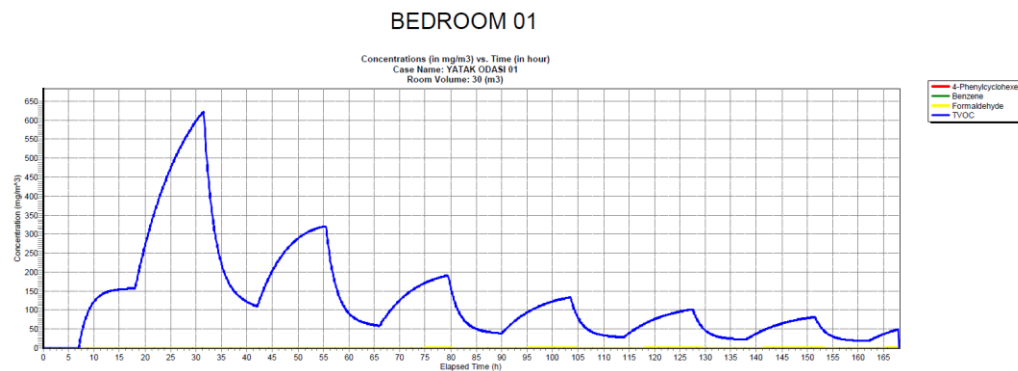


Figure 9. The TVOC concentration in bedroom 01 is shown against time using the ventilation rate simulation diagram from IA-Quest.

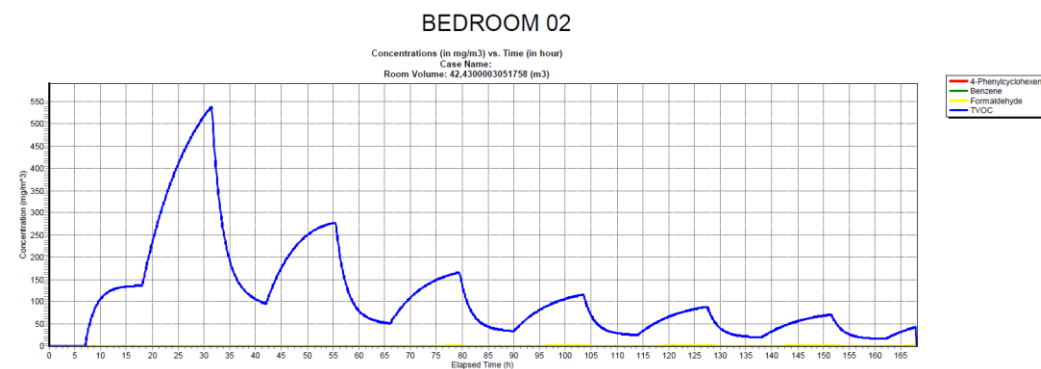


Figure 10. The TVOC concentration in bedroom 02 is shown against time using the ventilation rate simulation diagram from IA-Quest.

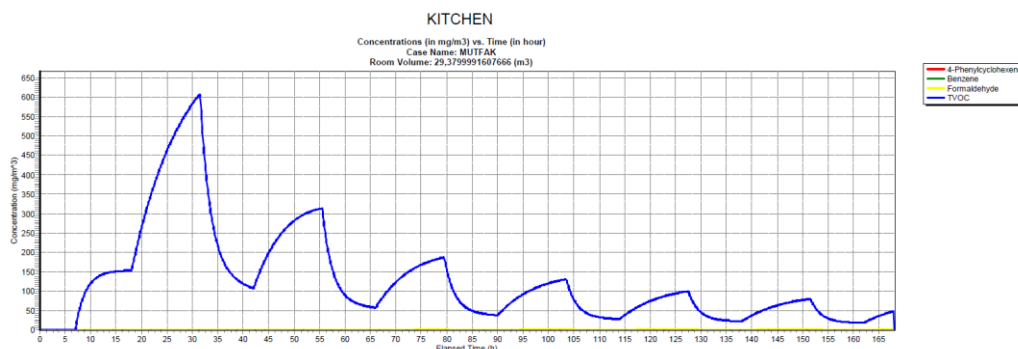


Figure 11. The TVOC concentration in the kitchen is shown against time using the ventilation rate simulation diagram from IA-Quest.

The experimental dwelling flat is categorized as highly polluting under EN 15251. The structure can be classified as low-polluting if the bulk of the building's materials are low-polluting. Natural, conventional materials that are safe in emissions are low-polluting.

The observed dwelling flat's furnishings and construction materials do not adhere to the low-polluting material emission requirements for volatile organic compounds. As the nominal value was taken into consideration in Table 3, the TVOC emission data for construction materials used for interior surface finishing and furnishing is acquired from the IA-QUEST database as minimum and maximum values.

Table 3. The percentage value of the TVOC concentration is due to the materials and volume or the area.

Room	Volume	Emission Area	min TVOC	Max TVOC
Living Room	73.319 m ³	30 m ²	30 mg/m ³	390 mg/m ³
Bedroom 01	30.000 m ³	12 m ²	50 mg/m ³	625 mg/m ³
Bedroom 02	42.430 m ³	16 m ²	49 mg/m ³	540 mg/m ³
Kitchen	29.379 m ³	15 m ²	50 mg/m ³	615 mg/m ³
(Excluded circulation area and WC)				
TOTAL	145.128 m³	73 m²	179 mg/m³	2170 mg/m³

The data obtained from the observations and interviews conducted within the scope of the research support the TVOC rates measured with the simulation tool. As seen in Table 3., the TVOC rate in the living room, which has a larger usage area than other rooms and has more windows in the north and west directions (two different side facades), is lower than in other rooms. The double façade window openings also allow for cross ventilation of the living room. Thus, it also ensures that the TVOC rates arising from housing use and the finishing construction materials used are at a certain level. The research results show that natural ventilation is vital, especially in Antalya, which is very hot and humid in the summer and provides the distribution of humid, stagnant air indoors. The research includes a simulated analysis of indoor air quality based on various ventilation rates calculated for a dwelling apartment under EN 15251. After a week, the amount of TVOCs reached the permissible range of 200.00 mg/m³.

5. CONCLUSIONS

Indoor air quality should be considered risky because it directly affects human health. Overlooking its importance can cause dangerous effects, from headaches to death. Indoor air quality can be included in the risk assessment to identify and control risky conditions. The adverse health effects of monitored or suspected indoor air pollutants, affected user groups, sources likely to emit air pollutants, and possible areas where indoor air pollution may occur are examined in detail and determined by risk identification. Emission rates, concentrations, combinations of indoor air pollutants, long- or short-term exposure occurrence, and effects of indoor air consequences. Risk assessments specify or estimate pollution to human health and productivity, non-human users' health (such as that of animals or plants), or the contents of enclosed areas. Actions, outputs, exposures, and results of all actions related to indoor air quality are evaluated by grading them on some scales according to various criteria during risk assessment.

Since interior air pollution has been shown to have significant negative impacts on health, indoor air pollution standards must be established. These standards will dictate how the requirements for designing buildings for indoor air quality are determined. Structure design, operation, and factors like temperature, ventilation, and lighting substantially impact the indoor environment and impact building inhabitants' comfort, productivity, and health. Furthermore, the presented case

study has demonstrated how ventilation significantly impacts indoor environmental quality, directly correlated with the interior environment. As a result, local standards for the interior environment must be established for building performance, design, and operation. Values for total volatile organic compounds (TVOCs) are essential for formulating practical plans for making homes healthier and cozier. Measures to mitigate possible health hazards to building users throughout the building process are urgently needed due to the number and variety of physical, chemical, and biological pollutants in the interior environment.

Author Contributions

Conceptualization: İ.A., MEA; Investigation: İ.A., MEA; Material and Methodology: İ.A., MEA; Supervision: İ.A., MEA; Visualization: İ.A., MEA; Writing-Original Draft: İ.A., MEA; Writing-review & Editing: İ.A., MEA; Other: All authors have read and agreed to the published version of manuscript.

Conflict of Interest

The authors have no conflicts of interest to declare.

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Active House Design Principles and Case Studies: The Example of Konya, Turkey

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Abstract: Active Houses are a new type of sustainable housing that offers a holistic solution to the challenges of modern housing in Konya, Turkey. By integrating passive design strategies, renewable energy sources, smart technologies, and considerations for indoor air quality, Active Houses can promote residents' health and productivity while reducing the buildings' environmental impact. This paper presents a multidisciplinary approach to designing and constructing an Active House focusing on energy efficiency, comfort, and sustainability. Smart technologies and automation are integral to the Active House concept, enhancing energy efficiency and comfort while supporting sustainable living. The design and construction of an Active House are based on integrating green building concepts, sustainable materials, and advanced construction techniques. The project exemplifies how sustainability can be embedded in every building design and construction aspect. By prioritizing local, recycled, renewable, and low-impact materials and integrating advanced construction techniques, the project creates environments that support the health, comfort, and well-being of its occupants while also being energy-efficient and environmentally responsible.

Keywords: Active House, energy efficiency, indoor air quality, green building, Konya.

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INTRODUCTION

The Active House provides a framework for designing buildings based on environmental performance and energy consumption (Ali et al., 2016). Considering the building's urban context, it emphasizes efficient comfort and indoor air quality for its occupants. The climate is essential for internal comfort parameters and may influence daily behavior. There was an extensive analysis of best practices of Active House designs worldwide, mapping their performance and contribution from various aspects. According to the Köppen classification, Konya has a cold semi-arid climate (BSk), while Trewartha has a temperate continental climate (Dc). Summer evenings are chilly, while summer daytime highs average 30 °C (86 °F). The geographical location of the Konya is shown in Figure 1.

Active House stands for the additive balance of indoor climate, energy efficiency, and environmental impact of the building, prioritizing holistic environmental healing. Active Houses contain buildings and managed areas that will not harm the environment and enhance the preservation of biodiversity and natural elements. Buildings should be managed using considerate technologies and management systems to fulfill active house design principles in all solutions and design phases (Sezer & Cahantimur, 2014).

Active houses for families with kids should provide fully controlled indoor climate conditions where CO₂, humidity, PM, gaseous pollutants, temperature, and airflow will be controlled in a wide range by a building management system (Ali et al., 2016).

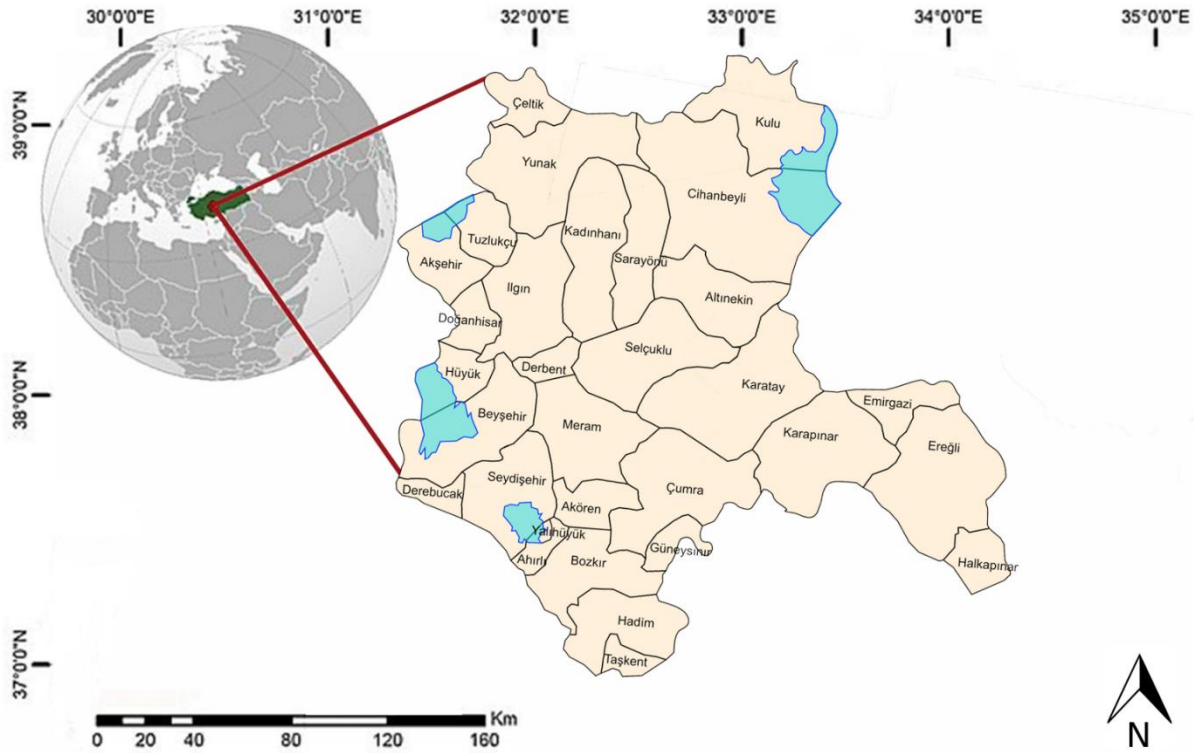


Figure 1. The geographical position of the research area is in the Konya province of Turkey.

2. MATERIAL AND METHOD

Creating an architectural project for an "active house" involves integrating design elements that promote energy efficiency, sustainability, and a healthy living environment. Table 1 shows the conceptual outline for a sample active house.

Implementing the Active House concept in Konya, Turkey, involves a comprehensive approach integrating energy efficiency, sustainability, and user comfort principles. The Active House concept focuses on creating buildings that are energy-efficient, environmentally friendly, and provide a healthy indoor environment for occupants (Cruz et al., 2020). By incorporating elements such as passive design strategies, efficient energy use, and smart technologies, Active Houses aims to reduce energy consumption while ensuring high thermal comfort (Chwieduk & Chwieduk, 2020; Mulyati & Zaenal, 2022). In the context of Konya, where climatic conditions can vary significantly throughout the year, designing Active Houses that leverage natural resources like sunlight and ventilation can be particularly beneficial.

One key aspect of implementing Active Houses in Konya is considering the local climate and environmental conditions to optimize the building's performance (Bojović et al., 2022). Active Houses can achieve optimal energy efficiency by utilizing passive design strategies tailored to the specific climatic characteristics of Konya, such as maximizing solar gain in the winter and providing shading in the summer (Cruz et al., 2020). Additionally, incorporating renewable energy sources like solar panels can further enhance the sustainability of these buildings in Konya (Mulyati & Zaenal, 2022).

Moreover, the implementation of Active Houses in Konya should also prioritize the well-being of the occupants by ensuring a healthy indoor environment. This can be achieved using smart technologies that monitor indoor air quality, humidity levels, and temperature to create a comfortable living space (Chwieduk & Chwieduk, 2020). By integrating these features, Active Houses in Konya can promote residents' health and productivity while reducing the buildings' environmental impact.

In addition to the technical aspects of building design, Konya's social and cultural context should also be considered when implementing Active Houses. Understanding the local community's needs and preferences is essential for successfully adopting sustainable housing practices (Yuni et al., 2023). By incorporating elements that resonate with the cultural values and lifestyle of the residents in Konya, such as open spaces for social activities and interaction with nature, Active Houses can become more accepted and integrated into the fabric of the community.

Furthermore, the economic feasibility of implementing Active Houses in Konya is a crucial consideration. Evaluating the cost-effectiveness of green building concepts and environmentally friendly materials is essential to ensure the long-term sustainability of such projects. By thoroughly assessing the cost of residential buildings with environmentally friendly concepts, stakeholders can make informed decisions that balance economic viability with environmental benefits.

Table 1. Design elements implemented for the proposed Active House in Konya, Turkey.

Active House Design Elements	Reference
The House is oriented with its longest side facing south to capture natural sunlight.	Zhang et al., 2024
Compact and simple, such as a rectangular or L-shaped footprint, to reduce heat loss and optimize energy use.	Feifer et al., 2018
Two stories with a sloped roof to allow for optimal solar panel installation and effective rainwater management.	Li et al., 2024
Highly insulated walls with materials like SIPs (Structural Insulated Panels) or insulated concrete forms enhance thermal performance.	Li et al., 2022
Green roofs with vegetation to improve insulation and manage rainwater runoff.	Aziz & Beg, 2022
Triple-glazed, low-emissivity windows with integrated shading devices or overhangs to control heat gain and loss.	Bassas et al., 2020
Roof-mounted photovoltaic panels to generate electricity.	Zeiler, 2024
A small residential wind turbine to supplement energy needs.	Ahmed et al., 2022
A ground-source heat pump system is used for efficient climate control.	He et al., 2022
Collection system for rainwater reuse in irrigation and non-potable uses.	Aziz & Beg, 2022; Li et al., 2022
Open floor plan for natural ventilation and efficient heating/cooling distribution.	Roland Horváth & Kistelegdi, 2020
Separate living, working, and sleeping zones to reduce energy consumption and optimize usage.	Ellis et al., 2017
Use of sustainable and non-toxic materials for flooring, walls, and finishes.	Bungau et al., 2022
System to provide fresh air while recovering heat from the exhaust air.	Bassas et al., 2020
Strategically placed windows and vents to facilitate passive cooling and air exchange.	Surahman et al., 2022
Plant native and drought-resistant plants to reduce water usage and provide natural cooling.	Bantserova & Kasimova, 2023
Shaded outdoor areas for relaxation and outdoor living.	Shi et al., 2019
Integrated smart home systems for lighting, heating, cooling, and security.	Brunone et al., 2021
Real-time monitoring systems to track energy use and optimize efficiency.	Bai et al., 2023; Cai & Gou, 2023

2.1. Environmental Context of Konya, Turkey

Konya, located in central Turkey, is known for its rich historical and cultural heritage and distinct environmental context. Konya is situated on the Central Anatolian Plateau, making it one of Turkey's highest and largest provinces. The region is characterized by vast plains, predominantly flat or gently undulating mountain ranges, including the Taurus Mountains to the south surrounding Konya.

Konya has a continental climate with hot, dry summers and cold, snowy winters. Precipitation is relatively low, leading to a semi-arid environment. The plains of Konya are covered with fertile soils, making it a significant agricultural hub. However, some areas suffer from salinization due to improper irrigation practices.

Konya is often called the "breadbasket of Turkey" due to its extensive wheat production. Other crops include sugar beet, corn, and various vegetables. Livestock farming is also prevalent. The region relies heavily on groundwater for irrigation, which has led to a depletion of aquifers. Konya Plain, in particular, faces challenges related to water management. Lake Tuz (Salt Lake), located northeast of Konya, is one of the largest hypersaline lakes in the world. It plays a crucial role in the local ecosystem but has been shrinking due to climate change and water diversion. Konya's steppe ecosystems host various plant species adapted to dry conditions. Some areas are home to endemic species. Wildlife includes birds like the great bustard and various small mammals. The region also has protected areas and nature reserves. Habitat loss, overgrazing, and water mismanagement are ongoing threats to biodiversity in Konya.

The semi-arid climate, overgrazing, and improper land use have made parts of Konya prone to desertification. The over-extraction of groundwater for agriculture has led to significant environmental concerns, including the formation of

sinkholes and the depletion of water resources. Industrial activities, particularly in urban areas of Konya, contribute to air and water pollution.

3. RESULTS AND DISCUSSION

The House is oriented to optimize solar gain in the winter while minimizing overheating in the summer. Large windows are placed strategically to allow for natural light and cross-ventilation. The construction uses locally sourced, sustainable materials, such as timber and high-performance insulation. The choice of materials also considers the environmental impact, focusing on reducing the carbon footprint. The design includes elements with high thermal mass to regulate indoor temperatures by absorbing heat during the day and releasing it at night. The House is equipped with solar panels to harness energy from the sun, providing electricity and heating water. The design aims for net-zero energy consumption, meaning the House generates as much energy as it consumes over a year. High insulation levels and airtight construction reduce energy loss, ensuring the House maintains a stable temperature with minimal energy input. The House employs energy-efficient heating and cooling systems, including a heat pump and natural ventilation strategies, to reduce reliance on non-renewable energy sources. The design maximizes natural light, reducing the need for artificial lighting and enhancing the occupants' well-being. A mechanical ventilation system with heat recovery ensures constant fresh air while retaining warmth and maintaining high indoor air quality. The building design includes features that reduce noise pollution, providing a quiet and comfortable living environment. The House contains rainwater harvesting systems and water-efficient fixtures to minimize water consumption.

Greywater recycling is also integrated into the design. During construction, waste was minimized by prefabricating components and using materials with low environmental impact. The House also incorporates facilities for waste sorting and recycling. Landscaping around the House includes native plants that require minimal irrigation and support local biodiversity. The site plan, interior plan, and exterior views of the proposed Active House are shown in Figures 2-4. The apartment alternative for the Active House is shown in Figure 5.



Figure 2. Site plan and the interior architectural plan of the proposed Active House for Konya, Turkey.



Figure 3. The exterior perspective view of the proposed Active House for Konya, Turkey.



Figure 4. The interior perspective view of the proposed Active House for Konya, Turkey.



Figure 5. The proposed apartments were designed according to the Active House concept for Konya, Turkey.

3.1. A Comparative Analysis of Active House and Passive House Approaches

Active House emphasizes balancing energy consumption and human comfort by integrating various technologies, including renewable energy systems while prioritizing indoor environmental quality. In contrast, Passive House champions superior thermal insulation and airtightness, focusing on minimizing energy demand through design principles alone. Passive House design alternatives are depicted in Figure 6.



Figure 6. The proposed villas were designed according to the Passive House concept for Konya, Turkey.

3.2. Passive Solar Design

The passive solar design of the Active House in Konya is a fundamental aspect of its sustainability and energy efficiency. It focuses on harnessing the sun's energy to naturally heat, calm, and illuminate the House, reducing the need for mechanical systems. The House is strategically oriented to maximize solar gain in the winter. The primary living spaces are positioned along the House's southern side, with large windows that allow sunlight to penetrate deep into the interior. To minimize heat gain during the summer mornings and afternoons, the House has fewer and smaller windows on the east and west sides. This helps to avoid excessive solar exposure during times of the day when the sun's angle is less favorable for passive heating. The House incorporates materials with high thermal mass, such as concrete, brick, or stone, particularly on floors and interior walls. These materials absorb heat during the day when sunlight is abundant and release it slowly during the night when temperatures drop, maintaining a more stable indoor climate. The House features robust insulation in walls, roofs, and floors to minimize heat loss during the winter and heat gain during the summer. This insulation helps maintain a comfortable indoor temperature with minimal energy input. The design includes operable windows on opposite sides of the House to facilitate cross-ventilation. This allows fresh air to flow through the House,

providing natural cooling during warmer months without mechanical air conditioning. Large, strategically placed windows and skylights allow natural light to flood the interior spaces, reducing the need for artificial lighting during the day. South-facing windows are significant for maximizing daylight and contributing to passive solar heating.

Roof overhangs are designed to block the high-angle summer sun while allowing the low-angle winter sun to enter the House. This passive shading strategy prevents overheating in the summer and maximizes solar gain in the winter. The House may feature adjustable exterior shutters, blinds, or louvers that allow occupants to control the amount of sunlight entering the House. Deciduous trees and other vegetation are strategically planted around the House to provide shade during the summer months while allowing sunlight to reach the House in the winter when the trees lose their leaves. The House uses double or triple-glazed windows with low-emissivity (Low-E) coatings to minimize winter heat loss and reduce summer heat gain. These windows are crucial for maintaining the energy efficiency of the House. While passive solar design focuses on reducing energy demand, the Active House may also include solar photovoltaic panels to generate electricity, complementing the passive design by providing renewable energy for any remaining heating, cooling, and electrical needs.

3.3. Indoor Environmental Quality in Active Houses

Indoor Environmental Quality (IEQ) is a crucial aspect of Active House design, emphasizing occupants' health, comfort, and well-being. In Active Houses, IEQ is achieved by integrating various elements that ensure optimal indoor air quality, thermal comfort, lighting, and acoustics. Active Houses are equipped with advanced mechanical ventilation systems, often with heat recovery (MVHR). These systems ensure a continuous supply of fresh air while recovering heat from the outgoing air, thus maintaining energy efficiency. Active Houses, in addition to mechanical systems, incorporate natural ventilation strategies, such as operable windows and ventilation openings, to enhance air circulation and allow for occupant control over air exchange.

Using low-VOC (volatile organic compounds) materials in construction, finishes, and furnishings helps minimize the emission of harmful substances, contributing to better indoor air quality. Proper humidity levels are maintained through design and ventilation, preventing the growth of mold and bacteria, which can degrade air quality and affect occupant health. Soft furnishings, carpets, and acoustic panels can help absorb sound within rooms, reducing echo and improving overall acoustic comfort. Active Houses prioritize using non-toxic, sustainable materials in construction and interior finishes. This reduces the risk of exposure to harmful chemicals, contributing to a healthier indoor environment. Materials are often chosen based on their environmental impact, with a preference for renewable, recycled, or locally sourced products that contribute to a healthier living space and a smaller ecological footprint. Active Houses often include smart home technologies that allow occupants to control and monitor indoor environmental conditions, such as temperature, lighting, and air quality, through a central system or mobile app. Active Houses often incorporate biophilic design principles, such as views of nature, indoor plants, and natural materials, to create a solid connection to the outdoors. This has been shown to enhance psychological well-being and contribute to a healthier indoor environment. Access to outdoor spaces, such as gardens, terraces, or balconies, is an essential aspect of IEQ in Active Houses, providing opportunities for fresh air, natural light, and relaxation. Ventilation towers or chimneys enhance the stack effect by providing a dedicated vertical channel through which warm air can rise and exit the building. This method can significantly improve natural ventilation, especially in multi-story buildings.

3.4. Sustainable Materials and Construction Methods

In the Active House in the Konya context, sustainable materials and construction methods are crucial in minimizing environmental impact while enhancing the building's energy efficiency, durability, and indoor environmental quality. Using locally sourced materials reduces the carbon footprint of transporting building materials over long distances. This approach supports local economies and ensures the materials are well-suited to the regional climate and environment. Local stone, clay, and timber might be used to construct the Active House in Konya. These abundant materials have historical relevance in the region, making them culturally and environmentally appropriate. Using recycled or reclaimed materials reduces the demand for new raw materials, conserves resources, and diverts waste from landfills. Reclaimed wood for flooring or furniture, recycled steel for structural components, and recycled glass for windows or countertops are all viable options that contribute to the sustainability of the building. Materials that can be rapidly replenished, such as bamboo, cork, or straw bales, are prioritized in construction. These materials are renewable and have a lower environmental impact than non-renewable resources. Rammed earth, adobe, and natural stone are materials with low embodied energy that can be used in the walls or foundations of the Active House. These materials also have excellent thermal properties, contributing to the energy efficiency of the building. Green roofs and sustainable landscaping contribute to the building's insulation, reduce the urban heat island effect, and support local biodiversity. The construction of a green roof with native plants provides additional insulation and helps to manage stormwater. The landscaping around the House may include drought-resistant plants and trees that require minimal irrigation. Materials like natural stone,

brick, and metal roofing are chosen for their durability and resistance to the local climate conditions, ensuring that the building remains functional and aesthetically pleasing over time.

3.5. Biophilic Design Elements

Biophilic design is an approach that integrates natural elements into the built environment to enhance the well-being of occupants by creating a solid connection to nature. In the context of an Active House, biophilic design elements contribute to both the aesthetic appeal and the environmental performance of the building. Views of natural landscapes, gardens, and outdoor spaces help occupants feel connected to nature, even indoors. Wooden flooring, exposed timber beams, stone countertops, and clay or earthen walls can create a warm, organic aesthetic. These materials look and feel natural and have favorable environmental properties, such as low embodied energy and the ability to regulate indoor humidity. Plants indoors contribute to improved air quality, humidity regulation, and psychological well-being. A green wall can be installed in living areas, entryways, or bathrooms. It can be irrigated with a sustainable water source, such as greywater, and populated with plants that provide year-round greenery and contribute to the House's biophilic ambiance.

3.6. Smart Technologies and Automation in Active Houses

Smart technologies and automation are integral to the Active House concept, enhancing energy efficiency, comfort, and convenience while supporting sustainable living. In an Active House, these technologies are designed to work seamlessly with the building's passive design strategies, natural elements, and sustainable materials. Smart energy management systems monitor and optimize energy use, helping to reduce consumption and improve efficiency. For example, smart thermostats adjust heating and cooling based on occupancy and outdoor weather conditions, ensuring energy is used efficiently. The system can also prioritize using renewable energy sources, such as solar panels, by monitoring production and aligning it with consumption. Automated lighting systems reduce energy consumption by adjusting light levels based on occupancy, time of day, and natural light availability. Motion and daylight sensors are integrated into the lighting system to automatically turn lights on or off and dim or brighten them as needed. Smart lighting systems can also be programmed to follow a daily schedule, reducing energy use when natural light is sufficient or spaces are unoccupied. Smart thermostats learn the occupants' habits and preferences, adjusting temperatures automatically to maintain comfort while minimizing energy use. Zoning systems allow different areas of the House to be heated or cooled independently, ensuring energy is not wasted on unoccupied spaces. Ventilation systems equipped with sensors monitor indoor air quality, including levels of CO₂, humidity, and pollutants. The system automatically adjusts the ventilation rate to maintain healthy air quality. In addition, smart windows and skylights can be programmed to open and close for natural ventilation when favorable conditions reduce the need for mechanical ventilation. Integrating smart technologies with renewable energy systems maximizes the efficiency and usability of solar energy. Solar panels with smart inverters and energy management systems optimize energy production based on weather conditions and demand.

Excess energy can be stored in smart batteries, which automatically discharge to power the House during peak demand times or low solar production. Automated irrigation systems conserve water by adjusting watering schedules based on weather conditions, soil moisture, and plant needs. Smart plumbing systems manage water use efficiently, including recycling greywater for non-potable uses. Smart cameras, motion sensors, and door/window sensors are connected to a central system that alerts occupants via smartphones or other devices in case of unusual activity. These systems can also be integrated with smart lighting, deterring intruders by simulating occupancy when the House is empty.

4. CONCLUSIONS

In conclusion, implementing Active Houses in Konya, Turkey, presents an opportunity to create sustainable, energy-efficient, and comfortable living spaces that align with the local climate, culture, and economic considerations. By integrating passive design strategies, renewable energy sources, smart technologies, and considerations for indoor air quality, Active Houses can offer a holistic solution to the challenges of modern housing in Konya. Through a multidisciplinary approach that considers technical, social, cultural, and economic factors, Active Houses have the potential to transform the residential landscape in Konya towards a more sustainable and resilient future.

The passive solar design of the Active House in Konya is carefully tailored to the local climate, leveraging the sun's energy to provide heating, cooling, and lighting with minimal reliance on mechanical systems. The House achieves high energy efficiency by integrating orientation, thermal mass, insulation, ventilation, and shading while maintaining a comfortable and healthy indoor environment. This sustainable design approach enhances the overall living experience for the occupants.

In Active Houses, Indoor Environmental Quality (IEQ) is a priority, with a holistic approach that considers air quality, thermal comfort, lighting, acoustics, and healthy materials. By integrating advanced technologies with thoughtful design,

Active Houses create environments that support the health, comfort, and well-being of their occupants while also being energy-efficient and environmentally responsible. This commitment to high IEQ standards makes Active Houses exemplary sustainable and livable architecture models. The Active House in Konya uses sustainable materials and construction methods to create an energy-efficient, environmentally responsible, and healthy building for its occupants. By prioritizing local, recycled, renewable, and low-impact materials and integrating advanced construction techniques, the project exemplifies how sustainability can be embedded in every building design and construction aspect.

The result is a home that not only meets the immediate needs of its inhabitants but also contributes to the long-term well-being of the environment and community. Biophilic design elements in an Active House create a living environment that nurtures the connection between the occupants and nature. By incorporating natural light, materials, indoor plants, water features, and thoughtful spatial design, the House becomes more than just a dwelling—it becomes a place that supports physical and psychological well-being through a deep connection with the natural world. This approach enhances the quality of life for the occupants and aligns with the sustainable and holistic philosophy of the Active House concept. Smart technologies and automation in an Active House enhance energy efficiency, comfort, and sustainability by integrating advanced systems for energy management, climate control, security, and more. These technologies work together to create a home that is responsive to its occupants' needs and aligned with the principles of sustainable living. By leveraging real-time data, automation, and user-friendly controls, an Active House becomes a dynamic and intelligent living environment supporting environmental and personal well-being. Local community engagement in the design and implementation of Active Houses in Konya ensures that the buildings meet local needs, respect cultural values, and leverage local resources. By involving the community in every stage of the process, from planning and design to construction and operation, the Active House can become a model for sustainable living that is well-integrated into the local context and beneficial to its residents.

Author Contributions

Conceptualization: M.E.A., İ.A.; Investigation: M.E.A., İ.A.; Material and Methodology: M.E.A., İ.A.; Supervision: M.E.A., İ.A.; Visualization: M.E.A., İ.A.; Writing-Original Draft: M.E.A., İ.A.; Writing-review & Editing: M.E.A., İ.A.; Other: All authors have read and agreed to the published version of manuscript.

Conflict of Interest

The authors have no conflicts of interest to declare.

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EVALUATION OF INNOVATION PERFORMANCE OF COUNTRIES LISTED IN EUROPEAN INNOVATION SCOREBOARD REPORT 2023 USING CRITIC AND EDAS METHODS

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Abstract: The aim of this study is to evaluate the innovation performance of European Union (EU) member countries, candidate countries and European countries by using Multi-Criteria Decision Making (MCDM) methods. In this context, the data used in the study were taken from the European Innovation Scoreboard Report 2023 published annually by the EU commission. 12 main criteria were used in the research: *human resources, attractive research systems, digitalisation, finance and support, firm investments, use of information technologies, innovators, linkages, intellectual assets, employment impacts, sales impacts and environmental sustainability*. First of all, these criteria were weighted with the CRITIC (Criteria Importance Through Intercriteria Correlation) method, and then 36 countries with no missing data in the report were ranked and evaluated with the EDAS (Evaluation based on Distance from Average Solution) method. According to the results of CRITIC method used to weight the criteria, the criterion with the highest importance is innovators. After the analysis conducted with EDAS method, the best countries in terms of innovation performance were Switzerland, Denmark and Sweden, respectively, while the countries that ranked last in terms of innovation performance were Romania, Bosnia and Herzegovina and North Macedonia, respectively.

Keywords: Innovation Performance, Multi-Criteria Decision Making, CRITIC Method, EDAS Method, European Innovation Scoreboard.

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1. INTRODUCTION

Innovation is one of the important issues for both countries and businesses today. When evaluated from a country perspective, the most important reasons for this include sustainable development, social welfare, increased employment, providing national competitive advantage and playing an important role in improving the quality of life. For businesses, the most important reasons include the ability to enter new markets, reduce costs, increase efficiency and profitability, improve product and service quality, and be a very important tool for increasing productivity (Güler and Kanber, 2011). As a matter of fact, in recent years, countries have been making significant investments in innovation and R&D in order to develop innovative technologies. In order to analyze the effectiveness of these investments, the evaluation of the innovation performance of countries can be considered as an important issue. Countries can compare their own performance with other countries by evaluating their innovation performance. At the same time, they can work on issues that are considered inadequate by countries. In addition, studies can be carried out and plans can be made to develop the issues that have been achieved (Satıcı, 2021).

It is important to measure innovation performance periodically to determine the effectiveness of innovation activities of countries or businesses. Various models have been developed at macro and micro levels by taking into account different innovation indicators in order to measure the innovation performance of countries and businesses (Ecer and Aycin, 2023). In other words, innovation indices are generally used as innovation indicators in measuring and comparing the innovation performance of countries (Meral, 2023). Innovation performance barometers assessed by innovation indices are gaining importance in inter-economy comparisons and provide valuable information for economists and policy makers (Terzić, 2017). Therefore, determining the innovation performance of countries is important.

There are index studies conducted by various organizations to determine global innovative capacity. Examples of such large global organizations include the European Innovation Scoreboard (EIS), the World Economic Forum (WEF) and the Global Innovation Index (GII) (Baykul, 2022). The annual EIS provides a comparative assessment of the research and innovation performance of EU Member States and selected third countries and the relative strengths and weaknesses of their research and innovation systems. It also helps them assess areas where they need to focus their efforts to improve their innovation performance (EIS, 2023). Within the scope of this study, the innovation performances of the countries were evaluated using the EIS (2023) data and the innovation performances of the countries were evaluated with MCDM methods.

MCDM is an important branch of modern decision science and operations research. MCDM aims to select the most appropriate alternative among several criteria, considering multiple criteria that may conflict with each other. One of the most important features of MCDM methods is that they reflect the preferences of decision makers rather than searching for the optimal solution (Li et al., 2024). There are always two situations in MCDM methods. One of them is the weighting of the criteria and the other is the ranking of the options (Naik et al., 2021). Within the scope of this study, 36 countries with no missing data in the EIS Report 2023 were ranked in terms of innovation performance by utilizing the CRITIC and EDAS methods from the MCDM methods. In the study, 12 criteria, including *human resources, attractive research systems, digitalisation, finance and support, firm investments, use of information technologies, innovators, linkages, intellectual assets, employment impacts, sales impacts and environmental sustainability*, were used.

When the literature is examined, it is seen that there are various studies that use MCDM methods to determine innovation performance (Yılmaz et al., 2017; Kabadurmuş and Kabadurmuş, 2019; Altıntaş, 2020; Murat, 2020; Öztaş and Öztaş, 2020; Duran and Tavlan Soydan, 2022; Eren and Gelmez, 2022; Ersoy, 2022; Ecer and Aycin, 2023; Meral, 2023). It is thought that this study will contribute to the literature by using CRITIC and EDAS methods in determining the innovation performance of countries.

2. LITERATURE REVIEW

It is seen in the literature that the innovation performance of countries has been examined in various studies. Some of the current studies conducted using MCDM methods can be summarized as follows.

In the study conducted by Altıntaş (2020), the innovation performances of the G7 countries were evaluated by using the GII (2020). The Entropy method was used in the weighting of the criteria in the study. The Gray Relational Analysis method was used in the ranking of G7 countries. As a result of the analysis, the USA ranked first and Italy ranked last.

Öztaş and Öztaş (2020) evaluated the innovation performances of G20 countries between 2018-2022 using MCDM methods. LOPCOW (Logarithmic Percentage Change-driven Objective Weighting) was used to weight the criteria, and MAIRCA (Multi Attribute Ideal-Real Comparative Analysis) was used to rank the alternatives. As a result of the analysis, the United States had the best performance, while Indonesia came in last place.

In the study conducted by Murat (2020), the innovation performance of Organization for Economic Cooperation and Development (OECD) countries were examined using DEA (Data Envelopment Analysis). As a result of the analysis made by using the GII index, it was determined that the highest productivity scores were Switzerland, the United Kingdom, and the United States of America, respectively, while the top 3 countries with the lowest productivity scores were Colombia, Mexico and Chile, respectively.

In their study, Eren and Gelmez (2022) evaluated the innovation performance of countries by using the GII (2021). They used the Entropy method in weighting the criteria and the COPRAS (Complex Proportional Assessment) and ARAS (Additive Ratio Assessment) methods in ranking the alternatives/countries. In addition, countries were divided into clusters in terms of innovation indicators. As a result of the cluster analysis, countries were clustered in terms of innovation indicators, with 8 clusters. In addition, when the rankings were made according to the COPRAS and ARAS methods, the countries with the best rankings were determined as Switzerland, Sweden and the USA, respectively; and the countries in the last place were determined as Angola, Guinea and Benin, respectively.

Ecer and Aycin (2023) evaluated the innovation performance of G7 countries in their study using MEREC (Method based on the Removal Effects of Criteria), CODAS (Combinative Distance-based Assessment), MABAC (Multi-Attributive

Border Approximation Area Comparison), MARCOS (Measurement of Alternatives and Ranking according to Compromise Solution), CoCoSo (Combined Compromise Solution), WASPAS (Weighted Aggregated Sum Product Assessment) and MAIRCA methods. Then, Borda rule was used to obtain an aggregate ranking order. In the study, seven criteria were used, namely institutions, human capital and research, infrastructure, market sophistication, business sophistication, knowledge and technology outputs, creative outputs, using the GII (2020). As a result of the analyzes, business sophistication was determined as the most important criterion. In addition, when countries were ranked in terms of innovation performance, the USA ranked first, while Italy ranked last.

Meral (2023) evaluated the innovation performance of BRICS-T countries with the GII (2022). In the study, the MEREC method was used in weighting the criteria and the MARCOS method was used in ranking the alternatives/countries. According to the MEREC-MARCOS method results, China ranked first, while South Africa ranked last.

Determining the criteria and their weights are very important processes in MCDM problems, as the weights of the criteria can significantly affect the final output of the decision-making framework (Zolfani et al., 2020). In this study, it is seen that the CRITIC method used in weighting the criteria and the EDAS method used in ranking the alternatives are used in solving various problems (Vujičić et al., 2017; Adalı and Işık, 2017; Karabasevic et al., 2018; Gupta et al., 2021; Naik et al., 2021; Moitra et al., 2021; Arsu, 2022; Akman et al., 2022; Bektaş, 2022; Yazgan, 2022; Acar, 2022; Lukić, 2023; Ranjan et al. 2023). In this context, some current studies using the CRITIC method and EDAS method can be summarized as follows.

In the study conducted by Acar (2022), the performances of OECD countries were evaluated between 2015 and 2019 by using MCDM methods within the framework of socio-economic global indices. In the study, the CRITIC method was used in weighting the criteria, and the CoCoSo method was used in ranking the countries. As a result of the analyzes, Denmark was the country with the best performance in the context of 2015-2019, while Mexico was in the last place.

Aditia and Ishak (2022) made supplier selection with MCDM methods in their study and proposed a transportation plan. CRITIC and EDAS methods were used for supplier selection and then cost-optimized transportation routes were simulated using a transfer model. This study is important in terms of revealing the optimum supply costs in the construction sector and showing the relationship between supplier selection and material transportation on overall supply costs.

In the study conducted by Bektaş (2022), MEREC and LOPCOW weighting methods and CoCoSo and EDAS methods were used to evaluate the performance of the Turkish insurance sector in the period 2002-2021. According to the performance evaluation results of the Turkish insurance sector, the year in which the best performance was achieved in both CoCoSo and EDAS methods was determined as 2020.

Nwaoha and Udosoh (2022) used CRITIC and EDAS methods in their study to help relevant planning authorities and businesses determine the most suitable anchor alternative for marine farming construction. For this purpose, four basic criteria were determined: cost, ultimate holding capacity of the anchor, suitability for the loading direction, and the seabed suitability. The CRITIC method was used to determine the weights of the criteria, while the EDAS method was used to evaluate and rank the anchor alternatives. As a result of the study, it was determined that the drag-embedment anchor was the best alternative.

Yazgan (2022) evaluated the 2021 export performances of metropolitan cities in Turkey using CRITIC and EDAS methods. CRITIC was used in weighting the determined criteria, and the EDAS method was used in ranking the 30 metropolitan cities. As a result of the analyzes, it was determined that the three provinces with the highest export performance were Istanbul, Kocaeli and Izmir, respectively, while the three provinces with the lowest export performance were Erzurum, Van and Ordu, respectively.

Lukić (2023) examined the economic performance of the Western Balkan countries according to the LOPCOW and EDAS methods. The criteria were weighted with the LOPCOW method and the countries were ranked with the EDAS method. According to the analysis results, Serbia was in the first place, while the other countries were ranked as Montenegro, Kosovo, North Macedonia, Albania and Bosnia and Herzegovina, respectively.

In the study conducted by Ranjan et al. (2023), MCDM methods were used to determine the most suitable material for sintered pulleys used in automobiles. In the study, CRITIC method was used in weighting the determined criteria, and

MARCOS method was used in ranking the alternatives. As a result of the analysis, it was determined that A5, A6 and A4 materials could be the best material choice for the sintered pulley, while A10 material could be the worst choice.

3. MATERIAL AND METHOD

In this section, the methods to be applied in line with the purpose of the study are given.

3.1. CRITIC method

The CRITIC method was introduced to the literature by Diakoulaki et al. (1995). The CRITIC method is a weighting method developed to determine the objective weights of evaluation criteria (Diakoulaki et al., 1995). In this method, the evaluation process of the criterion weight includes both the correlation between the criteria and the standard deviation of the criteria (Saxena et al., 2021).

The steps of the CRITIC method are as follows (Diakoulaki et al., 1995; Wang and Zhao, 2016):

Step 1: Creating the decision matrix: The initial decision matrix (X) of the decision problem, which constitutes the first stage of the method, is created as specified in equation (1).

$$X = [x_{ij}]_{m \times n} = \begin{bmatrix} x_{11} & x_{12} & \dots & x_{1n} \\ x_{21} & x_{22} & \dots & x_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ x_{m1} & x_{m2} & \dots & x_{mn} \end{bmatrix} \quad (1)$$

Step 2: Normalizing the decision matrix:

x_j^{max} = maximum value of criterion j among alternatives

x_j^{min} = minimum value of criterion j among alternatives

i = 1, 2, ..., m (alternatives)

j = 1, 2, ..., n (criteria) including;

$$r_{ij} = \frac{x_{ij} - x_j^{min}}{x_j^{max} - x_j^{min}} \quad (2)$$

$$r_{ij} = \frac{x_j^{max} - x_{ij}}{x_j^{max} - x_j^{min}} \quad (3)$$

Using equation (2) for the benefit criterion and equation (3) for the cost criterion; the x_{ij} elements of the decision matrix are transformed into r_{ij} after normalization.

Step 3: Determining the degree of relationship between criteria: Correlation values between any criterion j and criterion k are calculated with equation (4).

$$p_{jk} = \frac{\sum_{i=1}^m (r_{ij} - \bar{r}_j)(r_{ik} - \bar{r}_k)}{\sqrt{\sum_{i=1}^m (r_{ij} - \bar{r}_j)^2 \sum_{i=1}^m (r_{ik} - \bar{r}_k)^2}} \quad (j, k = 1, 2, \dots, n) \quad (4)$$

Step 4: Calculation of C_j values:

σ_j is the standard deviation value of criterion j. C_j values are calculated with the help of the equation below.

$$c_j = \sigma_j \sum_{k=1}^n (1 - p_{jk}) \quad (j = 1, 2, \dots, n) \quad (5)$$

Step 5: Calculation of criterion weights: Weights are calculated by dividing the c_j value of each criterion j, calculated with equation (6), to the sum of the values of all criteria.

$$w_j = \frac{c_j}{\sum_{k=1}^n (c_k)} \quad (j, k = 1, 2, \dots, n) \quad (6)$$

3.2. EDAS method

The EDAS method, which was introduced to the literature by Keshavarz Ghorabae et al. (2015), is a method that evaluates the best among decision alternatives by calculations based on the average solution distance. The EDAS method has an application process consisting of six stages (Keshavarz Ghorabae et al., 2015):

Step 1: Creating the decision matrix: The decision-making matrix is as shown in equation (7):

$$X=[x_{ij}]_{m \times n} = \begin{bmatrix} x_{11} & x_{12} & \dots & x_{1n} \\ x_{21} & x_{22} & \dots & x_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ x_{m1} & x_{m2} & \dots & x_{mn} \end{bmatrix}, \quad (7)$$

where x_{ij} denotes the performance value of i th alternative on j th criterion.

Step 2: Obtaining average solution values: Average solutions are determined according to all criteria. Equality (8) and equality (9) are used for this process.

$$AV_j = \frac{\sum_i^m x_{ij}}{m} \quad (8)$$

$$AV = [AV_j]_{1 \times n} \quad (9)$$

Step 3: Calculating distance matrices from average: For each criterion, a positive distance from average (PDA), shown by equation (10), and a negative distance from average (NDA), shown by equation (11), are created. If the criteria are benefit, the PDA and NDA matrices are calculated with equations (12) and (13), and if the criteria are cost, the PDA and NDA matrices are calculated with equations (14) and (15).

$$PDA = [PDA_{ij}]_{m \times n} \quad (10)$$

$$NDA = [NDA_{ij}]_{m \times n} \quad (11)$$

$$PDA_{ij} = \frac{\max(0, (x_{ij} - AV_j))}{AV_j} \quad (12)$$

$$NDA_{ij} = \frac{\max(0, (AV_j - x_{ij}))}{AV_j} \quad (13)$$

$$PDA_{ij} = \frac{\max(0, (AV_j - x_{ij}))}{AV_j} \quad (14)$$

$$NDA_{ij} = \frac{\max(0, (x_{ij} - AV_j))}{AV_j} \quad (15)$$

Step 4: Calculating Weighted Total Positive Value (SP_i) and Weighted Total Negative Value (SN_i) for all alternatives: Weighted total PDA and NDA are calculated for each alternative. v_j represents the weight of the j th criterion.

$$SP_i = \sum_{j=1}^n v_j PDA_{ij} \quad (16)$$

$$SN_i = \sum_{j=1}^n v_j NDA_{ij} \quad (17)$$

Step 5: Normalizing the SP_i ve SN_i values: For each alternative, SP and SN values are normalized using equations (18) and (19).

$$NSP_i = \frac{SP_i}{\max_i(SP_i)} \quad (18)$$

$$NSN_i = 1 - \frac{SN_i}{\max_i(SN_i)} \quad (19)$$

Step 6: Calculating the appraisal score (AS_i) value: For all alternatives, the appraisal score (AS_i) is calculated with the equation (20).

$$AS_i = \frac{1}{2} (NSP_i + NSN_i), \quad (20)$$

where $0 \leq AS_i \leq 1$.

Finally, the alternatives are ranked according to appraisal score (AS_i score). The first ranked alternative is considered the best alternative.

4. RESULTS

The aim of the study was to evaluate the innovation performance of 36 countries with no missing data in the EIS (2023) using the CRITIC and EDAS methods. Within the scope of this purpose, 12 criteria were determined, *namely human resources, attractive research systems, digitalization, finance and support, firm investments, use of information technologies, innovators, linkages, intellectual assets, employment impacts, sales impacts and environmental sustainability*. These criteria were weighted using the CRITIC method and countries were ranked using the EDAS method in terms of innovation performance.

The criteria and codes of the criteria used in the study are as shown in Table 1.

Table 1. Criteria and Codes Used in the Study

Criteria	Code
Human Resources	C1
Attractive Research Systems	C2
Digitalisation	C3
Finance and Support	C4
Firm Investments	C5
Use of Information Technologies	C6
Innovators	C7
Linkages	C8
Intellectual Assets	C9
Employment Impacts	C10
Sales Impacts	C11
Environmental Sustainability	C12

4.1. Application of the CRITIC method

The CRITIC method was applied to weight the criteria in the study. The application steps of the CRITIC method are as follows:

Step 1: Creating the decision matrix

The rows of the decision matrix contain alternatives (countries) and the columns contain criteria. The decision matrix created for 12 criteria and 36 alternatives is as shown in Table 2.

Table 2. Decision Matrix

Countries	Criteria											
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
Austria	124.1	153.5	89.4	121.3	107.5	99.9	124.2	174.9	140.6	122	93.6	109
Belgium	124.8	155.6	111.6	123.6	132	147.3	146.5	173.7	86.9	150	102.6	101.7
Bosnia and Herzegovina	9.6	37.3	26.9	19.7	0.7	63.5	110.5	15.4	7.7	78.6	28.6	89.7
Bulgaria	32.7	26.6	49.8	22.1	35	48.1	56	35.4	92.5	56.7	59.7	46.2
Croatia	49.3	55	77.3	97	38	80.5	126.9	112.3	46.7	76.9	51.7	57.2
Cyprus	115.1	162.4	94.4	39.4	46.4	117.5	154.8	223.9	103.4	147	108.2	59.7
Czechia	82.7	82.6	76.7	82.1	113.2	100.4	138.2	94.1	63.1	106.1	103.1	99
Denmark	176.7	189.5	145.6	111.9	114.4	149.8	117.2	216.2	136.9	107.9	107.7	129.3
Estonia	125.6	126.3	83.4	92.5	90.1	122.4	95.3	161.6	117.6	144	69.9	23.3
Finland	157.1	156.6	158.2	103.6	109.1	190.6	147.5	218.6	124.6	138	116.4	78.3
France	126.3	117.1	112.3	132.7	89.7	73.8	104.5	120.9	80.6	110.1	81.7	118.3
Germany	99.8	109	86.5	91.8	140.4	120.9	141.1	141.9	122	128.4	117.5	121.2
Greece	71.5	71	48.5	63.6	70.5	39.3	167.3	117.7	51.8	124.2	85.5	71.8
Hungary	47	77.8	72.5	77.6	74.1	79.5	49.3	95.5	47.7	60.1	86.2	70.1
Iceland	135.7	189.5	153.1	78.5	87.6	88.7	102.2	228	66.6	126.2	39.1	57.9
Ireland	156.4	159.3	122.3	64.8	75.9	128.6	115.8	180.8	57.3	151.5	138.8	109
Italy	62.1	106.2	77.9	66.8	72.3	79.5	115.2	92	107.6	107	92.8	113.4
Latvia	75.4	53.7	71.2	37.9	24.5	75.4	39.3	74.4	63.8	48.9	52.3	41.9
Lithuania	107.2	54.2	94.4	71.2	86.2	69.6	113.7	140.2	72.1	101.3	54.8	78.3
Luxembourg	156.6	221.1	124.4	66.4	43.9	144.3	99	192.5	107.9	133	93.1	118.9
Malta	77.4	126.9	130.6	12.8	40.9	120.8	66	100.7	125.7	108.7	70.1	112.5
Montenegro	36.3	48.1	47.7	14.5	23.3	69.3	132.5	48.3	16.2	105.8	29.8	56
Netherlands	166.4	193.8	158.3	121.5	77.9	162.2	104.7	182.2	114.1	124.1	86.3	123.2
North Macedonia	32.8	84.8	43.2	15.6	40	32.8	60	50	14.4	30.7	68.8	87.3
Norway	159.7	162.4	139.4	129	78.6	142.9	155.6	244.7	57.4	133.5	55.3	82.8
Poland	58.3	46.2	81.1	61.2	59.3	90.3	41.4	73.7	84.2	50.8	68.2	43.8
Portugal	110.4	127.1	127.7	90.6	52.7	101.9	99.3	92.9	76.8	95.3	77.1	27.9
Romania	19.9	41	91.8	18	13.7	30.8	4.6	7.7	31.4	10.9	70.5	42.7
Serbia	47.3	46.7	59.2	39.2	101.9	79.7	132.2	65.4	17.8	99.5	72.1	27.6
Slovakia	91.6	51.7	67.1	38.1	56	74.7	42.3	49.8	49.4	55.9	101.8	95.5
Slovenia	139.1	109	83.5	66.1	60.9	117.3	116.1	140.7	84.4	106.6	87.3	84.6
Spain	127.2	96.1	144.9	81.1	61	90.1	50.1	88.2	80.1	59.7	97.5	100.4
Sweden	183.5	176	141.7	115.9	128	180.4	142.6	141.1	124.2	154.6	103.4	88.7
Switzerland	190.1	224.5	136.2	84.7	150.4	134.7	131.3	194.3	133.2	165.8	98.7	125
Türkiye	48.5	45.6	36.6	68.6	46.8	32.6	58.4	64.7	27.1	23.1	65.9	44.1
United Kingdom	161.5	170.6	39.1	122.6	76.2	120.2	48.1	206.5	70.4	147.3	106.8	116.1

Step 2: Normalizing the decision matrix

The values of the criteria are normalized with equation (2). The normalized decision matrix created is as shown in Table 3.

Table 3. Normalized Decision Matrix

Countries	Criteria											
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
Austria	0.6343	0.6412	0.4756	0.9049	0.7134	0.4324	0.7351	0.7055	1.0000	0.7172	0.5898	0.8085
Belgium	0.6382	0.6518	0.6446	0.9241	0.8771	0.7290	0.8722	0.7004	0.5959	0.8980	0.6715	0.7396
Bosnia and Herzegovina	0.0000	0.0541	0.0000	0.0575	0.0000	0.2046	0.6509	0.0325	0.0000	0.4371	0.0000	0.6264
Bulgaria	0.1280	0.0000	0.1743	0.0776	0.2291	0.1083	0.3159	0.1169	0.6381	0.2957	0.2822	0.2160
Croatia	0.2199	0.1435	0.3836	0.7023	0.2492	0.3110	0.7517	0.4414	0.2935	0.4261	0.2096	0.3198
Cyprus	0.5845	0.6862	0.5137	0.2219	0.3053	0.5426	0.9232	0.9122	0.7201	0.8786	0.7223	0.3434
Czechia	0.4050	0.2830	0.3790	0.5780	0.7515	0.4355	0.8211	0.3646	0.4169	0.6146	0.6760	0.7142
Denmark	0.9258	0.8231	0.9033	0.8265	0.7595	0.7447	0.6921	0.8797	0.9722	0.6262	0.7178	1.0000
Estonia	0.6427	0.5038	0.4300	0.6647	0.5972	0.5732	0.5575	0.6494	0.8269	0.8593	0.3748	0.0000
Finland	0.8172	0.6569	0.9992	0.7573	0.7241	1.0000	0.8783	0.8899	0.8796	0.8205	0.7967	0.5189
France	0.6465	0.4573	0.6499	1.0000	0.5945	0.2691	0.6140	0.4776	0.5485	0.6404	0.4819	0.8962
Germany	0.4997	0.4164	0.4536	0.6589	0.9332	0.5638	0.8390	0.5662	0.8600	0.7586	0.8067	0.9236
Greece	0.3429	0.2244	0.1644	0.4237	0.4663	0.0532	1.0000	0.4641	0.3318	0.7314	0.5163	0.4575
Hungary	0.2072	0.2587	0.3470	0.5405	0.4903	0.3048	0.2747	0.3705	0.3010	0.3176	0.5227	0.4415
Iceland	0.6986	0.8231	0.9604	0.5480	0.5805	0.3623	0.5999	0.9295	0.4432	0.7444	0.0953	0.3264
Ireland	0.8133	0.6705	0.7260	0.4337	0.5023	0.6120	0.6835	0.7304	0.3732	0.9077	1.0000	0.8085
Italy	0.2909	0.4022	0.3881	0.4504	0.4783	0.3048	0.6798	0.3557	0.7517	0.6204	0.5826	0.8500

Latvia	0.3645	0.1369	0.3371	0.2093	0.1590	0.2791	0.2133	0.2814	0.4221	0.2453	0.2151	0.1755
Lithuania	0.5407	0.1395	0.5137	0.4871	0.5711	0.2428	0.6706	0.5591	0.4846	0.5836	0.2377	0.5189
Luxembourg	0.8144	0.9828	0.7420	0.4470	0.2886	0.7103	0.5802	0.7797	0.7540	0.7883	0.5853	0.9019
Malta	0.3756	0.5068	0.7892	0.0000	0.2685	0.5632	0.3774	0.3924	0.8879	0.6314	0.3766	0.8415
Montenegro	0.1479	0.1086	0.1583	0.0142	0.1510	0.2409	0.7861	0.1713	0.0640	0.6127	0.0109	0.3085
Netherlands	0.8687	0.8449	1.0000	0.9066	0.5157	0.8223	0.6152	0.7363	0.8006	0.7308	0.5236	0.9425
North Macedonia	0.1285	0.2941	0.1240	0.0234	0.2625	0.0125	0.3405	0.1785	0.0504	0.1278	0.3648	0.6038
Norway	0.8316	0.6862	0.8562	0.9691	0.5204	0.7015	0.9281	1.0000	0.3740	0.7915	0.2423	0.5613
Poland	0.2698	0.0990	0.4125	0.4037	0.3914	0.3723	0.2262	0.2785	0.5756	0.2576	0.3593	0.1934
Portugal	0.5584	0.5078	0.7671	0.6489	0.3474	0.4449	0.5821	0.3595	0.5199	0.5449	0.4401	0.0434
Romania	0.0571	0.0728	0.4939	0.0434	0.0868	0.0000	0.0000	0.0000	0.1783	0.0000	0.3802	0.1830
Serbia	0.2089	0.1016	0.2458	0.2202	0.6760	0.3060	0.7843	0.2435	0.0760	0.5720	0.3947	0.0406
Slovakia	0.4543	0.1268	0.3059	0.2110	0.3694	0.2747	0.2317	0.1776	0.3138	0.2905	0.6642	0.6811
Slovenia	0.7175	0.4164	0.4307	0.4445	0.4021	0.5413	0.6853	0.5612	0.5771	0.6178	0.5327	0.5783
Spain	0.6515	0.3512	0.8980	0.5696	0.4028	0.3711	0.2797	0.3397	0.5448	0.3150	0.6252	0.7274
Sweden	0.9634	0.7549	0.8737	0.8599	0.8504	0.9362	0.8482	0.5629	0.8766	0.9277	0.6788	0.6170
Switzerland	1.0000	1.0000	0.8318	0.5997	1.0000	0.6502	0.7787	0.7873	0.9443	1.0000	0.6361	0.9594
Türkiye	0.2155	0.0960	0.0738	0.4654	0.3079	0.0113	0.3307	0.2405	0.1460	0.0788	0.3385	0.1962
United Kingdom	0.8416	0.7276	0.0928	0.9158	0.5043	0.5594	0.2674	0.8388	0.4718	0.8806	0.7096	0.8755

Step 3: Determining the degree of relationship between criteria:

The correlation coefficient matrix is calculated with equation (4). The created matrix is as shown in Table 4.

Table 4. Correlation Coefficient Matrix

p_{jk}	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
K1	0.0000	0.1191	0.2586	0.2917	0.3698	0.1776	0.6276	0.1472	0.3329	0.2574	0.4396	0.4886
K2	0.1191	0.0000	0.2781	0.4137	0.4608	0.2112	0.6151	0.1374	0.3402	0.2357	0.5041	0.4454
K3	0.2586	0.2781	0.0000	0.5038	0.5552	0.2814	0.7534	0.3732	0.3873	0.5393	0.6592	0.6589
K4	0.2917	0.4137	0.5038	0.0000	0.3207	0.4053	0.6132	0.3277	0.5167	0.4659	0.6008	0.6196
K5	0.3698	0.4608	0.5552	0.3207	0.0000	0.4187	0.4782	0.4274	0.4330	0.3680	0.4252	0.5873
K6	0.1776	0.2112	0.2814	0.4053	0.4187	0.0000	0.5412	0.2517	0.3078	0.2511	0.4667	0.5659
K7	0.6276	0.6151	0.7534	0.6132	0.4782	0.5412	0.0000	0.4767	0.7458	0.2638	0.7971	0.7816
K8	0.1472	0.1374	0.3732	0.3277	0.4274	0.2517	0.4767	0.0000	0.4099	0.2080	0.5682	0.6043
K9	0.3329	0.3402	0.3873	0.5167	0.4330	0.3078	0.7458	0.4099	0.0000	0.4380	0.4848	0.5504
K10	0.2574	0.2357	0.5393	0.4659	0.3680	0.2511	0.2638	0.2080	0.4380	0.0000	0.5634	0.5772
K11	0.4396	0.5041	0.6592	0.6008	0.4252	0.4667	0.7971	0.5682	0.4848	0.5634	0.0000	0.4658
K12	0.4886	0.4454	0.6589	0.6196	0.5873	0.5659	0.7816	0.6043	0.5504	0.5772	0.4658	0.0000

Step 4: Calculation of C_j value:

The c_j values calculated with Equation (5) are as shown in Table 5.

Table 5. Calculation of C_j value

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
c_j	3.5615	3.4006	5.3661	5.1739	4.5132	3.3693	7.4797	3.8922	5.1315	4.6581	5.5190	6.8961

Step 5: Calculation of criteria weights

In the last step of the method, the criterion weights were calculated with equation (6). The weights of the 12 criteria are as shown in Table 6.

Table 6. Criteria Weights

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
w_j	0.0604	0.0577	0.0910	0.0878	0.0765	0.0571	0.1269	0.0660	0.0870	0.0790	0.0936	0.1170

According to the results obtained from Table 6, the criterion with the highest importance level is the C7 (innovators) criterion, followed by the C7 criterion, C12 (environmental sustainability) and C11 (sales impacts) criteria, respectively.

4.2. Application of the EDAS method

The EDAS method was used to rank the alternatives in the study. The application steps of the EDAS method are as follows:

Step 1: Creating the decision matrix

As in the CRITIC method, the decision matrix in Table 2 was used in the application of the EDAS method.

Step 2: Obtaining average solution values

In this step, the average solution values for each criterion were obtained with equation (8) and equation (9). These values for the criteria are as shown in Table 7.

Table 7. Average Solution Values

	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
AVj	102.38	112.63	94.57	73.44	72.75	100.01	101.38	126.69	77.89	102.51	81.75	82.01

Step 3: Calculating distance matrices from average

The positive distances from average is calculated by equation (12) as shown in Table 8.

Table 8. Positive Distance From Average Matrix

Countries	Criteria											
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
Austria	0.2121	0.3628	0.0000	0.6516	0.4776	0.0000	0.2251	0.3805	0.8050	0.1902	0.1450	0.3291
Belgium	0.2190	0.3815	0.1801	0.6829	0.8144	0.4729	0.4451	0.3710	0.1156	0.4633	0.2551	0.2401
Bosnia and Herzegovina	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0900	0.0000	0.0000	0.0000	0.0000	0.0938
Bulgaria	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1875	0.0000	0.0000	0.0000
Croatia	0.0000	0.0000	0.0000	0.3207	0.0000	0.0000	0.2517	0.0000	0.0000	0.0000	0.0000	0.0000
Cyprus	0.1242	0.4418	0.0000	0.0000	0.0000	0.1749	0.5269	0.7673	0.3274	0.4341	0.3236	0.0000
Czechia	0.0000	0.0000	0.0000	0.1179	0.5560	0.0039	0.3632	0.0000	0.0000	0.0351	0.2612	0.2072
Denmark	0.7259	0.6825	0.5396	0.5236	0.5724	0.4979	0.1560	0.7065	0.7575	0.0526	0.3175	0.5766
Estonia	0.2268	0.1213	0.0000	0.2595	0.2384	0.2239	0.0000	0.2755	0.5097	0.4048	0.0000	0.0000
Finland	0.5345	0.3904	0.6728	0.4106	0.4996	0.9058	0.4549	0.7254	0.5996	0.3463	0.4239	0.0000
France	0.2336	0.0397	0.1875	0.8068	0.2329	0.0000	0.0308	0.0000	0.0347	0.0741	0.0000	0.4425
Germany	0.0000	0.0000	0.0000	0.2499	0.9298	0.2089	0.3918	0.1200	0.5662	0.2526	0.4374	0.4778
Greece	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6502	0.0000	0.0000	0.2116	0.0459	0.0000
Hungary	0.0000	0.0000	0.0000	0.0566	0.0185	0.0000	0.0000	0.0000	0.0000	0.0000	0.0545	0.0000
Iceland	0.3254	0.6825	0.6189	0.0688	0.2041	0.0000	0.0081	0.7996	0.0000	0.2312	0.0000	0.0000
Ireland	0.5276	0.4143	0.2932	0.0000	0.0433	0.2859	0.1422	0.4271	0.0000	0.4780	0.6979	0.3291
Italy	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1363	0.0000	0.3814	0.0438	0.1352	0.3827
Latvia	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Lithuania	0.0471	0.0000	0.0000	0.0000	0.1848	0.0000	0.1215	0.1066	0.0000	0.0000	0.0000	0.0000
Luxembourg	0.5296	0.9630	0.3154	0.0000	0.0000	0.4429	0.0000	0.5194	0.3852	0.2975	0.1389	0.4498
Malta	0.0000	0.1267	0.3810	0.0000	0.0000	0.2079	0.0000	0.0000	0.6137	0.0604	0.0000	0.3718
Montenegro	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3070	0.0000	0.0000	0.0321	0.0000	0.0000
Netherlands	0.6253	0.7206	0.6739	0.6543	0.0707	0.6219	0.0327	0.4381	0.4648	0.2107	0.0557	0.5022
North Macedonia	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0645
Norway	0.5599	0.4418	0.4740	0.7564	0.0804	0.4289	0.5348	0.9315	0.0000	0.3024	0.0000	0.0096
Poland	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0810	0.0000	0.0000	0.0000
Portugal	0.0783	0.1284	0.3503	0.2336	0.0000	0.0189	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Romania	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Serbia	0.0000	0.0000	0.0000	0.0000	0.4006	0.0000	0.3040	0.0000	0.0000	0.0000	0.0000	0.0000
Slovakia	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2453	0.1645
Slovenia	0.3587	0.0000	0.0000	0.0000	0.0000	0.1729	0.1452	0.1106	0.0835	0.0399	0.0679	0.0316
Spain	0.2424	0.0000	0.5322	0.1042	0.0000	0.0000	0.0000	0.0000	0.0283	0.0000	0.1927	0.2242
Sweden	0.7923	0.5626	0.4984	0.5781	0.7594	0.8038	0.4066	0.1137	0.5945	0.5082	0.2649	0.0816
Switzerland	0.8568	0.9932	0.4402	0.1533	1.0673	0.3469	0.2951	0.5336	0.7100	0.6175	0.2074	0.5242
Türkiye	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
United Kingdom	0.5774	0.5146	0.0000	0.6693	0.0474	0.2019	0.0000	0.6299	0.0000	0.4370	0.3065	0.4157

The negative distances from average is calculated by equation (13) as shown in Table 9.

Tablo 9. Negative Distance From Average Matrix

Countries	Criteria											
	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
Austria	0.0000	0.0000	0.0547	0.0000	0.0000	0.0011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Belgium	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Bosnia and Herzegovina	0.9062	0.6688	0.7156	0.7318	0.9904	0.3651	0.0000	0.8784	0.9011	0.2332	0.6501	0.0000
Bulgaria	0.6806	0.7638	0.4734	0.6991	0.5189	0.5190	0.4476	0.7206	0.0000	0.4469	0.2697	0.4367
Croatia	0.5185	0.5117	0.1826	0.0000	0.4777	0.1951	0.0000	0.1136	0.4005	0.2498	0.3676	0.3025
Cyprus	0.0000	0.0000	0.0018	0.4635	0.3622	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2720
Czechia	0.1922	0.2666	0.1890	0.0000	0.0000	0.0000	0.0000	0.2573	0.1899	0.0000	0.0000	0.0000
Denmark	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Estonia	0.0000	0.0000	0.1181	0.0000	0.0000	0.0000	0.0600	0.0000	0.0000	0.0000	0.1449	0.7159
Finland	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0453
France	0.0000	0.0000	0.0000	0.0000	0.0000	0.2621	0.0000	0.0457	0.0000	0.0000	0.0006	0.0000
Germany	0.0252	0.0323	0.0853	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Greece	0.3016	0.3696	0.4871	0.1340	0.0310	0.6070	0.0000	0.0710	0.3350	0.0000	0.0000	0.1245
Hungary	0.5409	0.3093	0.2334	0.0000	0.0000	0.2051	0.5137	0.2462	0.3876	0.4137	0.0000	0.1452
Iceland	0.0000	0.0000	0.0000	0.0000	0.0000	0.1131	0.0000	0.0000	0.1450	0.0000	0.5217	0.2940
Ireland	0.0000	0.0000	0.0000	0.1177	0.0000	0.0000	0.0000	0.0000	0.2644	0.0000	0.0000	0.0000
Italy	0.3934	0.0571	0.1763	0.0905	0.0062	0.2051	0.0000	0.2738	0.0000	0.0000	0.0000	0.0000
Latvia	0.2635	0.5232	0.2471	0.4840	0.6632	0.2461	0.6124	0.4127	0.1809	0.5230	0.3602	0.4891
Lithuania	0.0000	0.5188	0.0018	0.0306	0.0000	0.3041	0.0000	0.0000	0.0744	0.0118	0.3296	0.0453
Luxembourg	0.0000	0.0000	0.0000	0.0959	0.3966	0.0000	0.0235	0.0000	0.0000	0.0000	0.0000	0.0000
Malta	0.2440	0.0000	0.0000	0.8257	0.4378	0.0000	0.3490	0.2052	0.0000	0.0000	0.1425	0.0000
Montenegro	0.6454	0.5730	0.4956	0.8026	0.6797	0.3071	0.0000	0.6188	0.7920	0.0000	0.6355	0.3172
Netherlands	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
North Macedonia	0.6796	0.2471	0.5432	0.7876	0.4502	0.6720	0.4082	0.6053	0.8151	0.7005	0.1584	0.0000
Norway	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2631	0.0000	0.3235	0.0000
Poland	0.4306	0.5898	0.1424	0.1667	0.1849	0.0971	0.5916	0.4183	0.0000	0.5044	0.1657	0.4659
Portugal	0.0000	0.0000	0.0000	0.0000	0.2756	0.0000	0.0205	0.2667	0.0141	0.0703	0.0568	0.6598
Romania	0.8056	0.6360	0.0293	0.7549	0.8117	0.6920	0.9546	0.9392	0.5969	0.8937	0.1376	0.4793
Serbia	0.5380	0.5854	0.3740	0.4663	0.0000	0.2031	0.0000	0.4838	0.7715	0.0293	0.1180	0.6635
Slovakia	0.1053	0.5410	0.2905	0.4812	0.2303	0.2531	0.5828	0.6069	0.3658	0.4547	0.0000	0.0000
Slovenia	0.0000	0.0323	0.1171	0.1000	0.1629	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Spain	0.0000	0.1468	0.0000	0.0000	0.1615	0.0991	0.5058	0.3038	0.0000	0.4176	0.0000	0.0000
Sweden	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Switzerland	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Türkiye	0.5263	0.5951	0.6130	0.0660	0.3567	0.6740	0.4240	0.4893	0.6521	0.7746	0.1939	0.4623
United Kingdom	0.0000	0.0000	0.5865	0.0000	0.0000	0.0000	0.5256	0.0000	0.0962	0.0000	0.0000	0.0000

Step 4: Calculating Weighted Total Positive Value (SP_i) and Weighted Total Negative Value (SN_i) for all alternatives

The SP_i values were calculated with equation (16) and the SN_i values were calculated with equation (17). The values obtained from these two equations will be included in the last step of the application, so they are not shown in Step 4.

Step 5: Normalizing the SP_i ve SN_i values

The values of SP_i and SN_i calculated in Step 4 were normalized with equation (18) and equation (19) and the values of NSP_i and NSN_i were obtained. As in the previous step, the values obtained from these two equations will be included in the last step of the application and therefore they are not shown in Step 5.

Step 6: Calculating the appraisal score (AS_i) value

In the last step of the EDAS method, the equations given in steps 4 and 5 were applied and the calculated SP_i , SN_i , NSP_i and NSN_i values are shown in Table 10. The appraisal scores (AS_i) for each alternative were calculated with equation (20) and the alternatives were ranked from largest to smallest according to this evaluation score.

Table 10. Results of the EDAS method

Countries	SP_i	SN_i	NSP_i	NSN_i	AS_i	Rank
Austria	0.3183	0.0050	0.6028	0.9920	0.7974	8
Belgium	0.3805	0.0000	0.7206	1.0000	0.8603	6
Bosnia and Herzegovina	0.0224	0.5350	0.0424	0.1515	0.0969	35
Bulgaria	0.0163	0.4749	0.0309	0.2467	0.1388	32
Croatia	0.0601	0.2570	0.1138	0.5923	0.3531	25
Cyprus	0.2536	0.1004	0.4802	0.8408	0.6605	14
Czechia	0.1506	0.0777	0.2853	0.8768	0.5810	16
Denmark	0.4842	0.0000	0.9170	1.0000	0.9585	2
Estonia	0.1690	0.1157	0.3201	0.8166	0.5684	17
Finland	0.4669	0.0053	0.8842	0.9916	0.9379	4
France	0.1866	0.0180	0.3534	0.9714	0.6624	13
Germany	0.3287	0.0111	0.6226	0.9823	0.8024	7
Greece	0.1035	0.1811	0.1960	0.7128	0.4544	24
Hungary	0.0115	0.2483	0.0217	0.6062	0.3140	26
Iceland	0.2091	0.1023	0.3960	0.8378	0.6169	15
Ireland	0.2899	0.0333	0.5491	0.9471	0.7481	11
Italy	0.1114	0.0813	0.2109	0.8710	0.5410	19
Latvia	0.0000	0.4288	0.0000	0.3199	0.1600	31
Lithuania	0.0394	0.0937	0.0747	0.8514	0.4631	22
Luxembourg	0.2985	0.0418	0.5653	0.9338	0.7495	10
Malta	0.1555	0.1919	0.2945	0.6957	0.4951	21
Montenegro	0.0415	0.4635	0.0786	0.2649	0.1717	30
Netherlands	0.3932	0.0000	0.7446	1.0000	0.8723	5
North Macedonia	0.0075	0.4796	0.0143	0.2394	0.1269	34
Norway	0.3538	0.0532	0.6701	0.9157	0.7929	9
Poland	0.0070	0.3198	0.0133	0.4927	0.2530	29
Portugal	0.0656	0.1306	0.1242	0.7929	0.4586	23
Romania	0.0000	0.6305	0.0000	0.0000	0.0000	36
Serbia	0.0692	0.3429	0.1311	0.4562	0.2937	27
Slovakia	0.0422	0.3201	0.0799	0.4924	0.2862	28
Slovenia	0.0777	0.0338	0.1472	0.9465	0.5468	18
Spain	0.1190	0.1437	0.2253	0.7721	0.4987	20
Sweden	0.4658	0.0000	0.8821	1.0000	0.9410	3
Switzerland	0.5280	0.0000	1.0000	1.0000	1.0000	1
Türkiye	0.0000	0.4698	0.0000	0.2550	0.1275	33
United Kingdom	0.2919	0.1284	0.5528	0.7963	0.6745	12

According to the results obtained from the EDAS method, the best countries in terms of innovation performance were Switzerland, Denmark and Sweden, respectively, while the last countries were Romania, Bosnia and Herzegovina and North Macedonia, respectively.

5. DISCUSSION AND CONCLUSIONS

In a competitive world, countries need to be active and sustainable by embracing technological innovations. In this context, innovation performance is important in terms of economic growth, competitiveness and social welfare, and measuring this performance is also important for countries. In this way, countries will have the chance to evaluate both their current situation and their situation against other countries by looking at their innovation performance.

In this study, the innovation performances of the countries were evaluated with the CRITIC and EDAS methods from the MCDM methods. The 12 criteria used in the study and the values of these criteria were obtained from the EIS Report published in 2023. The criteria were weighted with the CRITIC method and the criterion with the highest importance was the Innovators criterion. According to the ranking made with the EDAS method, the best countries in terms of innovation performance were Switzerland, Denmark and Sweden, respectively, while the countries in the last place were determined as Romania, Bosnia and Herzegovina and North Macedonia, respectively.

According to the data obtained from the study, Switzerland was the best country in terms of innovation performance. When evaluated according to the current criteria, it was seen that Switzerland received the highest scores among 36 countries in the criteria of human resources, attractive research systems, firm investments and employment impacts.

At the same time, the reasons why Switzerland, Denmark and Sweden are the three countries with the best innovation performance can be shown as their advanced infrastructure and technologies, entrepreneurship and innovation cultures and high government support for innovative initiatives. In addition, these countries have social advantages such as high living standards and quality health services. Therefore, it is thought that the creativity and innovation capacities of individuals living in these countries are also high.

Countries with low innovation performance need to review the criteria they are missing or weak in and make efforts to improve these criteria. It is important for developing countries, in particular, to prioritize innovation activities in order to increase their competitiveness and gain advantage and increase their welfare.

Based on these explanations, the results obtained by using different MCDM methods in future studies can be compared with the results of this study. Analysis on innovation performance can be made with fuzzy MCDM methods. Similar and different aspects can be revealed with this study by using different criteria weighting methods.

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Conflict of Interest

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APPLICATIONS AND IMPACTS OF ARTIFICIAL INTELLIGENCE IN TEACHING TURKISH TO FOREIGNERS: NEW METHODS AND TECHNOLOGICAL APPROACHES IN LANGUAGE LEARNING

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Abstract: This study examines the opportunities and limitations offered by artificial intelligence (AI) technologies in teaching Turkish to foreigners. AI-supported language learning platforms, speech recognition systems, and natural language processing technologies provide individuals learning Turkish with a personalized and effective learning experience, making a great contribution especially to the comprehension of complex Turkish grammar rules and phonetic structures. The real-time feedback provided by AI accelerates learning processes and increases independent learning opportunities. However, there are some limitations regarding the use of AI in teaching Turkish. In particular, ethical concerns such as technological infrastructure deficiencies, cultural and linguistic incompatibilities, and data privacy may limit the use of these technologies. In order to overcome these difficulties, it is important for educators to support their pedagogical competencies with AI, to cooperate with institutions that develop technology, and to make the content culturally compatible. The study emphasizes that language learning will become more accessible and inclusive with the greater inclusion of innovations offered by AI in teaching Turkish in educational processes. As a result, the sustainable and ethical use of artificial intelligence in teaching Turkish offers significant opportunities for the future of language education.

Keywords: Artificial Intelligence, Turkish Language Teaching, Personalized Education, Natural Language Processing, Ethics in Education.

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YABANCILARA TÜRKÇE ÖĞRETİMİNDE YAPAY ZEKA UYGULAMALARI VE ETKİLERİ: DİL ÖĞRENİMİNDE YENİ YÖNTEMLER VE TEKNOLOJİK YAKLAŞIMLAR

Özet: Bu çalışmada, yabancılara Türkçe öğretiminde yapay zekâ (YZ) teknolojilerinin sunduğu olanaklar ve karşılaşılan sınırlılıklar incelenmiştir. YZ destekli dil öğrenme platformları, konuşma tanıma sistemleri ve doğal dil işleme teknolojileri, Türkçeyi öğrenen bireylere kişiselleştirilmiş ve etkili bir öğrenme deneyimi sunarak, özellikle karmaşık Türkçe dil bilgisi kuralları ve fonetik yapıların kavranmasında büyük bir katkı sağlamaktadır. YZ'nin sunduğu gerçek zamanlı geri bildirimler, öğrenme süreçlerini hızlandırmakta ve bağımsız öğrenme olanaklarını artırmaktadır. Bununla birlikte, yapay zekânın Türkçe öğretiminde kullanımıyla ilgili bazı sınırlılıklar bulunmaktadır. Özellikle teknolojik altyapı eksiklikleri, kültürel ve dilsel uyumsuzluklar ve veri gizliliği gibi etik endişeler bu teknolojilerin kullanımını sınırlayabilmektedir. Bu zorlukların üstesinden gelmek için, eğitimcilerin pedagojik yetkinliklerini YZ ile desteklemeleri, teknolojiyi geliştiren kurumlarla işbirliği yapmaları ve içeriklerin kültürel açıdan uyumlu hale getirilmesi önem taşımaktadır. Çalışma, Türkçe öğretiminde YZ'nin sunduğu yeniliklerin, eğitim süreçlerine daha fazla dahil edilmesiyle dil öğreniminin daha erişilebilir ve kapsayıcı hale geleceğini vurgulamaktadır. Sonuç olarak, yapay zekânın Türkçe öğretiminde sürdürülebilir ve etik bir şekilde kullanımı, dil eğitiminin geleceği açısından önemli fırsatlar sunmaktadır.

Keywords: Yapay Zeka, Türkçe Öğretimi, Kişiselleştirilmiş Eğitim, Doğal Dil İşleme, Eğitimde Etik.

1. INTRODUCTION

Today, foreign language teaching is undergoing a significant transformation with the rapid advancement of technology. Especially artificial intelligence (AI) technologies are reshaping language teaching processes, offering students a more effective and personalized learning experience (Johnson, 2020). For individuals learning Turkish as a foreign language,

this transformation has the potential to accelerate language acquisition and provide flexibility in learning processes (Bircan & Alkan, 2022).

Teaching Turkish to foreigners holds strategic importance in terms of cultural transmission and strengthening Turkey's role in international communication (Yıldırım, 2020). However, traditional language teaching methods have certain limitations, and the new tools offered by technology support teaching processes and enable quicker responses to learners' needs (Wang & Heffernan, 2021). Particularly, AI-supported language learning platforms, natural language processing, and speech recognition technologies allow for individual-level support in teaching Turkish (Öğüt & Kaya, 2023). In this context, as the role of AI in language teaching becomes increasingly significant, there is a growing need for its effective integration across all components of language education (Johnson, 2020).

In conclusion, the use of AI technologies in teaching Turkish to foreigners presents significant opportunities for overcoming existing challenges and enhancing teaching processes with a learner-centered approach. This study will examine the impacts and possibilities offered by AI in teaching Turkish in light of the current literature.

Theoretical Framework of Artificial Intelligence Use in Teaching Turkish to Foreigners

Artificial intelligence (AI) has been integrated into various fields of education, with language acquisition being one of the most transformative. AI's ability to analyze large datasets and personalize learning experiences has brought a new dimension to second language learning, facilitating processes that traditional methods may not fully address (Johnson, 2020). In the context of teaching Turkish as a foreign language, AI offers tools that align with major language acquisition theories, such as communicative competence and the Input Hypothesis (Krashen, 1985). These theories emphasize the role of exposure and meaningful interaction in language learning, which AI-based tools like natural language processing (NLP) and speech recognition can enhance (Wang & Heffernan, 2021).

One of the most prominent AI applications in language learning is NLP, which processes human language data to generate accurate language patterns and provides relevant responses. For example, through machine learning algorithms, NLP-based platforms can create language tasks that adapt to the learner's level and progress, facilitating a scaffolding process critical in second language acquisition (Bircan & Alkan, 2022). This adaptability is particularly useful in Turkish language learning, where learners face challenges with grammatical structures and vowel harmony unique to Turkish (Yıldırım, 2020).

Additionally, AI-driven personalized feedback systems contribute to more dynamic language learning experiences. Unlike standardized methods, which may not always cater to individual needs, AI can tailor feedback based on specific learner errors, enhancing corrective feedback's effectiveness (Öğüt & Kaya, 2023). This kind of real-time feedback aligns with the Error Analysis theory in second language acquisition, where understanding and addressing errors is crucial for progression (Selinker, 1972).

AI technologies also provide opportunities for improved learner autonomy, a concept central to language learning theories that advocate for the learner's active role in self-guided learning. By offering personalized content and self-paced modules, AI empowers learners to take control of their language acquisition journey, which is particularly valuable for Turkish learners who may require extended exposure to complex language structures (Johnson, 2020; Wang & Heffernan, 2021).

In sum, the integration of AI into teaching Turkish to foreigners provides new theoretical and practical dimensions that address the specific needs of language learners. By aligning with well-established language acquisition theories, AI-based tools enhance the learning experience and facilitate more effective language acquisition, thereby offering considerable potential for innovation in the field.

Examples of AI-Supported Applications in Teaching Turkish

The integration of artificial intelligence (AI) into language education has led to the development of a variety of tools and platforms tailored to meet the needs of learners. In teaching Turkish as a foreign language, these AI-supported applications range from interactive language platforms to tools designed for automated feedback and pronunciation training. Each application offers unique advantages that can aid learners in overcoming specific challenges associated with Turkish grammar, vocabulary, and phonetics (Bircan & Alkan, 2022).

One prominent example is the use of AI-driven language learning platforms like Duolingo and Babbel, which incorporate adaptive learning algorithms to tailor content to the learner's proficiency level. These platforms utilize machine learning to track learner progress, providing personalized exercises and adaptive review schedules, making language acquisition

more efficient and engaging (Wang & Heffernan, 2021). For Turkish learners, this adaptability is especially beneficial, as the language's complex morphology and vowel harmony rules require gradual, personalized exposure to reinforce retention (Yıldırım, 2020).

Another innovative application is AI-powered speech recognition, which allows learners to practice Turkish pronunciation with real-time feedback. Speech recognition tools such as Google's Text-to-Speech and Rosetta Stone's pronunciation guides analyze the learner's pronunciation accuracy and provide immediate, corrective feedback, helping learners refine their accent and intonation (Johnson, 2020). For learners of Turkish, where phonetic accuracy is essential to be understood accurately, these tools can be invaluable in mastering the unique sounds and rhythm of the language (Öğüt & Kaya, 2023).

Additionally, automated feedback systems equipped with natural language processing (NLP) have been increasingly used to enhance writing skills in Turkish. Such systems analyze written text to identify common grammatical and syntactical errors, providing learners with corrective suggestions and explanations. These feedback mechanisms can address the most frequent errors in Turkish sentence structure and offer relevant examples for improvement, which aligns well with the educational needs of learners who may struggle with complex syntax (Bircan & Alkan, 2022; Wang & Heffernan, 2021).

Finally, immersive environments, such as virtual reality (VR) or AI-driven conversational bots, enable learners to engage in simulated dialogues and real-life scenarios in Turkish. These tools facilitate interaction with virtual characters and create opportunities for learners to practice conversational skills in safe, controlled environments. Studies have shown that simulated practice with AI bots can improve speaking proficiency, confidence, and language retention, especially in less commonly spoken languages like Turkish (Johnson, 2020).

In sum, AI-supported applications provide Turkish learners with diverse, adaptable tools that address pronunciation, grammar, vocabulary acquisition, and conversational skills. By offering real-time feedback and personalized learning paths, these applications enable a more dynamic and effective learning experience.

Contributions and Limitations of Artificial Intelligence in Teaching Turkish

The use of artificial intelligence (AI) in teaching Turkish as a foreign language brings numerous contributions to the educational experience, offering learners personalized, efficient, and engaging learning pathways. However, alongside these benefits, certain limitations and challenges must be acknowledged to maximize AI's potential in language education.

Contributions of AI in Teaching Turkish

AI's primary contribution to language education lies in its ability to provide personalized learning experiences. Through adaptive learning algorithms, AI tools can assess learners' progress and adjust content and difficulty levels accordingly, which enhances learning efficiency and retention (Wang & Heffernan, 2021). For Turkish learners, who often face challenges with vowel harmony and agglutinative grammar structures, AI offers targeted practice sessions and personalized drills to reinforce these complex linguistic rules (Bircan & Alkan, 2022).

AI also facilitates real-time feedback on pronunciation and grammar, which is critical for language learners. Through technologies like natural language processing (NLP) and speech recognition, AI systems identify errors in pronunciation, syntax, and vocabulary use, offering corrective feedback that supports continuous improvement (Johnson, 2020). For instance, by allowing learners to practice Turkish pronunciation in real-time, AI applications like Google's Text-to-Speech reduce the dependency on native speakers for oral practice, thus making language learning more accessible (Öğüt & Kaya, 2023).

Furthermore, AI has the potential to support learner autonomy and self-directed study. By offering flexible, self-paced modules and varied practice exercises, AI applications empower learners to manage their own progress. This is particularly valuable for adult learners and professionals who may have limited time for structured classes but wish to learn Turkish independently (Yıldırım, 2020).

Limitations of AI in Teaching Turkish

Despite these advantages, AI applications in language learning face several limitations. One significant limitation is the technological infrastructure required for effective AI implementation. Many AI-supported language platforms rely on advanced algorithms and large datasets to provide accurate language models, which may not be equally available in all regions or accessible to all learners (Wang & Heffernan, 2021). This issue can be particularly restrictive in regions with limited internet access or among learners with restricted technological resources (Yıldırım, 2020).

Another limitation is the potential lack of cultural and contextual understanding in AI-driven language learning platforms. AI systems may lack the ability to interpret nuanced cultural expressions and idioms that are essential for fluency in Turkish, leading to gaps in learners' comprehension of real-world language use (Bircan & Alkan, 2022). For example, idiomatic expressions in Turkish may not be accurately processed by machine learning algorithms, causing confusion among learners when they encounter such expressions in authentic contexts (Johnson, 2020).

Finally, ethical concerns regarding data privacy and user autonomy present another limitation in AI-enhanced language learning. AI applications collect vast amounts of learner data to improve personalization and efficiency; however, data privacy regulations and ethical considerations must be carefully managed to protect user information and maintain trust in educational technology (Öğüt & Kaya, 2023).

In conclusion, while AI offers significant contributions to teaching Turkish to foreigners, certain limitations must be addressed to fully harness its potential. These challenges highlight the need for balanced approaches that integrate AI within comprehensive language education strategies, combining technology with human insights for a holistic learning experience.

Future Perspectives and Recommendations for AI in Teaching Turkish

The integration of artificial intelligence (AI) into language education continues to advance rapidly, and teaching Turkish as a foreign language is no exception. As AI technologies evolve, so does their potential to transform language acquisition processes. To maximize the benefits of AI in teaching Turkish, strategic planning and continuous improvement in AI applications are essential, particularly through collaboration, resource development, and pedagogical alignment.

Enhancing Collaboration and Resource Development

One of the most effective strategies for improving AI-supported Turkish language education involves fostering collaboration between educational institutions, AI developers, and linguistic experts. Such collaborations can lead to the development of more culturally and linguistically nuanced AI tools that better meet the specific needs of Turkish learners (Clark & Mayer, 2016). For instance, partnerships with academic institutions can support AI systems with access to diverse linguistic data, including regional dialects and colloquial expressions that might otherwise be overlooked (Alessi & Trollip, 2001). This could ensure that AI systems are trained to recognize and respond to variations in Turkish usage, enhancing the depth of learners' language comprehension (Schmid & Gunther, 2017).

Expanding AI-Driven Content in Turkish Language Learning

As AI algorithms become more sophisticated, the inclusion of content-specific modules for Turkish language learners could be beneficial. Advanced AI platforms should aim to integrate interactive exercises that simulate real-world scenarios, providing learners with authentic language practice (Lee & VanPatten, 2003). This approach aligns with communicative language teaching principles, which emphasize meaningful interaction and practical language use. Developing AI applications that allow for contextualized learning—such as virtual shopping, ordering food, or social interactions—can deepen learners' understanding and make the language acquisition process more immersive (Reeves & Nass, 1996).

Pedagogical Training for Teachers on AI Use in Language Education

For AI to effectively support Turkish language education, educators need adequate training on its applications and pedagogical implications. Equipping teachers with the necessary skills to integrate AI tools into their classrooms can enhance the learning experience and ensure that technology is used to complement, rather than replace, traditional teaching methods (Warschauer & Meskill, 2000). This training could include workshops on using AI-driven platforms, adapting lesson plans for AI integration, and understanding AI's limitations. By positioning educators as facilitators, AI tools can create an environment where human guidance and AI capabilities work in synergy to support Turkish learners (O'Neil & Perez, 2006).

Recommendations for Sustainable and Ethical AI Use

Finally, sustainable and ethical AI practices should be a priority in Turkish language education. AI's effectiveness relies on data collection and analysis, which raises concerns about privacy and user autonomy (Smith, 2018). To address these issues, implementing transparent data policies and user consent protocols is essential for building trust and promoting ethical practices in AI-based education (Buchanan, 2009). Additionally, establishing guidelines on the ethical use of AI

in educational settings will ensure that AI applications are used responsibly, maintaining a balance between technological efficiency and the personal, cultural aspects of language learning (Johnson & Persaud, 2019).

In summary, future advancements in AI for teaching Turkish will depend on collaborative efforts, targeted content development, educator training, and adherence to ethical standards. By implementing these strategies, AI has the potential to significantly enrich Turkish language education and contribute to a more inclusive and effective language learning experience.

CONCLUSION

The integration of artificial intelligence in teaching Turkish to foreigners represents a transformative step in modern language education. Through personalized learning pathways, real-time feedback, and adaptable content, AI technology has demonstrated its potential to address many of the challenges learners face when acquiring Turkish—a language known for its unique grammatical structures and phonetic nuances. AI applications, such as language learning platforms, speech recognition tools, and natural language processing systems, allow learners to engage with Turkish in ways that were previously limited by traditional methods. These tools empower learners to practice vocabulary, pronunciation, and grammar independently while receiving instant feedback, making the learning process more efficient and engaging.

However, as much as AI enhances language learning, its limitations highlight the importance of balancing technological innovation with educational principles and human insights. Factors such as infrastructure challenges, cultural nuances, and ethical considerations are significant in ensuring AI's effective application. Addressing these limitations requires ongoing collaboration among technology developers, linguists, and educators, as well as a commitment to sustainable practices that protect user privacy and promote ethical use.

In moving forward, a comprehensive approach to AI in teaching Turkish should prioritize not only technological advancements but also the training of educators, content localization, and adherence to ethical standards. By aligning AI technology with pedagogical objectives and cultural relevance, Turkish language education can become more inclusive, accessible, and impactful for learners worldwide. The continued exploration and thoughtful application of AI in this field hold the promise of a more innovative, efficient, and learner-centered language education landscape.

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THE ROLE OF THE CULTURE INDUSTRY IN PRESERVING AND TRANSMITTING THE COMMON CULTURE OF THE TURKIC WORLD

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Abstract: The Turkic World consists of communities united by historical and cultural ties, speaking various dialects of Turkic languages. Its shared cultural heritage includes elements such as mythologies, epics, folk beliefs, and traditional arts. This paper examines the role of the cultural industry in preserving and transmitting the common culture of the Turkic World to future generations. It emphasizes how the cultural industry integrates Turkic mythology, epics, and folk beliefs with modern platforms such as cinema, theater, digital games, and literature. The policies and projects of the Organization of Turkic States (OTS) supporting this process are analyzed, highlighting the cultural industry's potential to strengthen cultural unity and promote economic development within the Turkic World. Additionally, challenges such as the risk of commercialization and loss of authenticity during this process are addressed. The paper presents recommendations for sustaining Turkic culture through modern cultural industry tools.

Keywords: Turkic World, cultural industry, Turkic mythology, folk beliefs, cultural heritage, Organization of Turkic States.

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TÜRK DÜNYASI'NIN ORTAK KÜLTÜRÜNÜN YAŞATILMASI VE AKTARILMASINDA KÜLTÜR ENDÜSTRİSİNİN İŞLEVİ

Özet: Türk Dünyası, tarihsel ve kültürel bağlarla bir araya gelen, Türkçe'nin farklı lehçe ve şivelerini konuşan topluluklardan oluşmaktadır. Ortak kültürel miras; mitolojiler, destanlar, halk inançları ve geleneksel sanatlar gibi unsurları içermektedir. Bu bildiride, Türk Dünyası'nın ortak kültürünün yaşatılması ve gelecek nesillere aktarılmasında kültür endüstrisinin işlevi ele alınmaktadır. Kültür endüstrisinin, Türk mitolojisi, destanları ve halk inançlarını sinema, tiyatro, dijital oyunlar ve edebiyat gibi alanlarda modern dünyanın dinamikleriyle buluşturduğu vurgulanmaktadır. Türk Devletleri Teşkilatı'nın (TDT) bu süreci destekleyen politikaları ve projeleri incelenmekte, kültür endüstrisinin Türk Dünyası'ndaki kültürel birliği güçlendirme ve ekonomik kalkınmayı teşvik etme potansiyeline dikkat çekilmektedir. Bununla birlikte, kültürel mirasın ticarileştirilmesi sırasında özünden uzaklaşma riski gibi zorluklar da ele alınmaktadır. Bu bildiride, Türk kültürünün modern kültür endüstrisi araçlarıyla geleceğe taşınması için öneriler sunulmaktadır.

Keywords: Türk Dünyası, kültür endüstrisi, Türk mitolojisi, halk inançları, kültürel miras, Türk Devletleri Teşkilatı.

GİRİŞ

Türk Dünyası, Türk milletinin aynı ya da farklı boylarına mensup Türkçenin aynı veya farklı lehçe ve şivelerini konuşan tarihin cilvesi ile dünyanın farklı bölgelerinde yerleşmiş bağımsız devletleri olduğu gibi başka devletlerin içinde özerk veya o devletin vatandaşı olarak yaşayan ortak tarih ve kültürel mirasa sahip olan bütün Türkleri ifade etmek için kullanılmaktadır. Bu dünya, Asya Avrupa ve Afrika kıtasının önemli bölümlerine kadar geniş bir coğrafyaya yayılmış, daha çok dünyanın kuzey yarım küresinde yer alan birbirine tarihsel ve kültürel bağlarla bağlı olan milletlerden oluşmaktadır. Türk Dünyası, tarih boyunca farklı devlet ve imparatorluklar altında varlık göstermiş olsa da dil, inanç, gelenek ve görenek bakımından ortak bir kültürel kimliği temsil etmektedir. Günümüzde, Türkiye, Azerbaycan, Kazakistan, Kırgızistan, Türkmenistan, Özbekistan ve Kuzey Kıbrıs Türk Cumhuriyeti gibi ülkeler bu büyük kültürel

coğrafyanın siyasi temsilcileridir (Zeybek, 2021). Bu bildirinin amacı, Türk Dünyası'nın ortak kültürünün yaşatılması ve aktarılması gayesiyle kültür endüstrisinin nasıl kullanılabileceğini ele almaktır. Kültür, bir milletin kimliğini oluşturan en önemli unsur olarak, kuşaktan kuşağa aktarılan bir mirastır. Türk Dünyası'nın ortak kültürü, köklü bir geçmişe sahip olup, bu mirasın modern dünyada sürdürülebilir kılınması büyük önem taşımaktadır. Kültür endüstrisi ise, kültürel öğelerin ekonomik bir değere dönüştürülmesi ve geniş kitlelere ulaştırılması için etkili bir araçtır. Türk mitolojisi, destanları ve halk inançları gibi unsurlar, bu endüstrinin temel taşları olarak kullanılabilir. Bu çalışmada, öncelikle kültür ve Türk kültürü tanımlanacak, ardından kültür endüstrisinin ne olduğu ve Türk Dünyası bağlamında nasıl kullanılabileceği incelenecektir. Çalışma, Türk Devletleri Teşkilatı (TDT) gibi kuruluşların rolüne ve bu endüstrinin ortak kültürün yaşatılmasındaki potansiyel katkılarına da odaklanacaktır.

Kültür Nedir?

Kültür, bir toplumu oluşturan bireylerin yaşam tarzını, değerlerini, inançlarını, sanatsal ve estetik anlayışlarını kapsayan geniş bir kavramdır. Sosyolog Edward Tylor'a göre kültür, “bir toplumun üyesi olarak insanoğlunun kazandığı bilgi, inanç, sanat, ahlak, hukuk, gelenek ve diğer yetenekler ile alışkanlıkların bütünü” olarak tanımlanmıştır (Tylor, 1871). Kültür, toplumların zaman içinde geliştirdiği bir yapı olmakla birlikte, sürekli bir dönüşüm içinde olan dinamik bir unsurdur.

Türk Kültürü: Ortak Unsurlar ve Yansımalar

Türk Kültürü, Türk halklarının binlerce yıllık tarihî süreçte oluşturduğu kültürel mirası ifade eder. Türk Dünyası'ndaki çeşitli ülkelerde, bu kültürel yapı; dil, edebiyat, müzik, gelenekler ve dini inançlar gibi pek çok alanda kendini gösterir. Özellikle destanlar, mitoloji, halk inançları ve geleneksel sanatlar, Türk kültürünün temel taşlarıdır. Türk kültürünün bu unsurları, Orta Asya'daki göçebe hayat tarzından, İslamiyet'in kabulüne ve modern dünyaya kadar farklı dönemlerin etkilerini barındırır. Bu bağlamda, Dede Korkut hikâyeleri, Ergenekon Destanı ve Manas Destanı gibi destanlar, Türk kültürünün ortak mirası olarak kabul edilir (Köprülü, 2020).

Türk Sözlü Kültürü

Yaratılışa dair konular üzerinden itibaren Türk mitolojisi, Türk halklarının doğa, evren ve insanın varoluşu üzerine geliştirdikleri efsaneler, masalar, hikâyeler, memoratlar, türküler, ağıtlar bütünü olarak ifade edilen sözlü kültür ürünleri Türk milletinin hayata bakışını, doğa ile ilişkisini ve kutsal değerlere verdiği önemi yansıtır. Örneğin, Ergenekon Destanı, Türklerin sıkıntılardan kurtuluşunu ve yeniden dirilişini simgelerken, Dede Korkut Hikâyeleri, Türk toplumunun ahlaki değerlerini ve sosyal yapısını anlatan önemli destansı hikayelerdir. Bu tür anlatılar, Türk Dünyası'nda ortak bir kimlik ve aidiyet duygusu yaratmaktadır (Eryılmaz, 2022).

Türk Halk İnançları ve Folkloru

Türk halk inançları, İslam öncesi Türk inanç sistemlerinden gelen unsurları barındırır. Özellikle Gök Tanrı İnancı, Türklerin doğa olaylarını ve evreni anlamlandırma biçimlerinde önemli bir yer tutar. Bu inanç sistemi, zamanla İslamiyet'in kabulüyle birlikte değişiklik göstermiş olsa da halk arasında hâlâ etkilerini sürdürmektedir. Halk inançları arasında, kutsal dağlar, ağaçlar ve su kaynaklarına duyulan saygı önemli yer tutar. Bu inançlar, Türk Dünyası'ndaki halk sanatlarına, müziğe ve geleneksel törenlere yansımıştır (Sadiqov, 2019).

Kültür Endüstrisi Nedir?

Kültür endüstrisi, bir toplumun kültürel değerlerini, sanatını, dilini ve inançlarını ekonomik bir değere dönüştüren, kitlesel üretim ve tüketim süreçlerinde kullanılan bir yapıdır. İlk olarak Frankfurt Okulu düşünürleri Theodor Adorno ve Max Horkheimer tarafından ele alınan kültür endüstrisi kavramı, modern dünyada sanatın, müziğin, sinemanın ve diğer kültürel unsurların kitlelere ulaşmasını sağlayan bir araç olarak tanımlanmıştır. Adorno ve Horkheimer'e göre, kültür endüstrisi, kültürel ürünlerin ticarileşmesine ve standartlaşmasına yol açmakta, böylece bireysel yaratıcılığın yerine kitlesel tüketim kültürü geçmektedir (Adorno & Horkheimer, 1944).

Ancak günümüzde bu kavram, yalnızca kültürel ürünlerin ticarileşmesi değil, aynı zamanda kültürel mirasın korunması ve yaygınlaştırılması amacıyla da kullanılmaktadır. Kültür endüstrisi, bir ülkenin ya da topluluğun tarihini, geleneklerini ve kimliğini geniş kitlelere ulaştırma potansiyeli taşır. Bu bağlamda, kültürel öğeler sinema, müzik, edebiyat, tiyatro, moda, medya gibi alanlarda işlenip sunulurken toplumun hem kültürel hafızası korunur hem de ekonomik bir değer yaratılır (Hesmondhalgh, 2019).

Kültür Endüstrisinde Türk Mitolojisi ve Destanlarının Yeri

Türk mitolojisi ve destanları, kültür endüstrisinin işlenebilecek en önemli kaynakları arasında yer alır. Türk mitolojisindeki yaratılış hikâyeleri, Ergenekon Destanı gibi özgürlük ve yeniden doğuş temalı anlatılar, kültür endüstrisi için zengin içerik sağlamaktadır. Bu destanlar, sinema, tiyatro, edebiyat, animasyon ve oyun gibi çeşitli mecralarda kullanılabilecek geniş bir malzeme sunar.

Özellikle Türk mitolojisi, evrenin ve insanın yaratılışı, doğaüstü varlıklar, kahramanlar ve savaşlar gibi temalarla doludur. Mitolojik anlatılar, halk arasında yaygın olarak bilinen destanlar sayesinde yaşatılmış ve kuşaktan kuşağa aktarılmıştır. Bu tür anlatıların modern sinema, çizgi roman ve video oyunlarına aktarılması, Türk Dünyası'nın ortak kültürel mirasının geniş kitlelere ulaşmasını sağlayabilir. Örneğin, Ergenekon Destanı, Türk milletinin diriliş ve kurtuluş sembolü olarak sinema filmleri ve televizyon dizilerinde işlenmeye uygundur. Aynı şekilde Dede Korkut Hikâyeleri, Türk halk kültürünü ve kahramanlık anlayışını yansıtan güçlü bir kaynak olarak modern kültürel ürünlere adapte edilebilir (Köprülü, 2020).

Türk Halk İnançlarının Endüstriyel Ürünlere Yansıması

Türk halk inançları ve Şamanizm gibi eski inanç sistemleri, modern kültür endüstrisi için zengin bir ilham kaynağı oluşturmaktadır. Doğa ile olan güçlü bağ, kutsal varlıklar, ruhlar ve doğaüstü olaylara dair anlatılar, özellikle fantastik edebiyat, sinema ve dijital oyunlar için oldukça elverişlidir. Halk inançlarına göre kutsal sayılan dağlar, nehirler ve ormanlar, Türk Dünyası'nda büyük bir saygı görmüştür. Bu tür inançlar, aynı zamanda el sanatları, geleneksel giysiler ve halk müziği gibi kültürel ürünlerin tasarımında da kendini göstermektedir.

Örneğin, Kök Tengri inancı ve yer-su ruhları, Türk mitolojisinin ana unsurlarıdır ve doğa ile olan derin bağlantıları ifade eder. Bu unsurlar, çeşitli kültürel ürünlere yansıtılarak kültür endüstrisi içerisinde yeni birer pazarlama stratejisi oluşturabilir. Şaman davulları, gök tanrı sembolleri ve mitolojik figürler, özellikle turistik eşyalar ve hediyelik ürünler olarak yeniden üretilen kültürel materyallerdir (Sadiqov, 2019).

Kültürel Ürünler ve Ortak Kültürün Yaşatılmasında Rolü

Kültürel ürünler, bir milletin kimliğini ve geçmişini temsil eden önemli unsurlardır. Bu ürünler, bir yandan geleneksel değerleri korurken diğer yandan da modern tüketim dünyasında kendine yer bulabilir. Sinema filmleri, televizyon dizileri, dijital oyunlar ve turistik eşyalar gibi kültürel ürünler, Türk Dünyası'nın ortak kültürünü yaşatma ve aktarımında kritik bir rol oynayabilir. Bu tür ürünler, özellikle genç kuşaklar arasında Türk kültürüne olan ilgiyi artırabilir ve kültürel mirasın sürdürülebilirliğini sağlayabilir. Türk mitolojisinin modern dijital platformlara taşınması, Türk Dünyası'nın küresel çapta tanınmasına katkı sağlayacaktır.

Örneğin, Türk destanlarına dayanan animasyon filmleri ya da bilgisayar oyunları, dünya genelinde genç kitlelere hitap edebilir. Bu tür projeler, hem kültürel bilincin artırılması hem de kültürel turizmin geliştirilmesi açısından büyük bir potansiyel taşımaktadır. Özellikle dijital çağın getirdiği teknolojik olanaklar, kültürel ürünlerin geniş kitlelere ulaşmasını ve Türk Dünyası'nın ortak kültürel mirasının küresel çapta tanıtılmasını kolaylaştırmaktadır (Eryılmaz, 2022).

Türk Devletleri Teşkilatı'nın Rolü

Türk Devletleri Teşkilatı (TDT), Türk Dünyası'ndaki kültürel, ekonomik ve siyasi işbirliğini güçlendirmeyi amaçlayan önemli bir platformdur. 2009 yılında kurulan bu teşkilat, Türk dünyası halkları arasındaki tarihi ve kültürel bağların güçlendirilmesine yönelik çalışmalar yürütmektedir. TDT, kültürel işbirliği kapsamında, ortak kültürel mirasın korunması, geliştirilmesi ve yaygınlaştırılması konusunda çeşitli projeler hayata geçirmektedir. Özellikle Türk dili konuşan ülkeler arasındaki dil birliği, eğitim, kültür ve sanat alanlarındaki işbirliği bu projelerin merkezinde yer almaktadır (Alioğlu, 2021).

TDT'nin öncülük ettiği projeler arasında, Türk mitolojisi ve destanlarına dayanan sanat eserlerinin, filmlerin, tiyatro oyunlarının ve edebi eserlerin desteklenmesi dikkat çekmektedir. Bu bağlamda, Türk mitolojisinin modern kültür endüstrisine entegre edilmesi ve geniş kitlelere ulaştırılması hedeflenmektedir. Ayrıca TDT, üye ülkeler arasındaki ortak kültürel projeleri teşvik ederek, bu ülkelerin kültürel değerlerinin uluslararası platformlarda tanıtılmasına da katkı sağlamaktadır.

Kültürel Politikalar ve Projeler

Türk Devletleri Teşkilatı, üye ülkeler arasında kültürel işbirliğini artırmak için çeşitli politikalar geliştirmektedir. Bu politikalar, özellikle kültürel mirasın korunması ve yaygınlaştırılması amacıyla yapılan çalışmaları kapsar. TDT, bu

bağlamda ortak Türk Dünyası kültürel projelerini desteklemekte ve teşvik etmektedir. Bu projeler, Türk mitolojisinin, destanlarının ve halk inançlarının modern kültür endüstrisinde daha etkin bir şekilde kullanılması üzerine yoğunlaşmaktadır.

Örneğin, Dede Korkut Hikâyeleri ve Manas Destanı gibi Türk Dünyası'nın ortak destanları, tiyatro oyunları, sinema filmleri ve edebi eserler aracılığıyla yeniden canlandırılmakta ve geniş kitlelere sunulmaktadır. Ayrıca, bu destanların dijital platformlarda yer alması sağlanarak, Türk gençliğinin bu kültürel mirasla buluşması amaçlanmaktadır. Türk Devletleri Teşkilatı'nın kültürel projeleri, sadece kültürel mirasın korunmasını değil, aynı zamanda bu mirasın ekonomik bir değere dönüştürülmesini de hedeflemektedir (Turan, 2023).

Kültür Endüstrisinin Kalkınmadaki Rolü

Kültür endüstrisi, yalnızca kültürel mirasın korunmasına değil, aynı zamanda ekonomik kalkınmaya da katkı sağlayan önemli bir sektördür. Kültürel ürünler, turizm, sinema, müzik, edebiyat gibi farklı alanlarda geniş bir pazar oluşturur. Türk Dünyası'ndaki ortak kültürel unsurların endüstriyel ürünlere dönüştürülmesi, hem ekonomik büyümeyi teşvik eder hem de kültürel değerlerin uluslararası düzeyde tanıtılmasını sağlar.

Özellikle turizm sektörü, kültür endüstrisinin ekonomik anlamda en çok katkı sağladığı alanlardan biridir. Türk Dünyası'nda ortak kültürel mirasın turistik ürünlere dönüştürülmesi, bu bölgedeki turizmin gelişmesine katkıda bulunur. Örneğin, Türk mitolojisine dayalı temalı parklar, müzeler, kültürel festivaller ve turistik etkinlikler, hem yerel halkın hem de uluslararası turistlerin ilgisini çekebilir. Bu tür projeler, hem kültürel bilincin artırılmasına hem de ekonomik kalkınmanın hızlandırılmasına katkı sağlar (Zeybek, 2021).

Ayrıca, sinema ve televizyon sektörleri de kültür endüstrisinin önemli bir parçasıdır. Türk mitolojisi ve destanlarına dayalı film ve diziler, hem Türk Dünyası'nda hem de dünya çapında geniş bir izleyici kitlesine ulaşma potansiyeline sahiptir. Bu tür projeler, hem Türk kültürünün dünya genelinde tanınmasını sağlar hem de ekonomik olarak büyük bir getiri sağlayabilir. Özellikle son yıllarda Türk televizyon dizileri ve filmleri, sadece Türk Dünyası'nda değil, dünya genelinde büyük ilgi görmektedir. Bu durum, Türk mitolojisine dayalı projelerin uluslararası platformlarda başarıya ulaşabileceğini göstermektedir (Eryılmaz, 2022).

Türk Dünyası'nda Ortak Kültürel Değerlerin Korunması ve Yaygınlaştırılması

Türk Dünyası'nın ortak kültürel değerlerinin korunması ve yaygınlaştırılması, kültür endüstrisinin temel hedeflerinden biridir. Bu bağlamda, Türk mitolojisi, destanları ve halk inançları gibi unsurların korunması ve modern kültürel ürünler aracılığıyla geniş kitlelere ulaştırılması büyük önem taşımaktadır. Kültür endüstrisi, bu unsurları günümüz tüketim dünyasına adapte ederek, genç nesillere aktarmak için etkili bir araç olabilir.

Özellikle dijital çağda, kültürel ürünlerin dijital platformlarda yer alması, kültürel mirasın korunması ve geniş kitlelere ulaştırılmasını kolaylaştırmaktadır. Türk Dünyası'ndaki ortak kültürel değerlerin dijital ortamda sunulması, genç nesillerin bu değerlere olan ilgisini artırabilir ve kültürel bilinci güçlendirebilir. Ayrıca, dijital platformlar aracılığıyla kültürel ürünlerin uluslararası alanda tanıtılması da mümkündür. Türk Dünyası'nın zengin kültürel mirası, sinema filmleri, televizyon dizileri, dijital oyunlar ve sosyal medya gibi modern kültürel araçlar sayesinde küresel bir boyut kazanabilir (Sadiqov, 2019).

Kültür Endüstrisinin Ortak Kültürü Yaşatma ve Aktarmadaki Rolü

Kültür endüstrisi, modern dünyada toplumların kültürel mirasını korumak ve yaymak için güçlü bir araç haline gelmiştir. Özellikle dijitalleşmenin hız kazandığı günümüzde, kültürel öğelerin kitlelere ulaştırılması daha önce hiç olmadığı kadar kolay ve etkili bir hale gelmiştir. Bu bağlamda, Türk Dünyası'nın ortak kültürünü yaşatma ve aktarma sürecinde kültür endüstrisinin kullanımı hayati bir rol oynamaktadır.

Türk Dünyası, zengin tarihî ve kültürel mirasıyla birçok milletin ortak hafızasında yer alan bir coğrafyayı ifade eder. Türk mitolojisi, destanları, halk inançları ve gelenekleri, bu mirasın en güçlü unsurlarını oluşturur. Ancak bu kültürel mirasın yaşatılması ve gelecek nesillere aktarılması için bu unsurların modern dünyanın dinamikleriyle entegre edilmesi gerekmektedir. İşte tam bu noktada, kültür endüstrisi devreye girer. Sinema, televizyon, dijital oyunlar, edebiyat ve müzik gibi kültürel ürünler aracılığıyla Türk mitolojisi ve destanlarının daha geniş kitlelere ulaşması sağlanabilir. Bu sayede, bir yandan kültürel hafıza korunurken, diğer yandan ekonomik ve turistik açıdan da büyük bir potansiyel ortaya çıkarılabilir (Adorno & Horkheimer, 1944).

Türk mitolojisine dayalı sinema filmleri, destanların modern tiyatro oyunlarına uyarlanması ya da Türk halk inançlarına dayalı turistik ürünler, kültür endüstrisinin kullanımıyla hayata geçirilebilecek projeler arasında yer almaktadır. Örneğin, Dede Korkut Hikâyeleri, sadece edebi bir eser olarak değil, aynı zamanda modern sinema ve tiyatro için de değerli bir kaynaktır. Benzer şekilde, Ergenekon Destanı, Türk Dünyası'nın tarihsel ve mitolojik köklerine dair güçlü bir hikaye sunar ve bu hikaye, dijital platformlarda animasyon filmleri ya da video oyunları olarak yeniden canlandırılabilir. Bu tür projeler, genç kuşakların kendi kültürel miraslarına olan ilgisini artırırken, aynı zamanda bu mirasın uluslararası alanda tanıtılmasını sağlar (Eryılmaz, 2022).

Geleceğe Yönelik Fırsatlar ve Zorluklar

Kültür endüstrisinin Türk Dünyası'nın ortak kültürünü yaşatma ve aktarma sürecinde sunduğu fırsatlar geniştir. Dijital platformların yaygınlaşması, kültürel ürünlerin küresel pazarlarda daha kolay ve hızlı bir şekilde yer bulmasını sağlar. Türk mitolojisi, destanları ve halk inançları, bu platformlarda modern yorumlarla sunulurken dünya genelinde geniş bir izleyici kitlesine ulaşabilir. Ayrıca, kültürel turizm projeleri ve ortak kültürel festivaller gibi girişimler, Türk Dünyası'nın kültürel mirasının korunmasına ve yaygınlaştırılmasına büyük katkı sağlayabilir.

Ancak bu sürecin önünde bazı zorluklar da bulunmaktadır. Birincisi, kültürel değerlerin ticarileşmesi ve bu süreçte kültürün özünden uzaklaşma riski. Kültürel ürünler kitlelere ulaştırılırken, bu ürünlerin orijinal anlamlarının ve derinliklerinin kaybolmaması önemlidir. Özellikle Türk mitolojisi ve halk inançlarının modern tüketim kültürüne adapte edilirken, bu değerlerin yozlaşmaması ve köklerine sadık kalınması gerekmektedir. Bu noktada, kültürel projelerin özenle hazırlanması ve bu projelerin, kültürün asıl anlamını koruyacak şekilde şekillendirilmesi büyük önem taşır (Köprülü, 2020).

İkinci zorluk, kültürel endüstri için gerekli olan finansal ve lojistik altyapının bazı Türk Devletleri'nde yeterince gelişmemiş olmasıdır. Kültür endüstrisinin başarılı bir şekilde işlemesi için, sinema, tiyatro, dijital medya gibi alanlarda altyapının güçlü olması ve nitelikli iş gücünün yetiştirilmesi gerekmektedir. Bu bağlamda, Türk Devletleri Teşkilatı gibi uluslararası örgütlerin, üye ülkeler arasındaki işbirliğini artırarak kültürel projelerin finansmanı ve altyapı gelişimi konusunda destek sağlaması önemlidir.

Son olarak, kültürel değerlerin genç nesillere aktarılması konusu da önemli bir zorluktur. Modern dünyanın hızla değişen koşulları, genç nesillerin kendi kültürel köklerinden kopmasına yol açabilir. Bu durumu aşmanın en etkili yollarından biri, kültür endüstrisi aracılığıyla gençlere hitap eden projeler üretmektir. Dijital oyunlar, sosyal medya platformları, interaktif kültürel deneyimler gibi modern araçlarla Türk kültürünü genç nesillere daha çekici hale getirmek mümkündür. Türk mitolojisine dayalı bilgisayar oyunları ya da sosyal medya içerikleri, bu alanda büyük bir fırsat sunmaktadır (Turan, 2023).

Genel Değerlendirme

Sonuç olarak, kültür endüstrisi, Türk Dünyası'nın ortak kültürel mirasını koruma ve geleceğe aktarma sürecinde büyük bir potansiyel taşımaktadır. Türk mitolojisi, destanları ve halk inançları, modern dünyanın dinamikleriyle entegre edilerek geniş kitlelere ulaşabilir ve Türk Dünyası'nın uluslararası alandaki tanınırlığını artırabilir. Ancak bu sürecin başarılı bir şekilde yürütülebilmesi için dikkat edilmesi gereken noktalar da vardır. Kültürel ürünlerin orijinal anlamlarını koruyarak sunulması, kültürel projelerin finansmanının ve altyapısının desteklenmesi ve genç nesillerin bu mirasa ilgisinin artırılması, bu süreçte kritik rol oynayacaktır. Türk Devletleri Teşkilatı, üye ülkeler arasındaki kültürel işbirliğini daha da güçlendirerek, Türk Dünyası'nın ortak kültürel değerlerinin korunması ve yaygınlaştırılmasına yönelik çalışmalarını sürdürmelidir. Bu bağlamda, kültür endüstrisinin sunduğu fırsatların etkin bir şekilde değerlendirilmesi, Türk Dünyası'nın kültürel birliğinin güçlenmesine ve ekonomik anlamda kalkınmasına önemli katkılar sağlayacaktır.

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EXAMINING THE FACTORS AFFECTING BRANDED HOUSING PRICES IN ANKARA

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Abstract: The main purpose of this study is to examine the factors affecting the branded housing prices in Ankara. In the period between July 2024, a sample of 95 housing units were chosen using stratified sampling method from a total population of 642 1+1 houses in Çankaya-Ankara. In this study, the effects of locational and structural housing features on price were examined. The data subject to this study was obtained by web scraping method and a list of common housing features such as building type, building age, number of floors, number of rooms, title deed status and similar common housing features used for branded housing type in 25 districts within the borders of Ankara province and their effects on branded housing price are examined. In particular, housing features that mainly affect the house price and the direction of change are investigated. According to the research results, the building age, the coefficient of the building and the net square meter of the house have a significant effect on housing prices. The floor where the house is located and the fact that the house is located in the site do not have a significant effect on housing prices.

Keywords: Branded Housing, Housing Price, House Market, Anova

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ANKARA'DA MARKALI KONUT FİYATLARINI ETKİLEYEN FAKTÖRLERİN İNCELENMESİ

Özet: Bu çalışmanın temel amacı Ankara'da markalı konut fiyatlarını etkileyen faktörlerin incelenmesidir. Temmuz 2024 döneminde Ankara-Çankaya'da toplam 642 adet 1+1 konuttan tabakalı örnekleme yöntemi kullanılarak 95 adet konutluk bir örneklem seçilmiştir. Bu çalışmada konutun konum ve yapısal özelliklerinin fiyata olan etkileri incelenmiştir. Çalışmaya konu olan veriler web kazıma yöntemi ile elde edilmiş ve Ankara ili sınırları içerisinde yer alan 25 ilçede markalı konut tipi için kullanılan yapı türü, yapı yaşı, kat sayısı, oda sayısı, tapu durumu gibi ortak konut özellikleri listesi ve markalı konut fiyatına olan etkileri incelenmiştir. Özellikle konut fiyatını esas olarak etkileyen konut özellikleri ve değişim yönü araştırılmıştır. Araştırma sonuçlarına göre bina yaşı, binanın katsayısı ve konutun net metrekaresi ile konut fiyatları üzerinde anlamlı bir etkiye sahiptir. Konutun bulunduğu kat ve konutun site içerisinde bulunması ise konut fiyatları üzerinde anlamlı bir etkiye sahip değildir.

Keywords: Marka Konut, Konut Fiyatları, Konut Pazarı, Anova

GİRİŞ

Ekonomik, sosyal, hukuksal, teknolojik ve kültürel birden çok bileşenden oluşan konut, değişim, estetik, ekonomik ve kullanım değeri olan bir gayrimenkul türüdür (Yalçın, 2023). Konutların ilk akla gelen özelliği, bireylerin en önemli temel ihtiyaçlarından biri olan barınma ihtiyacını karşılamalarıdır. Bireyler bu ihtiyaçlarını karşılamak için bütçelerine göre ister kiralama yoluyla ister satın alma yoluyla gidermektedirler. Konutun barınma ihtiyacını karşılamasının yanı sıra satın alındığı takdirde uzun vadede bir yatırım aracı olabileceğinden bahsetmek de mümkündür. Tüik (2023a) verilerine göre Türkiye genelinde bireylerin tüketim amacıyla yaptıkları harcamalar içerisinde konut ve kira harcamaları %23,9 ile en yüksek paya sahiptir. Yani bireyler konut satın alım veya kiralama harcamalarına bütçelerinin önemli bir kısmını ayırmak durumundadırlar. Türkiye Cumhuriyeti Merkez Bankası'nın Eylül 2024 Konut Fiyat Endeksi (KFE) verilerine göre konut fiyatlarındaki en yüksek değişim %30.4 ile Ankara'da yaşanmaktadır (bkz. Tablo-1). Bu oran Türkiye geneli yıllık konut fiyat değişim oranının bile üstündedir. Endeksa (2024) verilerine göre, Eylül ayı itibarıyla Ankara'da ki kira fiyatlarındaki artış ise son bir yıl içerisinde %52,69'dur.

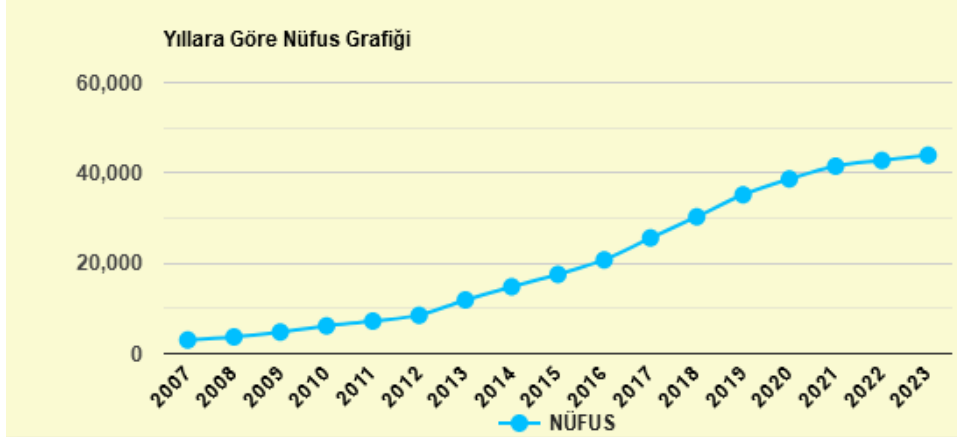
Tablo 1: Konut Fiyat Endeksi

	TÜRKİYE	İSTANBUL	ANKARA	İZMİR
Konut Fiyat Endeksi	148,0	139,4	153,7	142,5
Yıllık Değişim	%27,4	%23,4	%30,4	%23,1
Aylık Değişim	%1,0	%1,2	%2,2	%0,8

Kaynak: KFE (2024)

Ankara’da konut fiyatlarında yaşanan bu hızlı değişim şehrin başkent olmasından kaynaklı bürokrasinin, diplomasinin ve siyasetin merkezi olması, deprem sonrası şehre doğru yaşanan göçler, şehirde bulunan üniversitelerin sayılarının artması ile birlikte öğrenci nüfusunun artması ve bu öğrencilerin kiralık evlere yönelmesi gibi sebeplerden kaynaklı talep artışları ile değerlendirilebilir. Konutlara yönelik taleplerin artması konut fiyatlarında dikkat çekici bir şekilde artışa sebep olmaktadır. Ankara’da konutlara yönelik talebin artması ile birlikte farklı konum ve özelliklere sahip yeni projelerin müşterilere sunulduğu görülmektedir. Özellikle şehrin merkezden genişlemesi ile birlikte yeni yerleşim yerleri ortaya çıkmakta ve bu yerlerde yeni ve marka projeler oluşturularak bölgeler daha çok ilgi çeker hale gelmektedir. Bu bölgelerden biri de Alacaatlı mahallesidir. Alacaatlı mahallesi yüksek yerleşim düzeyine sahip, ulaşım noktasında bölgeye erişimin kolay olduğu ve ulaşım imkanlarının çeşitlendiği bir bölge olarak kabul edildiğinden dolayı yatırım yapma ve/veya barınma konusunda tercih edilen bir bölge olarak ele alınmaktadır (Güneş vd., 2021).

Grafik 1: Alacaatlı bölgesinin yıllara göre nüfus değişimi



Kaynak: <https://www.nufusune.com/1899-ankara-cankaya-alacaatli-mahallesi-nufusu> (Erişim: 09.07.2024)

Grafik 1’de de görüleceği üzere Alacaatlı bölgesinin nüfusunda yıllar itibarıyla belirgin bir artış olmakta dolayısıyla bölgeye yönelik ilgi her geçen yıl artmaktadır. Bölgeye olan talebin artması ile birlikte konut fiyatlarının da diğer bölgelere göre daha yüksek olması beklenmektedir. Buradan hareketle bölgeye yönelik bu nüfus artış hızının konut fiyatlarını nasıl etkilediğine yönelik çalışmaların olup olmadığı araştırılmıştır. Ankara konut pazarına yönelik yazında konutun bulunduğu bölge veya konutun özelliklerine yönelik çalışmalar olsa da yeni yerleşim bölgelerinden biri olan Alacaatlı mahallesinde bulunan marka konutların fiyatlarına etki eden faktörlere yönelik çalışmaların olmadığı tespit edilmiştir. Dolayısıyla bu çalışmanın amacı, 2024 yılında Ankara Alacaatlı mahallesinde bulunan 1+1 marka konut projelerinin fiyatları ve fiyatlara etki eden unsurlar arasındaki ilişkiyi ortaya koymaktır.

Ulusal ve uluslararası literatürde konut fiyatlarına yönelik pek çok çalışma vardır (Mok, Chan ve Cho, 1995; Goodman ve Thibodeau, 1995; Jud ve Winkler, 2002; Eğdemir, 2001; Üçdoğru, 2001; Selim, 2008; Rapach ve Strauss, 2008; Cheng ve Fung, 2015; Hayrulloğlu vd., 2017; Gebeşoğlu, 2018; Hesary vd., 2020; Şahin Kutlu ve Kutlu, 2019; İğdeli, 2021; Türkcan vd., 2023; Öztürk, 2023; Dayı ve Gencan, 2024). Konuya yönelik literatür konut fiyatlarına etki eden faktörlerin neler olduğunu anlamak amacıyla incelenmiştir. Konut fiyatlarının belirlenmesinde, yani konutların değerinin ölçülmesinde yapısal ve çevresel olmak üzere iki etken incelenmektedir (Yeşil ve Güzel, 2021). Konut fiyatlarını etkileyen yapısal etkenler (Hayrulloğlu vd., 2017; Yeşil ve Güzel, 2021); konutun net metrekaresi, yaşı, bulunduğu kat, oda sayısı, banyo sayısı, ısınma şekli, güvenlik ve otopark imkanı ve site içerisinde bulunup bulunmaması gibi

özelliklerdir. Çevresel etkenler (Hayrulloğlu vd., 2017; Yeşil ve Güzel, 2021) ise; konutun şehir merkezine mesafesi, okul, hastane, park, toplu taşıma durakları gibi bölgelere yakınlığını gösteren özelliklerdir. İğdeli (2021) çalışmasında konutun net metrekaresi, oda sayısı, bulunduğu kat, bina kat sayısı ve banyo sayısının konut fiyatları üzerinde arttırıcı etkisi olduğundan bahsetmektedir. Çiçek ve Hatırlı'nın (2015) çalışmasının sonuçlarına göre de konut fiyatlarını etkileyen en önemli unsurlar, konutun merkeze olan mesafesi, konutun bölgesi, yaşı, net metrekaresi, oda sayısı, ısınma şekli, otopark imkanı ve cephesidir. Alkan Gökler (2017) ise çalışmasında konut fiyatlarına en çok etki eden unsurun konutun büyüklüğü olduğu sonucuna ulaşmıştır. Öztürk (2023), İstanbul'da bulunan 1+1 konutların fiyatlarına etki eden unsurları araştırmış ve konutun net metrekaresi, bulunduğu kat ve mülkiyet cinsinin en önemli unsurlar olduğunu belirtmiştir.

Literatür incelendiğinde konut fiyatlarını etkileyen faktörlerin, farklı değişkenler ve farklı ampirik yöntemler ile ele alındığı görülmektedir. Diğer çalışmalardan farklı olarak bu çalışmada, Alacaatlı mahallesinde bulunan 1+1 marka konutlar incelenmiştir. Konuya yönelik yapılan çalışmalarda konut fiyatlarına etki eden yapısal ve çevresel unsurlar arasında bulunan, konutun bulunduğu yer, oda sayısı veya site içerisinde olması gibi faktörler aynı bölgede bulunan farklı oda sayısına sahip konutlar, aynı ilde ve farklı bölgelerde bulunan konutlar, aynı oda sayısına sahip ve farklı bölgelerde bulunan konutlar üzerinde incelenmiştir. Bu çalışmada aynı mahallede ve aynı oda sayısına sahip marka konutların seçilerek konunun daha da spesifik bir hale getirilerek ele alınmasının sebebi bölgede bulunan konutların fiyatları arasında belirgin farklılıklar olmasıdır. Dolayısıyla bu farklılığın anlamlı bir sebebi olup olmadığını araştırmak üzere bu çalışma yapılmıştır.

2. MATERYAL VE METOT

Çalışmanın verileri 05 Temmuz-10 Temmuz 2024 tarihleri arasında "sahibinden.com" dan elde edilmiştir. Sitenin filtreleme kriterleri olarak "emlak-konut-satılık" seçilmiş ardından satılık konutların bulunduğu bölgeyi ve büyüklüğü belirtmek için "Ankara-Çankaya-Alacaatlı Mahallesi" ve "1+1" konutlar seçilmiştir. Yapılan filtreleme sonrasında ulaşılan 104 ilan taranmış ve 95 ilanın çalışma kapsamında ele alınması hedeflenen markalı konutlara ait olduğu sonucuna ulaşılmıştır. Veriler, konut fiyatlarındaki farklılaşmanın tespiti için değişkenlerin konut fiyatları ile arasındaki ilişki frekans, t testi ve Anova analizleri ile değerlendirilmiştir.

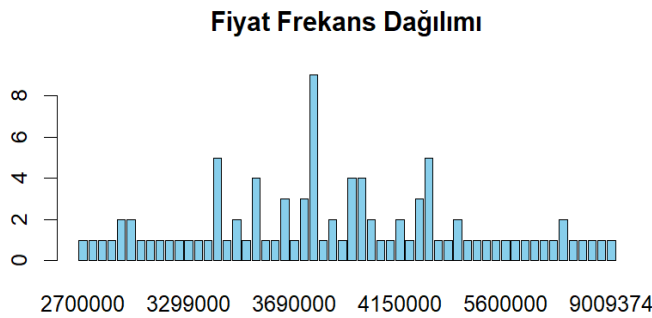
3. BULGULAR

Çalışmanın amacına yönelik elde edilen veriler frekans, t testi ve Anova analizleri ile değerlendirilmiştir. Değerlendirme sonucunda ulaşılan bulgular bu kısımda ele alınacaktır.

Çalışma kapsamında ulaşılan verilerle, Alacaatlı mahallesinde bulunan 95 adet 1+1 markalı konutun fiyat, metrekare, site durumu, bina yaşı, bina kat sayısı, bulunduğu kat ve krediye uygunluk frekans analizleri yapılmıştır.

Verilere göre konut fiyat frekans analiz sonucu Grafik 1'de gösterilmektedir.

Grafik 2: Konut Fiyat Frekansı

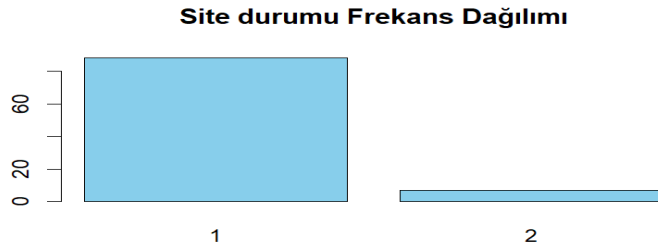


Çalışmada ele alınan konut tipine göre en yüksek konut fiyatının 9.009.374 TL olduğu görülmektedir. En yüksek frekans ise 3,690,000 TL fiyat seviyesinde gözlemlenmektedir. Bu da, veri setinde konutların en çok bu fiyatta bulunduğunu göstermektedir. 3,400,000 TL ve 3,850,000 TL gibi fiyat seviyeleri de belirgin bir şekilde yüksek frekansa sahip. Bu fiyatlar, piyasa segmentinde sıkça karşılaşılan fiyatlar olarak öne çıkmaktadır. Grafik 1'de aynı zamanda birçok fiyat seviyesinin belli aralıklarda (örneğin, 3,500,000 TL ile 4,500,000 TL arası) dağılmış olduğu gözlemlenmektedir. Bu durum, fiyatların genellikle orta segmentte yoğunlaştığını göstermektedir. Düşük fiyat seviyeleri (örneğin, 2,700,000 TL) ve yüksek fiyat seviyeleri (örneğin, 9,000,000 TL) daha az temsil edilmektedir. Yani belirli fiyat aralıklarının daha nadir bulunduğunu ve belki de piyasa dinamiklerinin bu fiyat segmentlerinde daha az aktif olduğu düşünülmektedir. Fiyat dağılımının belirli aralıklarda (örneğin, 3,500,000 TL civarı) yoğunlaşmış olması ise belirli fiyat segmentlerinde daha fazla konut bulunabileceğini ve bu segmentlerin potansiyel alıcılar için daha ilgi çekici olduğu söylenebilir. Bazı fiyat noktaları (örneğin, 4,500,000 TL) belirgin bir düşüş gösteriyor, bu da o fiyat seviyelerinde daha az konut bulunduğunu

veya daha az ilgi çektiğini gösterebilir. Grafik 2'ye göre, fiyatların daha çok 3,000,000 TL ile 4,500,000 TL arasında yoğunlaştığını, dolayısıyla bu fiyat aralığında daha fazla işlem yapıldığını sonucuna ulaşılmaktadır.

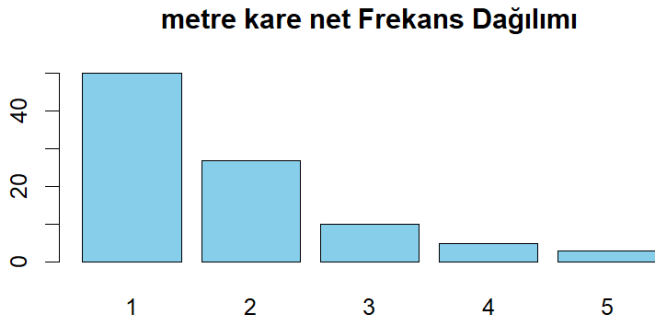
Çalışma verilerine göre 95 adet markalı konutun sadece 7 tanesi site içerisinde bulunmamaktadır. Bu durum, site içinde bulunan konutların alıcılar tarafından daha fazla tercih edildiğini veya bu tür konutların daha fazla inşa edildiğini düşündürülebilir. Site içindeki konutların güvenlik, sosyal imkânlar (havuz, park, spor alanları vb.) ve düzenli bakım gibi avantajları nedeniyle daha popüler olma ihtimali yüksektir. Site dışında bulunan konutların sayısının az olması, bu tür konutların pazarda daha az tercih edildiğini veya bu tür konutların satışa sunulma oranının düşük olduğu anlamına gelebilir.

Grafik 3: Site Durumu Frekansı



Grafik 3'e göre, veri setindeki konutların büyük bir kısmının site içinde yer aldığını açıkça ortaya koymaktadır. Site içerisinde olan konutlar 1, site içerisinde olmayan konutlar ise 2 olarak gösterilmektedir. Site içi konutların yüksek frekansı, bu tür yapıların alıcılar tarafından daha fazla tercih edildiğini veya pazarın bu yönde yoğunlaştığını gösteriyor olabilir. Site dışında yer alan konutların düşük frekansı, bu tür yapıların daha az tercih edildiğini veya daha az sayıda mevcut olduğunu göstermektedir.

Grafik 4: Metrekare Frekansı

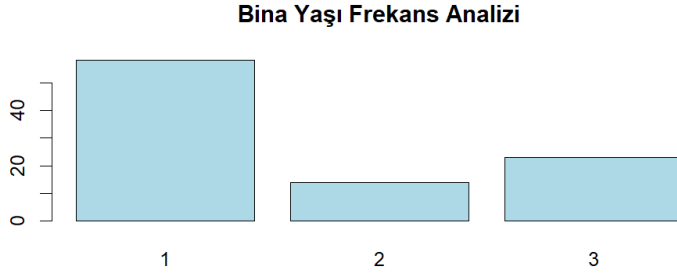


Grafik 4'e konutların metrekarelerine göre dağılımları 5 ayrı kategori olarak ele alınmıştır. Kategoriler sırasıyla; 40-50 metrekare, 51-60 metrekare, 61-70 metrekare, 71-80 metrekare ve 81-90 metrekare olarak ele alınmıştır. Verilere dayanarak, piyasada daha çok küçük alanlı (kategori 1: 40-50 metrekare) konutların tercih edildiği görülmektedir. Bu, alıcıların daha küçük ve muhtemelen daha uygun fiyatlı konutlar aradığını gösterebilir. Grafik 3'te en yüksek frekans, 40-50 metrekare aralığındaki konutlara aittir. Bu durum, daha küçük metrekareye sahip 1+1 konutların (40-50 metrekare) piyasada oldukça yaygın olduğu görülmektedir. 51-60 metrekare (kategori 2) aralığındaki konutlarda frekans biraz azalmakta, ancak yine de bu aralıkta da 23 konut bulunmaktadır. 61-70 metrekare, 71-80 metrekare ve 81-90 metrekare aralıklarında (kategori 3, 4 ve 5) ise frekanslar oldukça düşüktür. Bu, daha büyük metrekarelerdeki konutların daha nadir olduğunu veya bu tür konutların pazarda daha az bulunduğunu göstermektedir. 81-90 metrekare aralığı (kategori 5) ise grafikte en düşük frekansa sahiptir. Bu boyuttaki konutların veri setinde çok az bulunduğunu veya bu boyutların pazarda daha az tercih edildiğini göstermektedir. Dolayısıyla pazarda en çok satışı bulunan 1+1 konut boyutu 40-50 metrekare iken en az satışa sunulan 1+1 konut boyutu ise 81-90 metrekare aralığındadır.

Çalışma verilerinden elde edilen sonuçlara göre ilanda olan konutların bina yaşları frekansı üç farklı kategori altında ele alınarak Grafik 5'te gösterilmiştir. Kategoriler sırasıyla 0-1 yaş, 2-3 yaş ve 4-5 yaşı temsil etmektedir. Grafik 4'e göre en yüksek frekansa sahip olan kategori 0-1 yaş (Kategori 1) aralığındaki binalardır. Bu, veri setindeki binaların çoğunluğunun yeni inşa edilmiş veya henüz 1 yaşını doldurmamış olduğunu gösteriyor. Bu durum, yeni binaların pazarda daha fazla bulunduğunu veya yeni yapılar için talebin yüksek olduğunu düşündürülebilir. 2-3 yaşındaki binaların sayısı, 0-1 yaş kategorisine göre oldukça düşüktür. Bu durum, bu yaş grubundaki binaların ya daha az inşa edilmiş olduğunu ya da bu yaş grubundaki binaların daha az tercih edildiğini gösterebilir. 4-5 yaşındaki binaların frekansı, 2-3 yaş kategorisine benzer seviyededir. Bu da bu yaş grubundaki binaların pazarda daha az sayıda bulunduğunu veya bu yaş grubundaki

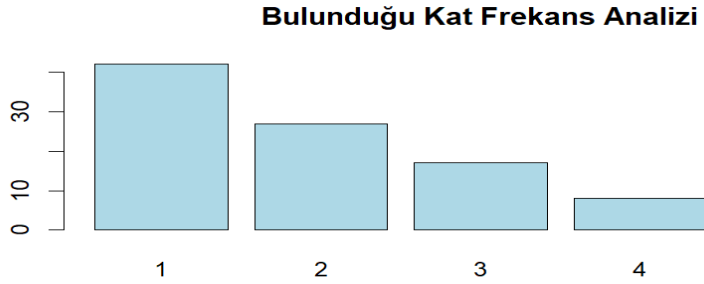
yapıların daha nadir olduğunu gösterebilir. Aynı zamanda, binaların yaşlandıkça pazardaki miktarlarının azaldığı gözlemlenebilir, bu da yeni yapıların daha fazla tercih edildiği sonucunu ortaya koyabilir.

Grafik 5: Bina Yaşı Frekansı

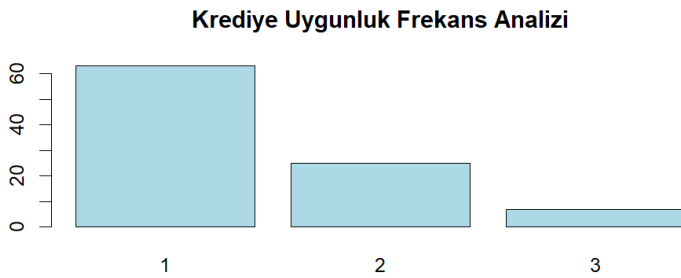


Çalışma verilerinden elde edilen sonuçlara göre bina kat sayısı frekansı altı farklı kategori altında ele alınarak sırasıyla 0-5 arası katlar, 6-10 arası katlar, 11-15 arası katlar, 16-20 arası katlar, 21-25 arası katlar ve 26-30 arası katlar olarak kategorize edilmiştir. Verilere göre en düşük frekansa sahip bina kat sayısı 1-5 katlı binalar olurken en yüksek frekansa sahip bina kat sayısı ise 15-20 katlı binalara aittir. Çalışma verilerinden elde edilen sonuçlara göre ilanda olan konutların bulunduğu kat sayısı frekansı dört farklı kategori altında ele alınarak Grafik 6'da gösterilmiştir. Kategoriler sırasıyla 0-5 arası katlar, 6-10 arası katlar, 11-20 arası katlar, 21-30 arası katları temsil etmektedir. 0-5 arası katlar (kategori 1) grafikte en yüksek frekansa sahiptir. Bu veri, veri setindeki konutların çoğunun bu kat aralığında bulunduğunu göstermektedir. Frekans 30'un üzerindedir, bu da düşük katlarda yer alan konutların ilan sayısının oldukça fazla olduğunu göstermektedir. En düşük frekansa sahip kategori ise 21-30 katlara aittir. Bu kat aralığında çok az sayıda konut bulunuyor, bu da yüksek katlarda yer alan dairelerin pazarda daha az sayıda olduğunu göstermektedir.

Grafik 6: Bulunduğu Kat Sayısı Frekansı



Grafik 7: Krediye Uygunluk Frekansı



Grafik 7'de elde edilen verilerden yola çıkarak konutların kredi kullanımına uygun olup olmaması üç kategori altında gösterilmiştir. Kategori 1'de krediye uygun olan konutlar, kategori 2'de krediye uygun olmayan konutlar ve kategori 3'de ise krediye uygun olup olmama durumunun belirtilmediği konutlar ele alınmaktadır. En yüksek frekansa kategori 1 sahiptir. Bu veriye göre çalışma kapsamında incelenen 95 konutun 64 tanesinin krediye uygun olduğu, 24 tanesinin krediye uygun olmadığı ve 7 tanesinin ise krediye uygun olup olmama durumunun belirtilmediği sonucuna ulaşılmıştır.

Tablo 2: Verilerin Anova Analizleri

Değişkenler	Df	Toplam Kare	Ortalama Kare	F Değeri	P Değeri	Anlamlılık Kodları
SiteDurumu	1	5,037E+11	5,037E+11	0,534	0,466939	
BinaYaşı	2	6,07E+12	3,035E+12	3,22	0,04526	*
BinaKatSayısı	4	2,217E+13	5,541E+12	5,879	0,000341	***
BulunduğuKat	4	1,946E+12	4,864E+11	0,516	0,724086	
MetrekareNet	4	3,156E+13	7,89E+12	8,371	0,0000111	***
Kalıntılar	79	7,446E+13	9,425E+11			

Anova tablosundaki değişkenler Df, Toplam Kare, Ortalama Kare, F Değeri, P Değeri ve Anlamlılık Kodlarına göre analiz edilmiştir. Df (Derece Serbestlik), modeldeki her değişken için gözlemlerin serbestlik derecesini gösterir. Örneğin, "SiteDurumu" 1 serbestlik derecesine sahiptir. Toplam Kare (Sum of Squares), her değişkenin fiyat üzerindeki etkisinin toplam varyansını gösterir. Daha büyük değerler, değişkenin fiyat üzerinde daha fazla etkiye sahip olduğunu gösterebilir. Ortalama Kare (Mean Squares), toplam kare değerinin serbestlik derecesine bölünmesiyle bulunur. Değişkenlerin etkilerini kıyaslamak için kullanılır. F Değeri, her bir değişkenin fiyat üzerinde anlamlı bir etkisi olup olmadığını belirler. F değeri ne kadar yüksekse, değişkenin etkisi o kadar önemlidir. P Değeri, değişkenin fiyat üzerindeki etkisinin istatistiksel olarak anlamlı olup olmadığını gösterir. Genelde, 0.05'in altındaki p değerleri anlamlı kabul edilir. 0.05'ten küçükse, anlamlı etki vardır. 0.05'ten büyükse, anlamlı etki yoktur. Anlamlılık Kodları ise değişkenlerin anlamlılığını özetleyen sembollerdir;

***: Çok yüksek anlamlılık ($p < 0.001$)

**: Yüksek anlamlılık ($p < 0.01$)

*: Orta düzeyde anlamlılık ($p < 0.05$)

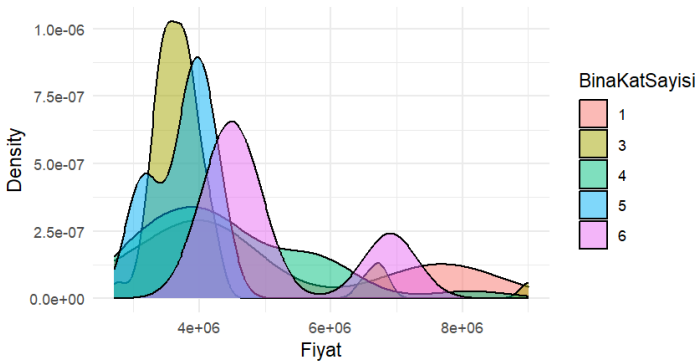
(boş): Anlamlı değil ($p > 0.05$)

Anlamlılık kodları, *** 0.001, ** 0.01, * 0.05 şeklinde ele alınmaktadır. Anova testinin sonuçlarına göre, her bir bağımsız değişkenin "Fiyat" üzerindeki etkisi p-değeri ($Pr(>F)$) ile belirlenir. Genel anlamda, p-değeri 0.05'ten küçükse, o değişkenin "Fiyat" üzerinde istatistiksel olarak anlamlı bir farklılaşma yarattığı kabul edilir.

1. **Site Durumu:** p-değeri 0.467 olduğu için, "SiteDurumu" değişkeninin "Fiyat" üzerinde istatistiksel olarak anlamlı bir farklılaşma yaratmadığı görülmektedir.
2. **Bina Yaşı:** p-değeri 0.045, yani 0.05'ten küçük olduğu için "BinaYaşı" değişkeninin "Fiyat" üzerinde istatistiksel olarak anlamlı bir farklılaşma yarattığı kabul edilir. Bu, bina yaşının fiyatı etkileyebileceğini göstermektedir.
3. **Bina Kat Sayısı:** p-değeri 0.000341, yani oldukça küçük. Bu değişkenin "Fiyat" üzerinde istatistiksel olarak anlamlı bir farklılaşma yarattığı söylenebilir.
4. **Bulunduğu Kat:** p-değeri 0.724, yani 0.05'ten büyük olduğundan, "BulunduğuKat" değişkeninin "Fiyat" üzerinde istatistiksel olarak anlamlı bir farklılaşma yaratmadığı görülmektedir.
5. **Metrekare Net:** p-değeri 1.11e-05 (çok küçük bir değer), yani "MetrekareNet" değişkeni "Fiyat" üzerinde istatistiksel olarak anlamlı bir farklılaşma yaratmaktadır. Net metrekare arttıkça, fiyat üzerinde belirgin bir farklılaşma gözlenmektedir.

Grafik 7: Bina Kat Sayısı Anova Analizi

Density Plot of Fiyat by BinaKatSayısı



Anova analiz grafiklerinde x eksenini "Fiyat", konut fiyatlarını temsil etmektedir. Yani, farklı bina kat sayılarındaki dairelerin fiyat aralığını göstermektedir. y eksenini ise "Yoğunluk (Density)", her bir fiyat aralığında bulunan konut yoğunluğunu ifade etmektedir. Zirve noktalar, o fiyat aralığında daha fazla konut olduğunu göstermektedir. Grafik 7'de renklerle belirtilen alanlar, farklı bina kat sayılarındaki (BinaKatSayısı) konutların fiyat dağılımını karşılaştırmanıza

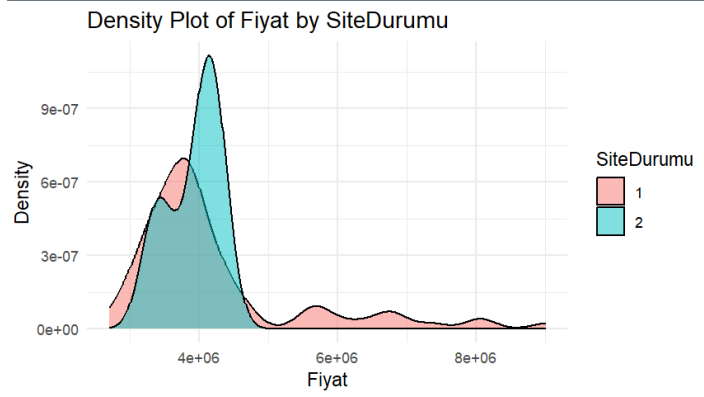
imkan vermektedir. Örneğin, belirli bir kat sayısında olan konutların hangi fiyat aralıklarında daha yoğun olduğunu bu grafikten görülebilmektedir.

Gruplar Arası Farklılıklar:

- (1)1-5 katlı binalar (pembe): Fiyatlar büyük ölçüde düşük seviyelerde yoğunlaşmaktadır. Bu binalar genellikle 4 milyon TL civarındaki fiyat aralığında bulunmaktadır.
- (3)11-15 katlı binalar (sarı): Yoğunluk en yüksek seviyeye çıkıyor ve fiyatlar 3.5 milyon TL ile 5 milyon TL arasında yoğunlaşmaktadır.
- (4)16-20 katlı binalar (yeşil): Dağılım, 4.5 milyon TL civarında bir yoğunluk göstermektedir.
- (5)21-25 katlı binalar (mavi): Fiyatlar yaklaşık 6 milyon TL civarında yoğunlaşmakta ve daha geniş bir aralığa yayılmaktadır.
- (6)26-30 katlı binalar (mor): Fiyatlar daha yüksek aralıklarda, özellikle 6 milyon TL ile 8 milyon TL arasında yoğunlaşmaktadır.

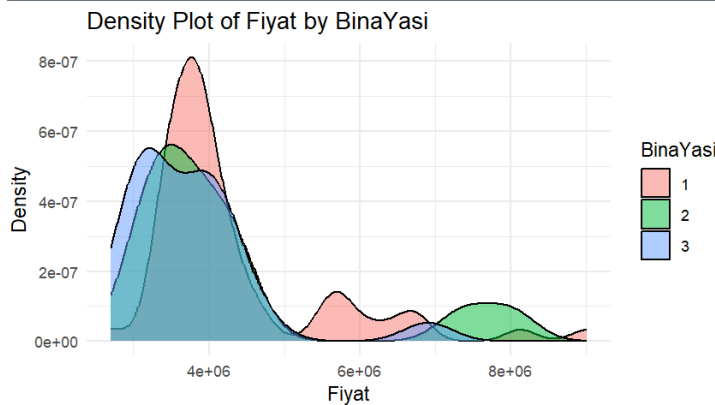
Genel olarak, bina kat sayısı arttıkça fiyatın da yükseldiğini gözlemlenmektedir. Örneğin, 26-30 katlı binalar daha yüksek fiyat aralıklarında yer alırken, 1-5 katlı binalar daha düşük fiyatlarda yoğunlaşmaktadır. Kat sayısı arttıkça fiyatların daha geniş bir aralığa yayılma eğiliminde olduğunu görülmektedir. Özellikle 21-25 ve 26-30 katlı binaların fiyatları daha geniş bir aralıkta dağılmaktadır. 11-15 katlı binalar ile 16-20 katlı binalar arasında bazı kesişme noktaları bulunmaktadır, bu da fiyat dağılımlarının bu iki bina türü arasında benzer olabileceğini göstermektedir. 25-30 katlı binalar en yüksek fiyat aralığında yoğunlaşmakta, bu da yüksek fiyatların daha çok yüksek katlı binalarda olabileceğini göstermektedir.

Grafik 8: Site Durumu Anova Analizi



Grafik 8’de, "SiteDurumu" değişkenine göre "Fiyat" yoğunluk dağılımı verilmiştir. Site içerisinde olan konutlar, 1 (evet) (pembe) olarak gösterilmiştir ve site içerisinde olan 1+1 konutların fiyatları genellikle 4 milyon TL civarında yoğunlaşmıştır. Site içerisinde olmayan konutlar ise 2 (hayır)(mavi) olarak gösterilmiştir ve fiyatlar yine büyük ölçüde 4 milyon TL civarında yoğunlaşmış ancak bu grup daha dar bir aralıkta daha yoğun gözükmemektedir. Marka konutların site içerisinde olup olmaması arasında çok büyük bir fark yoktur, ancak site içerisinde olmayan konutların daha dar ve yüksek bir tepe oluşturmaktadır. Bu da az sayıda da olsa daha yüksek fiyatlara sahip marka konutların site içerisinde olmadığı anlamına gelebilmektedir.

Grafik 9: Bina Yaşı Anova Analizi

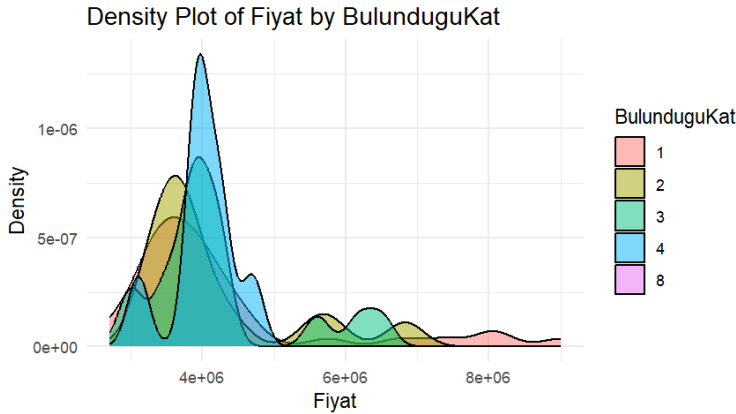


Grafik 9’da farklı renklerle gösterilen alanlar, farklı bina yaşlarındaki konutların fiyat dağılımlarının karşılaştırılmasını sağlamaktadır. Böylece, bina yaşı arttıkça veya azaldıkça fiyatların nasıl değiştiği gözlemlenebilir. Grafik 9’da "BinaYaşı" değişkenine göre "Fiyat" yoğunluk dağılımını görülmektedir.

- Bina Yaşı 1 (0-1 yaş) (pembe): Fiyatlar genellikle 4 milyon TL civarında yoğunlaşmış ve en yüksek yoğunluğu göstermektedir.
- Bina Yaşı 2 (2-3 yaş) (yeşil): Fiyatlar daha geniş bir aralığa dağılmış ve özellikle 6 milyon TL civarında daha düşük yoğunluktadır.
- Bina Yaşı 3 (4-5 yaş) (mavi): Fiyatlar yaklaşık 3.5 milyon TL civarında yoğunlaşmış ancak diğer iki gruba göre daha düşük yoğunluktadır.

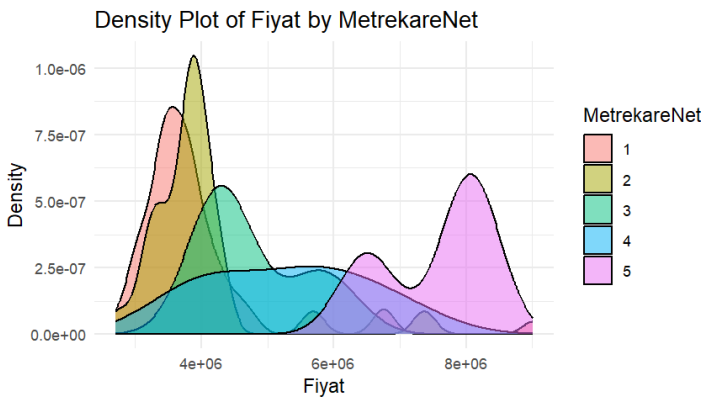
Genel olarak, Bina Yaşı 0-1 yaş arasında olan konutlar yüksek yoğunluk gösterirken, diğer gruplar daha geniş fiyat aralıklarına dağılmış durumdadır.

Grafik 10: Bulunduğu Kat Anova Analizi



Grafik 10'da farklı renkler, farklı katlardaki (yani "BulunduguKat" ile belirtilen) konutları temsil etmektedir. Böylece, fiyat dağılımının kat seviyesine göre nasıl değiştiği görülebilmektedir. Kategori 1'de (1-5 kat)(pembe), fiyatlar daha düşük seviyelerde ve özellikle 4 milyon TL civarında yoğunlaşmıştır. Kategori 2'de (6-10 kat) (sarı), fiyatlar 3.5 milyon TL civarında yoğunlaşmış, ancak bu grup oldukça düşük yoğunluktadır. Kategori 3'te (11-20 kat) (mavi), fiyatlar en yüksek yoğunluğa sahip ve 4 milyon TL civarında yoğunlaşmıştır. Kategori 4'te (21-30 kat) (yeşil) ise fiyatların geniş bir aralığa yayıldığı görülmekle birlikte 5 milyon TL ile 7 milyon TL arasında bazı yoğunluklar görülebilmektedir.

Grafik 11: Metrekare Anova Analizi



Kategori 1'de (40-50 metrekare) (pembe), fiyatlar genellikle 3.5 milyon TL civarında yoğunlaşmıştır ve en yüksek yoğunluk bu grupta görülmektedir. Bu, düşük metrekareli konutların fiyatlarının daha düşük olduğunu ve yoğunluğun bu fiyat aralığında yer aldığını göstermektedir. Kategori 2'de (51-60 metrekare) (sarı), fiyatlar 4 milyon TL civarında yoğunlaşmıştır. Bu grup da düşük metrekareli konutları temsil etmektedir ve fiyatlar yine düşük seviyelerdedir. Kategori 3 (61-70 metrekare)(yeşil) daha geniş bir fiyat aralığına dağılmış durumdadır. Fiyatlar 4 milyon TL civarına yayılmış durumda, ancak yoğunluk daha düşüktür. Kategori 4'te (71-80 metrekare) (mavi), fiyatlar 5 milyon TL ve civarında yoğunlaşmıştır ve daha büyük metrekareli evlerin fiyatlarının daha yüksek olduğu gözlemlenmektedir. Kategori 5 ise (81-90 metrekare) (mor), en yüksek metrekareye sahip gruptur ve fiyatlar 8 milyon TL ve üzerinde yoğunlaşmaktadır. Bu gruptaki fiyatlar, metrekare arttıkça daha yüksek fiyatlara sahip olma eğilimindedir.

4. TARTIŞMA VE SONUÇLAR

Ülke genelinde yaşanan demografik, ekonomik, sosyal ve kültürel değişiklikler sektörleri yakından etkilemektedir. Konut sektöründe tüketici tercihlerinde yaşanan değişiklikler, talep edilen konutların özelliklerinin değişmesi gibi sebeplerden dolayı yeni üretilen konutların bireylerin bu beklentileri doğrultusunda olduğu gözlemlenmektedir. TÜİK verilerine göre,

Türkiye’de tek kişilik hanehalkı oranları yıllar itibarıyla devamlı bir artış göstermektedir. 2019 yılında %16, 9 olan tek kişilik hanehalkı oranı 2023 yılında %19,7’lere çıkmıştır (Tüik, 2023b). Tüik’ten elde edilen sonuçlara göre tek kişilik yaşamın artması bireylerin konut tercihlerinde değişiklikler ortaya çıkarabilir. Daha büyük konutlardan daha küçük ve tek kişinin yaşayabileceği konutlara talep kayması yaşanabilir. Üniversite okuma veya iş hayatı için aile evinden çıkarak farklı şehirlere taşınan ve tek kişilik bir hayat kurgulayan kişiler, boşanma, vefat veya şehir değişikliği gibi sebeplerden dolayı hanehalkı büyüklüğünde yaşanan değişiklikler gibi demografik ve sosyo-kültürel değişiklikler 1+1 konutlara olan talebi arttırabilir. Son yıllarda 1+0 veya 1+1 konutların daha çok üretilmeye ve talep görmeye başlamasının da bu görüşü desteklediğini söyleyebiliriz. Buradan yol çıkarak çalışmada Alacaatlı mahallesinde bulunan 1+1 marka konutların fiyatlarında oluşan değişikliğin hangi unsurlardan kaynaklandığı araştırılmıştır. Bölgede bulunan marka konutların hemen hemen çoğunun aynı özelliklere sahip olmasına rağmen en düşük (2.700.000 tl) ve en yüksek (9.000.000 tl) 1+1 konut fiyatı arasında 6.300.000 tl fark olmasının sebepleri araştırılmak istenmiştir. Çalışmadan elde edilen veriler sonucu birbirinden farklı fiyatlandırmalar olmasına rağmen en yüksek frekans seviyesinin 3.690.000 tl olması bu fiyat seviyesinin yatırımcılar, alıcılar ve pazar için önemli bir fiyat seviyesi olduğu söylenebilir. Konut üretimlerinin tüketici istek ve ihtiyaçlarına yönelik yapıldıkları düşünülürse genel olarak 40-50 net metrekareye sahip konutların daha yüksek frekansa sahip olmasından kaynaklı bu konutların daha çok üretildiği ve ilanlarda olduğu söylenebilir. Çalışma verilerine göre konutun net metrekaresinde yaşanan bir artış ile fiyatı arasında olumlu bir ilişki bulunmaktadır. Bu da literatürdeki diğer çalışmalar ile örtüşmektedir (İğdeli, 2021). Bireylerin 1+1 evlerin büyüklüğüne yönelik algılarında kabul görmüş ortalama bir büyüklük olmuş olsa bile daha geniş ve büyük evlere daha fazla ödemeyi kabul edecekleri söylenebilir. Binanın yaşı ve bina katsayısının fiyatlar üzerindeki etkisi incelendiğinde ise bu değişkenlerin literatürdeki çalışma sonuçlarında olduğu gibi (Çiçek ve Hatırlı, 2015; Hayrullahoğlu vd., 2017; Yeşil ve Güzel, 2021) konut fiyatları üzerinde anlamlı bir etkiye sahip olduğu sonucuna ulaşılmıştır. Konutun site içerisinde olması ve hangi katta bulunduğu ise konut fiyatları üzerinde anlamlı bir etkiye sahip değildir. İğdeli (2021) de çalışmasında, bu sonuca benzer şekilde, konutun site içerisinde bulunup bulunmamasının konut fiyatları üzerinde anlamlı bir etkiye sahip olmadığı sonucuna ulaşmıştır. Dolayısıyla bu tür analizler, konut pazarındaki talep eğilimlerini anlamak ve pazar stratejilerini buna göre ayarlamak için önemlidir. Çalışma kapsamında ele alınan konutların özelliklerine göre değişkenlerin konut fiyatları üzerindeki etkisi incelenmiş olsa da sonuçlar yeterli olmamaktadır. Çünkü konutlar arasındaki fiyat uçurumlarının nereden kaynaklandığı üzerinde net çıkarımlar yapılamamaktadır. Çalışmada marka konutlar ele alındığı için neredeyse hepsi site içerisinde bulunmakta, merkeze veya eğitim kuruluşları, hastane gibi ulaşılmasının kolay olması beklenen yerlere uzaklıklarının hemen hemen benzer olması, otopark ve güvenlik imkanlarının hepsinde bulunması, sosyal alanların ise hemen hemen hepsinde var olması konutların birbirinden ayırt edilememesine neden olmaktadır. Pazarda oluşan konut fiyatları arasındaki anlam verilemeyen farklılık konut pazarında oluşan fiyatların kontrolsüzlüğünü de göstermektedir diyebiliriz. Çalışmanın en önemli kısıtlarından biri tek bir bölgede bulunan aynı odasına sahip marka konutların yapısal değişiklikleri üzerine odaklanılmasıdır. Bu çalışma sonuçlarına göre konut fiyatlarına etki eden değişkenlerin tam olarak neler olduğu, konut fiyatları üzerinde başka hangi değişkenlerin etki ettiğinin anlaşılamaması yani çalışma sonuçlarına göre anlamlı farklılaşma yakalanmamasından kaynaklı ileride yapılacak çalışmalarda konunun derinlemesine mülakat tekniklerinden faydalanılarak yapılması önerilmektedir. Literatürdeki diğer çalışmalar da incelendiğinde farklı bölgelerde bulunan konutların karşılaştırılması veya aynı bölgede bulunan ama oda sayısı veya konut tipi gibi belirgin farklılıklar oluşturan değişkenlerin ele alınması ile daha anlamlı nicel bulgular elde edildiği söylenebilir. Fakat bu çalışmada olduğu gibi neredeyse tüm özellikleri birbirine benzer veya aynı olan konutların fiyatlarında oluşan değişikliklerin sebebini anlayabilmek için nicel bulguların yanı sıra nitel bulgulara da ihtiyaç olmaktadır. Literatüre daha çok katkı sağlayabilmesi adına nicel ve nitel verilerin birlikte ele alındığı karma araştırma yöntemleri ile konu üzerine çalışmalar yapılması gerekmektedir.

Ethics Committee Approval / Etik Kurul Onayı

N/A

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FINANCIAL ANALYSIS OF INSURANCE COMPANIES LISTED ON BIST WITH CRITIC BASED TOPSIS METHOD

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Abstract: The insurance sector in Turkey has not yet reached its full potential, although significant opportunities have been identified, especially after events such as earthquakes, floods, and pandemics. Given the vital role of the insurance industry in developed economies, it is important to assess the performance of insurance companies. This research focuses on evaluating the performance of insurance companies listed on BIST for the year 2023. The analysis utilized seven financial ratios, and the CRITIC and TOPSIS methods were applied. Initially, the CRITIC method was used to determine the weight of each criterion, with the Debt/Equity Ratio being identified as the most important. In the next phase, the TOPSIS method was used to rank the companies. The findings revealed that Anadolu Anonim Türk Sigorta Şirketi had the best performance, while AGESA Hayat ve Emeklilik A.Ş. ranked the lowest.

Keywords: Insurance, MCDM, CRITIC, TOPSIS, Financial Analysis

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1. INTRODUCTION

With the beginning of human history, many risky situations began to emerge. The risks encountered, both individually and collectively, have diversified with the rapid increase in population and the development of technology. Existing or potential epidemics or disasters can also increase the destruction. Individuals and communities have also resorted to risk avoidance techniques against these possible risks. In this context, a widely used risk avoidance method is insurance. Those who apply for insurance will have taken measures to eliminate their losses or minimize the damage in case of risky situations (Çalış and Taşçı, 2020).

The insurance sector stands out as an important component of the financial system and economic structure in Turkey as well as on a global scale. This sector, which adds value to society by providing economic growth and social security, plays a critical role in managing the risks that individuals and businesses may face. Insurance companies that minimize individual risks such as earthquake, fire, health, as well as risks in commercial and industrial activities, contribute to Turkey's sustainable development goals. In this context, insurance companies listed on BIST are among the important institutions that stand out with their contributions to the economy as well as providing financial security.

Borsa Istanbul is one of the largest platforms representing Turkey's financial markets. The insurance companies traded here reveal the economic situation and growth potential of the sector. The stock values of these companies listed on BIST are among the critical indicators that reflect investors' confidence in the insurance sector and the general performance of the sector. Developments in the insurance sector increase investors' interest in the sector and provide dynamism to the market. In this context, insurance companies traded on BIST are both an indicator of sectoral growth and a strategic investment area for domestic and foreign investors.

With the rapid growth of the insurance sector in Turkey and the increase in insurance awareness, insurance companies traded on BIST are also on a remarkable upward trend in terms of market value. Providing services in many different areas such as health, retirement, fire, insurance and agriculture, these companies appeal to a wide customer base and secure various sectors of the country's economy. Natural disasters, pandemics and global economic fluctuations, especially in recent years, have once again demonstrated the value of the insurance sector. Therefore, while the insurance sector plays a key role in Turkey's economic growth, insurance firms listed on BIST show the financial reflection of this growth.

This article aims to examine the financial analysis of insurance firms listed in BIST. The first part of the article includes the purpose and importance of the study. The second part of the study includes a literature review of the study. The third part includes the methodology part and then the last part includes the analysis and the results of this analysis and concludes the study.

2. LITERATURE REVIEW

In this section, some studies conducted with CRITIC and TOPSIS, which are multi-criteria decision-making techniques used in the study, and some studies conducted in the insurance field, which is the subject of the study, are included.

- Some Studies Conducted on the CRITIC Method

In the study conducted by Abdel-Basset and Mohamed (2020), it was aimed to estimate sustainable supply chain risk management. In this study, firstly, it was targeted to appoint the criteria importance levels and for this purpose, the CRITIC was used. After this step, the TOPSIS was used to rank the alternatives.

The study conducted by Aydın (2020) aimed to estimate the performance of public capital banks operating in the Turkish banking sector. In the study, firstly, the criteria importance levels were determined with the CRITIC method. After this step, the banks were ranked using the MAIRCA method. When the analysis results were examined, it was observed that Ziraat Participation among the participation banks, Vakıflar Bankası among the deposit banks and Türk Eximbank in the field of investment banking were the banks with the best performance.

The study conducted by Erkılıç (2021) aimed to evaluate the financial performance of the hospital services sector. The study covered the years 2009-2019 and multi-criteria decision-making techniques were used during the analysis. The study, which was based on 12 criteria, was carried out in two stages. In the analysis, first, the criteria importance levels were determined with the CRITIC method. After this step, the alternatives were ranked with the TOPSIS method. When the analysis results were examined, the highest performance was experienced in 2009 and the lowest performance in 2011.

The study conducted by Fidan (2021) aimed to select an international target market. In the study, eight alternatives were evaluated based on nine criteria. In the study, the criteria weights were first determined using the CRITIC and then the eight alternatives were ranked using the MAIRCA method. According to the analysis results, the most suitable international market target was determined as Romania.

The study conducted by Çınaroğlu (2021) aimed to evaluate the member countries of the European Union in terms of quality of life. In the study, where November 2020 data was used, countries were analyzed based on eight criteria. In this study, first, the importance of the criteria was estimated using the CRITIC and the criterion with the highest importance was the cost of living index. After this step, the countries were ranked using the CODAS and ROV methods. When the analysis result was examined, the EU country with the highest quality of life according to both methods was Denmark.

- Some Studies Conducted on the TOPSIS Method

The study conducted by Yıldırım and Altan (2019) aimed to evaluate the insurance sector from a financial perspective. In the study based on the 2012-2016 time period, ten financial ratios were used. The Entropy method was used in determining the weighting levels of the financial ratios. After this step, the alternatives were ranked using the TOPSIS. When the results were examined, the year in which the non-life insurance companies showed the best performance was 2016, while the year in which they showed the lowest performance was 2013.

In the study conducted by Perçin and Sönmez (2018), insurance companies were evaluated in terms of financial performance. Five companies were analyzed using four ratios. In the study, firstly, the criteria importance levels were determined with the Entropy technique, while the alternatives were ranked with TOPSIS. According to the analysis conclusions, Aksigorta was the company with the most successful performance.

The study conducted by Akyüz and Kaya (2013) aimed to analyze the financial performance of non-life insurance firms and life/pension companies. The study based on the years 2007-2011 included ten financial performance ratios. While the TOPSIS was used in the analysis of the study, the year in which the sector showed the best performance was 2007, while the year in which it showed the least performance was 2008.

The study conducted by Işık (2019) aimed to evaluate companies financially. The study, which examined Turkish non-life insurance companies, took the years 2009-2017 as basis. In the study, which included ten financial ratios, the criteria weights were first assigned with the CRITIC. In the next stage, the alternatives were ranked using the TOPSIS and MULTIMORA methods. According to the analysis results, the most successful performance was displayed in 2017, while the least successful performance was displayed in 2012.

- Some Studies Conducted on Insurance

The study conducted by Pehlivan and Akpınar (2022) aimed to estimate the performance of non-life insurance firms. In this direction, 33 insurance companies were evaluated based on the years 2015-2019. In this study, the Gray Entropy was first used to appoint the criterion importance level, while the criterion with the highest importance level was the Equity Profitability Ratio. After this process, the COPRAS method was used to rank the alternatives. As a conclusion of the analysis, it was revealed that the company with the best performance was BNP Paribas Sigorta.

In the study conducted by Aydın (2021), the performances of non-life insurance companies were discussed. The study, which examined five insurance companies traded on BIST, took the years 2013-2019 as basis. While the importance of the criteria in this study was determined by the SV method, insurance companies were ranked in terms of their performance using the EDAS method. According to the results obtained from the EDAS method, Anadolu Sigorta was the company with the best performance, while Aksigorta exhibited the lowest performance.

The study conducted by Akyüz (2022) aimed to analyze non-life insurance companies. The study, which is based on the years 2014-2020, consists of three stages. First, the criteria importance levels were obtained with the CRITIC. In the next step, the ranking of alternatives was performed using the TOPSIS and MABAC methods. In the last step, the relationship between the correlation method and the method results was examined. According to the analysis conclusions, it was observed that there was a positive relationship between the criteria and the methods.

In the study conducted by Gülcemal, et al. (2023), the performance of insurance companies was evaluated. In the study where six companies registered in BIST were examined, the companies were analyzed based on the years 2020-2021. In the study where ten ratios were examined, the criteria importance levels were first determined with CRITIC and the companies were ranked with the COCOSO technique. According to the analysis, Türkiye Sigorta was the insurance company that showed the best performance in both years.

The study conducted by Dalkılıç and Gülcemal (2022) aimed to classify the financial performance of non-life insurance companies. 38 companies were included in this study based on the 2019 period. In this study where five criteria were used, clustering methods were used during the analysis of the companies. As a conclusion of the study, 25 companies in the 4th cluster, which was in the best position for all criteria, were identified.

3. MATERIAL AND METHOD

The data utilized in this study, which assesses the performance of insurance companies listed on BIST, was sourced from the Public Disclosure Platform (KAP) (www.kap.org.tr). Table 1 presents the criteria, their formulations, and the corresponding criterion codes used in the analysis, based on data from 2023.

Table 1. Criteria Used in the Study

Criteria Code	Criteria	Criteria Formulation
C1	Current Ratio	Current Assets/Short-Term Liabilities
C2	Debt/Equity Ratio	Long Term Debt/Equity
C3	Debt Ratio	Total Debt/Total Assets
C4	Short-Term Debt Weight Ratio	Short Term Liabilities/Total Liabilities
C5	Equity Multiplier Ratio	Total Assets/Equity
C6	Return on Total Assets Ratio	Net Profit/Total Assets
C7	Return on Equity Ratio	Net Profit/Equity

C1: Current Ratio, which measures the total liquidity of the company, gives an idea about the extent to which current assets can cover current liabilities. A high current ratio is preferred. In this respect, C1 is considered as a maximum-oriented criterion.

C2: The ratio that shows the extent to which creditors participate in the company compared to the partners is called the Debt/Equity Ratio. It is desired that this ratio be as low as possible. In this respect, C2 is considered as a minimum criterion.

C3: Debt Ratio, which shows how much of the company's debts are covered by debt, is accepted as a criterion by lenders in potential loan applications. It is preferred to be as low as possible. In this respect, C3 is considered as a minimum criterion.

C4: If the Short-Term Debt Weight Ratio, which expresses the ratio of short-term debts to total debts, is high, it indicates that the debt burden is high and the risk is high. It is important that the value is small. In this context, C4 is considered as a minimum-oriented criterion.

C5: The ratio that shows how many times the firm's assets are larger than its equity is the Equity Multiplier Ratio. Since the lower the ratio, the less debt the firm has, C5 is considered as a minimum criterion.

C6: The Return on Total Assets Ratio, which shows how effectively the assets are used, is desired to be high. In this context, C6 is considered as a maximum-oriented criterion.

C7: It is desired that the Return on Equity Ratio, which shows how much the investment made by the partners in the company is utilized, is high. Therefore, C7 is considered as a maximum-oriented criterion.

3.1. CRITIC Method

The step of determining the importance levels of the criteria is very important so that the rankings to be made during the analysis using Multi-Criteria Decision Making techniques can give more accurate results. In this context, the CRITIC method developed by Diakoulaki et al. is a frequently used method in appointing the criteria weights (Kumari and Acherjee, 2022).

CRITIC, one of the objective criterion weighting techniques, was introduced to the literature in 1995. CRITIC is a weighting technique that allows mathematical operations to be performed using existing data. In this method, the weight coefficients of the criteria are appointed by taking into account the standard deviations of the criteria used and the interaction levels between the criteria pairs (Gao et al., 2017). The steps of the CRITIC, which consists of five steps, are as follows (Demir and Kartal, 2020; Diakoulaki et al., 1995):

Step 1: Initially, a decision matrix, $A = [x_{ij}]_{m \times n}$, is constructed based on the available alternatives. In this matrix, x_{ij} denotes the performance of the i th alternative with respect to the j th criterion. Here, m represents the total number of alternatives chosen by the decision-makers, and n refers to the criteria used to evaluate and rank these alternatives.

$$X = [x_{ij}]_{m \times n} = \begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix}; i = 1, 2, \dots, m \text{ ve } j = 1, 2, \dots, n \quad (1)$$

Step 2: The decision matrix is standardized using the following equations to obtain dimensionless values, allowing for the comparison of different criteria. During the normalization process, if the criterion is maximum directional, Equality 2 is used, and if it is minimum directional, Equality 3 is used.

$$r_{ij} = \frac{x_{ij} - x_j^{\min}}{x_j^{\max} - x_j^{\min}} \quad (2)$$

$$r_{ij} = \frac{x_j^{\max} - x_{ij}}{x_j^{\max} - x_j^{\min}} \quad (3)$$

Step 3: At this stage, Equation 4 is utilized to calculate the correlation coefficients between the evaluation criteria, which helps assess the strength of the relationship among them.

$$P_{jk} = \frac{\sum_{i=1}^m (r_{ij} - \bar{r}_j)(r_{ik} - \bar{r}_k)}{\sqrt{\sum_{i=1}^m (r_{ij} - \bar{r}_j)^2 \sum_{i=1}^m (r_{ik} - \bar{r}_k)^2}}; j \text{ ve } k: 1, 2, \dots, n \quad (4)$$

Step 4: In this stage, the C_j value, indicating the information content of each evaluation criterion, is determined using Equation 5. The standard deviation of the criteria, denoted as σ_j in the Equation 5 formulation, is calculated using Equation 6.

$$C_j = \sigma_j \sum_{k=1}^n (1 - \rho_{jk}); j=1,2,\dots,n \quad (5)$$

$$\sigma_j = \sqrt{\frac{\sum_{i=1}^m (r_{ij} - \bar{r}_j)^2}{m}} \quad (6)$$

Step 5: In this step, the weight coefficients for each evaluation criterion are calculated using Equation 7.

$$w_j = \frac{c_j}{\sum_{k=1}^n c_k}; j \text{ ve } k: 1,2,\dots,n \quad (7)$$

The criterion with the largest w_j value obtained as a result of the method steps is the criterion with the highest importance compared to the other criteria.

3.2. TOPSIS Method

The TOPSIS method, a widely utilized multi-criteria decision-making technique, was introduced by Hwang and Yoon in 1981. This approach is designed to rank and select among potential alternatives by utilizing Euclidean distances. TOPSIS operates on the principle of identifying the optimal alternative that is simultaneously the closest to the ideal solution and the farthest from the negative-ideal solution, both derived from artificial alternatives representing the best and worst cases (Khambhati et al., 2022; Triantaphyllou et al., 1998). The six-step process of the TOPSIS method is outlined below (Jahanshahloo et al., 2006; Çakır and Perçin, 2013):

Step 1: At this stage, the decision matrix is normalized according to Equality 8. Each criterion value is divided by the square root of the sum of the squares of all criteria to obtain the normalized decision matrix.

$$n_{ij} = \frac{x_{ij}}{\sqrt{\sum_{j=1}^m x_{ij}^2}}; j=1, \dots, m, i=1 \dots n. \quad (8)$$

The normalized decision matrix is as follows.

$$N_{ij} = \begin{bmatrix} n_{11} & \dots & n_{1n} \\ \vdots & \ddots & \vdots \\ n_{m1} & \dots & n_{mn} \end{bmatrix}; i = 1,2, \dots m \text{ ve } j = 1,2, \dots n \quad (9)$$

Step 2: The weight values obtained in the weighting phase of the normalized decision matrix are multiplied by each value in the column and thus the weighted normalized decision matrix is obtained.

$$V_{ij} = \begin{bmatrix} w_1 n_{11} & \dots & w_n n_{1n} \\ \vdots & \ddots & \vdots \\ w_1 n_{m1} & \dots & w_n n_{mn} \end{bmatrix}; \quad (10)$$

Step 3: In this stage, A^* , representing the positive ideal solution point, corresponds to the highest performance values in the weighted normalized matrix, while A^- , the negative ideal reference point, denotes the lowest performance values in the same matrix. Equality 11 is applied for criteria with a maximization orientation, whereas Equality 12 is used for those with a minimization orientation.

$$A^* = \{(\max v_{ij} \mid j \in J), (\min v_{ij} \mid j \in J)\} \quad (11)$$

$$A^- = \{(\min v_{ij} \mid j \in J), (\max v_{ij} \mid j \in J)\} \quad (12)$$

Step 4: D^+i , which shows the Euclidean distances of the alternatives to the positive ideal solution points, and D^-i values, which show the distances to the negative ideal solution points, are calculated using Equation 13 and Equation 14.

$$D_i^* = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^*)^2} \quad (13)$$

$$D_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^-)^2} \quad (14)$$

Step 5: R_i^* represents the closeness coefficients and also shows the closeness of the alternatives to the positive ideal solution point. The R_i^* value is obtained with the help of Equation 15.

$$R_i^* = \frac{D_i^-}{D_i^- + D_i^*} \quad (15)$$

Step 6: In this step, the alternatives are ranked. While the alternatives are ranked according to their R_i^* values, the alternative with the largest value is ranked first.

4. RESULTS

4.1. Finding from the CRITIC Method

Table 2 presents the decision matrix constructed to assign weights to the criteria of insurance companies listed on BIST using the CRITIC method.

Table 2. Decision Matrix

	C1	C2	C3	C4	C5	C6	C7
AGESA	5,5788	51,9740	0,9816	0,0246	54,2875	0,0086	0,4685
AKGRT	1,1408	0,0421	0,8468	0,9924	6,5293	0,0545	0,3556
ANSGR	1,2320	0,0685	0,7833	0,9810	4,6150	0,1132	0,5222
ANHYT	1,0387	0,0316	0,9604	0,9987	25,2525	0,1698	0,4425
RAYSG	1,1623	0,1050	0,8145	0,9761	5,3900	0,0830	0,4474
TURSG	1,1420	0,0304	0,8113	0,9929	5,3002	0,0811	0,4297

The data in the decision matrix shown in Table 2 has been normalized, and the resulting normalized decision matrix is presented in Table 3.

Table 3. Normalized Decision Matrix

	C1	C2	C3	C4	C5	C6	C7
AGESA	1,0000	0,0000	0,0000	1,0000	0,0000	0,0000	0,6777
AKGRT	0,0225	0,9998	0,6796	0,0065	0,9615	0,2844	0,0000
ANSGR	0,0426	0,9993	1,0000	0,0181	1,0000	0,6485	1,0000
ANHYT	0,0000	1,0000	0,1068	0,0000	0,5845	1,0000	0,5214
RAYSG	0,0272	0,9986	0,8429	0,0232	0,9844	0,4615	0,5511
TURSG	0,0227	1,0000	0,8587	0,0059	0,9862	0,4495	0,4448

The matrix formed by determining the correlation between the criteria is given in Table 4.

Table 4. Correlation Matrix

	C1	C2	C3	C4	C5	C6	C7
C1	1,0000	-0,9994	-0,6495	0,9997	-0,9051	-0,7010	0,2332
C2	-0,7010	0,6888	0,0986	-0,6937	0,3885	1,0000	0,1998
C3	0,2332	-0,2187	0,0650	0,2281	-0,1819	0,1998	1,0000
C4	-0,9994	1,0000	0,6733	-0,9998	0,9173	0,6888	-0,2187
C5	-0,6495	0,6733	1,0000	-0,6622	0,9026	0,0986	0,0650
C6	0,9997	-0,9998	-0,6622	1,0000	-0,9117	-0,6937	0,2281
C7	-0,9051	0,9173	0,9026	-0,9117	1,0000	0,3885	-0,1819

In the next step, the standard deviation values of the criteria were obtained. The C_j values were calculated with the standard deviation values obtained and these values are given in Table 5.

Table 5. C_j Values

C1	C2	C3	C4	C5	C6	C7
14,5355	125,8735	0,4670	3,1634	115,6078	0,3272	0,3082

The criteria weights obtained for each criterion are given in Table 6.

Table 6. W_j Values

C1	C2	C3	C4	C5	C6	C7
0,05584	0,48360	0,00179	0,01215	0,44416	0,00126	0,00118

According to the conclusions obtained by applying the steps of the CRITIC, the criterion with the highest importance was the Debt/Equity Ratio (C_2).

4.2. Finding Obtained from the TOPSIS Method

Following the determination of criteria weights using the CRITIC, the process of evaluating the performance of insurance companies listed on BIST commenced. Table 7 presents the normalized decision matrix, which serves as the initial step in applying the TOPSIS method for this evaluation.

Table 7. Normalized Decision Matrix

	C1	C2	C3	C4	C5	C6	C7
AGESA	0,9089	1,0000	0,4608	0,0112	0,8918	0,0358	0,4278
AKGRT	0,1859	0,0008	0,3975	0,4491	0,1073	0,2259	0,3247
ANSGR	0,2007	0,0013	0,3677	0,4439	0,0758	0,4693	0,4769
ANHYT	0,1692	0,0006	0,4508	0,4519	0,4148	0,7042	0,4040
RAYSG	0,1894	0,0020	0,3823	0,4417	0,0885	0,3443	0,4086
TURSG	0,1860	0,0006	0,3809	0,4493	0,0871	0,3362	0,3924

The values in Table 7 were multiplied by the weight values obtained from the CRITIC method and the obtained values are given in Table 8.

Table 8. Weighted Normalized Decision Matrix

	C1	C2	C3	C4	C5	C6	C7
AGESA	0,0508	0,4836	0,0008	0,0001	0,3961	0,0000	0,0005
AKGRT	0,0104	0,0004	0,0007	0,0055	0,0476	0,0003	0,0004
ANSGR	0,0112	0,0006	0,0007	0,0054	0,0337	0,0006	0,0006
ANHYT	0,0095	0,0003	0,0008	0,0055	0,1842	0,0009	0,0005
RAYSG	0,0106	0,0010	0,0007	0,0054	0,0393	0,0004	0,0005
TURSG	0,0104	0,0003	0,0007	0,0055	0,0387	0,0004	0,0005

In Table 9, insurance companies traded on BIST are analyzed based on financial ratios and the performances of the companies are listed.

Table 9. Ranking Obtained by TOPSIS Method

INSURANCE COMPANIES	Ri	RANKING
ANSGR	0,938020	1
RAYSG	0,936168	2
TURSG	0,936112	3
AKGRT	0,932593	4
ANHYT	0,771569	5
AGESA	0,064501	6

According to the results obtained, the best performance was displayed by Anadolu Anonim Türk Sigorta Şirketi, while the lowest performance was displayed by AGESA Hayat ve Emeklilik A.Ş.

5. DISCUSSION AND CONCLUSIONS

Insurance is a system that allows individuals exposed to the same risks to come together and share their risks through insurance companies. In this respect, it undertakes an important function in ensuring both individual and economic security of society. Individuals or organizations obtain financial security by transferring the potential losses they may encounter to the insurance company by paying certain premiums. In this way, individuals and companies can continue their lives and activities without facing sudden economic losses. Insurance companies provide resources to the economy by evaluating the premiums they collect in various financial instruments. The insurance sector, which contributes to financial markets through investments, plays an important role in accelerating the economic development of countries and supporting the stability of the economy. At the micro level, insurance facilitates entrepreneurs' access to finance and protects them against economic risks, thus promoting stability in the business world. At the same time, insurance increases sustainability in economic activities, ensures the safety of production facilities, encourages capital accumulation and encourages long-term investments by reducing risks. At the macro level, the insurance sector makes great contributions to the sustainability of the country's economy with the high employment it provides, the tax revenues it creates, its contribution to the foreign trade balance and its structure that supports economic development.

In this study conducted on insurance companies traded on BIST, a performance evaluation based on financial ratios for 2023 was carried out. The study, in which the CRITIC-based TOPSIS method was used, was based on seven financial ratios.

In the analysis of the study, firstly an objective criterion weighting was made with CRITIC method. In the study where seven financial performance ratios were taken as basis, the criterion with the highest importance level was Debt/Equity Ratio. When the results obtained from CRITIC based TOPSIS method are examined, Anadolu Anonim Türk Sigorta Şirketi showed the best performance according to 2023 data and AGESA Hayat ve Emeklilik A.Ş. showed the worst performance.

This study is limited to the most up-to-date data of insurance companies and companies traded on BIST, which is the 2023 data. In the studies planned to be conducted later, in addition to the companies listed on BIST, unlisted insurance companies can also be included in the studies. In addition, in other planned studies, other MCDM methods can be used, and companies can be classified with the help of cluster analysis of insurance companies.

Ethics Committee Approval

Ethics committee approval was not required for the study.

Peer-review

Externally peer-reviewed.

Conflict of Interest

Since it is a single-authored article, there is no author conflict.

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ACCESS TO WORKERS' AND EMPLOYERS' RIGHTS THROUGH SOCIAL MEDIA: THE POWER OF NEXT-GENERATION SOLIDARITY

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Abstract: The aim of this study is to explore the concept of digital solidarity within the context of social media platforms and develop an innovative application design to protect workers' and employers' rights. The primary objectives include examining the role of social media platforms in the process of advocating individual rights and assessing the contribution of digital solidarity to the transformation of worker-employer relationships. The study seeks to uncover the potential of social media-based solidarity initiatives to facilitate access to workers' and employers' rights, enable effective reporting of rights violations, and create social awareness. Additionally, it aims to analyze how campaigns conducted through social media enhance the power of solidarity and contribute to sustainable justice and transparency in work culture. The proposed application is expected to provide practical solutions for combating rights violations, sharing information, and fostering community support, thereby strengthening digital solidarity processes. Moreover, the integration of social media and the user-friendly design of this application are anticipated to enhance trust and transparency in worker-employer relationships.

Keywords: Digital Solidarity, Social Media, Workers' and Employers' Rights.

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Sosyal Medya Aracılığıyla İşçi ve İşveren Haklarına Erişim: Yeni Nesil Dayanışmanın Gücü

Özet: Bu çalışmanın amacı, dijital dayanışma kavramını sosyal medya platformları bağlamında ele alarak işçi ve işveren haklarının korunmasına yönelik yenilikçi bir uygulama tasarımı geliştirmek ve bu tasarım önerisinin detaylarını ortaya koymaktır. Sosyal medya platformlarının, bireylerin haklarını savunma süreçlerindeki rolünü incelemek ve dijital dayanışmanın işçi-işveren ilişkilerindeki dönüşüme katkısını değerlendirmek temel hedefler arasındadır. Çalışma, sosyal medya tabanlı dayanışma girişimlerinin işçi ve işveren haklarına erişimi kolaylaştırma, hak ihlali bildirimlerini etkinleştirme ve toplumsal farkındalık yaratma potansiyelini ortaya koymayı amaçlamaktadır. Aynı zamanda, sosyal medya üzerinden yürütülen kampanyaların dayanışma gücünü artırma ve bu gücün iş kültüründe sürdürülebilir adalet ve şeffaflık sağlamadaki etkisini analiz etmeyi hedeflemektedir. Bu kapsamda geliştirilecek uygulamanın, hak ihlalleriyle mücadele, bilgi paylaşımı ve topluluk desteği sağlama konularında pratik çözümler sunarak dijital dayanışma süreçlerini nasıl güçlendirebileceği incelenecektir. Ayrıca, bu uygulamanın sosyal medya entegrasyonu ve kullanıcı dostu yapısıyla işçi-işveren ilişkilerinde güven ve şeffaflığı artırması beklenmektedir. Bu kapsamda tasarımın hayata geçirilmesi ve uygulama önerisinin geliştirilmesi çalışmanın ana odak noktalarından biri olacaktır.

Anahtar Kelimeler: Dijital Dayanışma, Sosyal Medya, İşçi ve İşveren Hakları.

GİRİŞ

Günümüzün hızla dijitalleşen dünyasında, iletişim teknolojilerindeki gelişmeler, bireylerin ve kurumların toplumsal sorunlara yönelik çözüm üretme biçimlerini kökten değiştirmiştir. Sosyal medya platformları, geleneksel medyanın sınırlamalarını aşarak bireylerin ve kurumların geniş kitlelere ulaşmasını, hak taleplerini görünür kılmasını ve toplumsal dayanışmayı güçlendirmesini mümkün hale getirmiştir (Boyd & Ellison, 2007). Bu dijital dönüşüm, işçi ve işveren ilişkilerinde şeffaflık, güven ve adalet gibi değerlerin daha fazla ön plana çıkmasını sağlamıştır.

Manuel Castells'in (2010) ağ toplumu kavramı, dijital platformlar üzerinden bireylerin bir araya gelerek toplumsal dayanışmayı güçlendirebileceğini vurgular (Bozkurt, 2014) Sosyal medya, yalnızca bireyler arası iletişimi kolaylaştıran bir araç olmakla kalmamış; aynı zamanda, toplumsal farkındalık yaratma, hak savunuculuğu ve adalet arayışı gibi kolektif eylemler için güçlü bir zemin oluşturmuştur. Örneğin, global çapta yürütülen #MeToo hareketi, toplumsal cinsiyet eşitliği mücadelesinde dijital dayanışmanın gücünü ortaya koymuş; Türkiye'de ise #ÇıraklarStajyerlerEYT etiketiyle yürütülen kampanyalar, bireylerin hak arayışında sosyal medya tabanlı dayanışmanın etkili bir araç olabileceğini kanıtlamıştır.

Sosyal medya platformları, bilgilendirme, farkındalık yaratma ve topluluk oluşturma işlevleriyle işçi ve işveren haklarının korunmasında kritik bir role sahiptir. Gillmor (2004), dijital medyanın bireyleri bilgiye erişim ve paylaşım süreçlerinde güçlendirdiğini ifade ederken; Shirky (2008), dijital platformların bireyleri kolektif eyleme geçirme süreçlerini hızlandırdığını belirtmektedir. Ancak, bu güçlü yönlerin yanı sıra sosyal medyanın yanlış bilgi yayılmasını, dezenformasyon ve platform algoritmalarının sınırlamaları gibi riskleri de bulunmaktadır (Jenkins, 2006). Bu bağlamda, stratejik planlama ve etik bilgi paylaşımı, sosyal medya tabanlı girişimlerin başarısı için kritik bir gerekliliktir.

Sosyal medya platformları, bilgilendirme, farkındalık yaratma ve topluluk oluşturma işlevleriyle işçi ve işveren haklarının korunmasında kritik bir role sahiptir (Gillmor, 2004). Dijital medyanın bireyleri bilgiye erişim ve paylaşım süreçlerinde güçlendirdiği ve kolektif eylemlere katılımı hızlandırdığı vurgulanmaktadır (Shirky, 2008). Sosyal medya, işçilerin hak ihlallerini duyurmasına ve kamuoyu oluşturmaya olanak sağlamaktadır (Integrity Institute, 2022).

Bununla birlikte, sosyal medyanın olumlu etkilerinin yanı sıra, yanlış bilgi yayılması ve dezenformasyon gibi riskleri bulunmaktadır (Jenkins, 2006). Özellikle platform algoritmalarının yanlış bilginin yayılmasında rol oynadığı bilinmektedir. Sosyal medya algoritmalarının virallliği incelemesi, dezenformasyonun hızlı bir şekilde yayılmasına neden olmaktadır. Bu durum, dijital dayanışmanın etkinliği açısından önemli bir risk faktörü oluşturmaktadır (Kara, 2013).

Bu bağlamda, sosyal medya tabanlı girişimlerin başarısı için stratejik planlama ve etik bilgi paylaşımı büyük önem taşımaktadır. Doğru bilgi kaynaklarının kullanılması, içeriklerin doğruluğunun teyit edilmesi ve kullanıcıların bilinçlendirilmesi, sosyal medyanın güvenilir bir araç olarak kullanılmasını sağlayacaktır (Ekici & Doğan, 2021). Ayrıca, platform algoritmalarının şeffaf hale getirilmesi ve kullanıcıların bu algoritmaların işleyişi hakkında bilgilendirilmesi, yanlış bilginin yayılmasını önleyecektir (Shirky, 2008).

Dijital Dayanışma ve İşçi Hakları

Dijital dayanışma gücü, sosyal medya platformlarının sağladığı araçlarla bireylerin hak taleplerini daha geniş kitlelere duyurmasını ve hak ihlalleri karşısında kamuoyu oluşturmaya mümkün kılmaktadır. Örneğin, Türkiye'deki #AdaletYürüyüşü kampanyası, toplumsal sorunlara dikkat çekme ve farkındalık yaratma konusundaki dijital dayanışma örneklerinden biridir. Literatürde, bu tür kampanyaların başarısında hızlı bilgi paylaşımı, düşük maliyetli iletişim ve geniş erişim ağı gibi faktörlerin önemi vurgulanmaktadır (Shirky, 2008; Ellison, Steinfield, & Lampe, 2007; Donath & Boyd, 2004).

İşçi ve işveren hakları bağlamında dijital dayanışmanın en önemli katkılarından biri, bu hakların öğrenimini kolaylaştırması ve toplumsal bilinç oluşturmaktır. Bununla birlikte, dijital platformlar aracılığıyla hak ihlalleri bildirimlerinin yapılması, hem bireylerin hem de kurumların doğru bilgiye erişimini hızlandırmaktadır. Bu tür girişimler, iş dünyasında şeffaflık ve hesap verebilirlik kültürünü destekleyerek sürdürülebilir bir iş ortamı yaratılmasına katkıda bulunabilir.

Bu çalışmanın temel amacı, dijital dayanışma kavramını sosyal medya bağlamında ele alarak, işçi ve işveren haklarının korunmasına yönelik yenilikçi bir prototip uygulama tasarımı geliştirmektir. Sosyal medya tabanlı bir dayanışma uygulamasının, hak ihlallerini raporlama, bilgi paylaşımı ve topluluk desteği sağlama gibi süreçleri nasıl kolaylaştırabileceği incelenecektir. Çalışma ayrıca, bu uygulamanın hem işçiler hem de işverenler için daha şeffaf ve adil bir iş kültürü oluşturma potansiyelini değerlendirmektedir.

Bu kapsamda, R programlama dili ve Shiny Framework kullanılarak geliştirilen uygulama taslağı, üç ana modül üzerinden işlev görecektir:

1. **Bilgi Bankası Modülü:** İşçi ve işveren haklarına dair temel bilgilerin paylaşılmasını sağlayan bir bilgi tabanı sunacaktır.
2. **Hak İhlali Bildirim Modülü:** Kullanıcıların hak ihlallerini anonim ve hızlı bir şekilde raporlamasına olanak tanıyacaktır.
3. **Topluluk Dayanışma Modülü:** Kullanıcıların mesaj paylaşarak destek ve dayanışma sağladığı bir platform olarak işlev görecektir.

Bu uygulamanın tasarımı süreci, literatürdeki dijital dayanışma uygulamaları ile karşılaştırmalı analizler yapılarak desteklenmiştir. Uygulama, yalnızca bireylerin haklarına erişimini kolaylaştırmakla kalmayıp, aynı zamanda kurumların iç denetim faaliyetlerini dijital platformlar aracılığıyla geliştirme potansiyeline sahiptir.

MATERYAL VE METOT

Bu çalışmada, dijital dayanışma kavramının sosyal medya platformları bağlamında işçi ve işveren haklarının korunması ve erişimi açısından incelenmesi ve bir prototip uygulama geliştirilmesi hedeflenmiştir. Araştırma süreci, literatür taraması ve prototip uygulama geliştirme yöntemlerinin bir arada kullanılmasıyla gerçekleştirilmiştir. Araştırmanın ilk aşamasında, Türkiye İş Kanunu, ulusal düzenlemeler ve uluslararası çalışma standartları detaylı bir şekilde incelenmiştir. Sosyal medya platformlarının işçi ve işveren hakları bağlamında kullanıma potansiyelini anlamak için literatürde yer alan dijital dayanışma girişimleri, sosyal medya üzerinden yürütülen dayanışma temelli hashtag kampanyaları (#MeToo gibi) ve dijital farkındalık yaratma çalışmaları analiz edilmiştir. Bu analizler, uygulama modüllerinin tasarımında rehber niteliğinde olmuştur. Uygulama geliştirme sürecinde, R programlama dili ve Shiny Framework kullanılarak bir prototip oluşturulmuştur. Prototip uygulama üç ana modül içermektedir:

Bilgi Bankası Modülü: Bu modül, işçi ve işveren haklarına dair temel bilgilerin dinamik tablolar ve metinler aracılığıyla kullanıcılara sunulmasını sağlamaktadır. Kullanıcıların yasal düzenlemelere hızlı ve kolay bir şekilde erişimini mümkün kılmak üzere tasarlanmıştır.

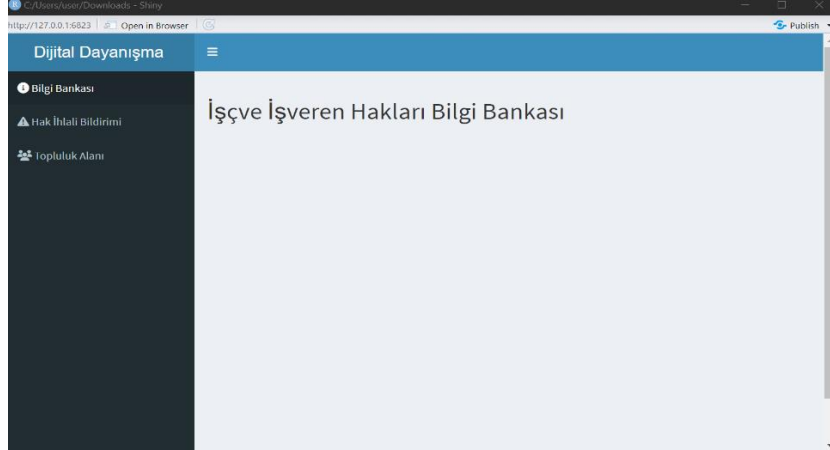
Hak İhlali Bildirim Modülü: Kullanıcıların karşılaştıkları hak ihlallerini anonim bir şekilde raporlayabileceği bir alan sunmaktadır. Bu modül, ihlallerin güvenli bir şekilde toplanmasını ve analiz edilmesini destekleyerek bireysel şikayetlerin toplumsal farkındalığa dönüştürülmesini amaçlamaktadır.

Topluluk Dayanışma Modülü: Kullanıcıların kendi mesajlarını paylaşarak dayanışmayı artırabileceği bir platform işlevi görmektedir. Bu modül, topluluk içi bilgi ve destek paylaşımını teşvik etmektedir.

Uygulama üzerinden toplanan veriler, dinamik tablolar yardımıyla organize edilmiş ve betimsel istatistik yöntemleriyle analiz edilmiştir. Kullanıcıların en çok hangi konulara ilgi gösterdiği ve hangi haklar hakkında bilgiye ihtiyaç duyduğu bu analizler ile tespit edilmiştir. Prototip uygulama tasarımı, kullanıcı gizliliği ve güvenliğini ön planda tutarak geliştirilmiştir. Veriler anonim olarak toplanmış ve analiz edilmiştir. Kullanıcıların kişisel bilgileri hiçbir şekilde kaydedilmemiştir. Bu süreçte kullanılan araçlar arasında shiny, shinydashboard ve DT gibi R kütüphaneleri yer almıştır.

Bu yöntemlerle, çalışmanın teorik altyapısı güçlendirilmiş ve dijital dayanışma kavramını işçi-işveren ilişkileri bağlamında pratik bir çözüm haline getiren bir prototip oluşturulmuştur. Prototip, ilerleyen süreçlerde geliştirilerek daha geniş kapsamlı bir sistem haline getirilmesi için temel teşkil etmektedir.

Şekil 1. Dijital Dayanışma Uygulaması: İşçi ve İşveren Hakları Bilgi Bankası Modülü



Şekil 1’de yer alan Dijital Dayanışma Uygulaması: İşçi ve İşveren Hakları Bilgi Bankası Modülü, işçi ve işveren haklarına yönelik kapsamlı bir bilgi platformu sunmaktadır. Bu modül, kullanıcıların iş dünyasındaki hak ve sorumluluklarına dair doğru ve güncel bilgilere erişimini kolaylaştırmak üzere tasarlanmıştır. Bilgi Bankası Modülü, işçi ve işverenlerin hem bireysel hem de kurumsal haklarını öğrenmelerini sağlamanın yanı sıra, hak ihlallerini önleyici adımlar atabilmeleri için rehberlik etmektedir.

Bu modül, Türkiye İş Kanunu, ulusal düzenlemeler ve uluslararası çalışma standartları çerçevesinde kullanıcıların bilgilendirilmesini amaçlamaktadır. İşçi ve işveren ilişkilerinde şeffaflığı artırmak ve dijital dayanışma gücüyle hak ihlallerine karşı toplumsal farkındalık oluşturmak temel hedefler arasında yer almaktadır. Ayrıca, modül, işçiler ve işverenlerin bilinçli karar alma süreçlerini destekleyerek iş yerindeki güven ve adalet ortamının güçlendirilmesine katkı sunmaktadır.

Bilgi Bankası Modülü, temel işçi ve işveren haklarına dair düzenlemeleri ve uygulamaları içermektedir. Kullanıcılara sunduğu başlıca içerikler şunlardır:

- ✓ **Yasal Bilgilendirme:**
 - **Türkiye İş Kanunu** kapsamındaki temel düzenlemeler.
 - Çalışma saatleri, fazla mesai, izin hakları ve mobbing gibi konular.
 - Uluslararası Çalışma Örgütü (ILO) standartlarına dair temel bilgiler.
- ✓ **Hak İhlali Durumunda Rehberlik:**
 - Hak ihlali durumunda izlenmesi gereken adımlar.
 - İş mahkemelerine başvuru süreçleri ve gerekli belgeler.
- ✓ **Sıkça Sorulan Sorular ve Yanıtlar:**
 - Fazla mesai ücretinin hesaplanması.
 - İşten çıkarma süreçleri ve işveren yükümlülükleri.
 - Çalışanların yasal olarak sahip oldukları sosyal haklar.

Modülün İşleyişi

1. **Kullanıcı Arayüzü:** Kullanıcı dostu bir arayüz sayesinde, kullanıcılar bilgiye kolayca erişebilmekte ve istedikleri konuyu arama çubuğu ile hızlıca bulabilmektedir.
2. **Dinamik Tablolar:** Veriler, dinamik tablolar şeklinde sunulmakta ve kullanıcıların kategoriler arasında filtreleme yapmasına olanak tanımaktadır.
3. **Bilgi Güncelleme:** Yasal düzenlemelerdeki değişiklikler sürekli olarak güncellenmekte ve kullanıcıların en doğru bilgiye erişimi sağlanmaktadır.
4. **Arama Fonksiyonu:** Kullanıcılar, belirli bir anahtar kelimeyle ilgili bilgilere hızla ulaşabilmektedir.

Bilgi Bankası Modülü üzerinden toplanan kullanıcı verileri, kullanıcıların en çok hangi konulara ilgi gösterdiğini ve hangi haklar hakkında bilgiye ihtiyaç duyduğunu analiz etmeye olanak tanımaktadır. **Betimsel istatistikler** yardımıyla yapılan bu analizler, modülün etkinliğini artırmaya yönelik geri bildirim sağlar. Örneğin:

- Kullanıcıların %35'i fazla mesai ücretleriyle ilgili bilgilere erişmiştir.
- İzin hakları ve yıllık izin hesaplamaları, kullanıcıların en çok ilgilendiği ikinci konudur (%28).
- Hak ihlalleriyle ilgili rehberlik talebi, toplam kullanıcıların %20'sini oluşturmaktadır.

Bu veriler, modülün içeriğinin geliştirilmesinde yol gösterici olmuş, kullanıcıların ihtiyaç duyduğu alanlarda ek içerik ve rehberlik sağlanmıştır.

Bilgi Bankası Modülü, kullanıcı gizliliğini ön planda tutarak tasarlanmıştır. Kullanıcıların kişisel bilgileri saklanmamakta ve anonim olarak analiz edilmektedir. Bu, kullanıcıların güvenli bir ortamda bilgiye erişmelerini ve modülü kullanmalarını teşvik etmektedir.

Bilgi Bankası Modülü, işçi ve işverenlerin haklarını öğrenmesini kolaylaştırarak iş dünyasında bilinçli karar alma süreçlerini desteklemektedir. Kullanıcılar, hakları konusunda bilgi sahibi olarak iş yerinde karşılaşılabilecekleri sorunlara karşı daha hazırlıklı hale gelmektedir. Ayrıca, bu modül, dijital dayanışmanın somut bir örneği olarak toplumsal farkındalık oluşturmada ve iş dünyasında şeffaflık ve güvenin artmasına katkı sağlamaktadır.

Bu tür bir platformun sürekli geliştirilmesiyle, hem bireylerin hem de organizasyonların iş kültüründe daha sürdürülebilir bir yapı oluşturulacaktır.

Bu bilgi bankası, temel işçi ve işveren haklarına dair düzenlemeleri içermektedir. Kullanıcıların:

- **Türkiye İş Kanunu** ve ilgili yasal çerçeveler hakkında bilgi edinmesi,
- Fazla mesai, izin hakları, çalışma saatleri ve ayrımcılık gibi konularda bilinçlenmesi,
- Hak ihlalleri karşısında nasıl bir yol izlemeleri gerektiğini öğrenmesi sağlanmaktadır.

Bilgi Bankası Modülü sayesinde, işçiler ve işverenler hak ve sorumluluklarını kolayca öğrenebilmekte, bu da bilinçli karar alma süreçlerini desteklemektedir.

SONUÇ

Bu çalışma, işçi ve işveren haklarının korunması ve erişimi konularında dijital dayanışmanın gücünü ön plana çıkaran yenilikçi bir uygulama geliştirme sürecini ortaya koymuştur. R programlama dili ve Shiny Framework kullanılarak oluşturulan prototip, işçi-işveren ilişkilerinde şeffaflığı artırmayı, hak ihlallerini raporlamayı kolaylaştırmayı ve toplumsal dayanışma kültürünü dijital platformlar üzerinden güçlendirmeyi hedeflemiştir. Uygulamanın tasarımı, üç ana modülden oluşarak bilgiye erişim, hak ihlali bildirimleri ve topluluk dayanışmasını bir arada sunan bütünlük bir çözüm sunmayı

hedeflemektedir. Bilgi Bankası Modülü, kullanıcıların yasal düzenlemeler ve çalışma hakları hakkında bilgiye hızlı ve doğru şekilde erişmelerini sağlayacak ve bireylerin iş hayatında bilinçli hareket etmelerine katkıda bulunacaktır. Hak İhlali Bildirimi Modülü, kullanıcıların hak ihlallerini anonim olarak raporlamasına olanak tanıyacak, bu sayede bireysel seslerin toplumsal farkındalığa dönüşmesine yardımcı olacaktır. Topluluk Alanı Modülü, dayanışma kültürünü destekleyerek kullanıcılar arasında bilgi ve destek paylaşımını teşvik edecektir.

Bu uygulama, sosyal medya tabanlı dijital dayanışma araçlarının bireylerin hak arayışlarını desteklemenin ötesinde iş dünyasında adalet, şeffaflık ve güven değerlerinin benimsenmesini sağlayacaktır. İşçi ve işverenlerin hak ve sorumlulukları konusunda bilinçlenmesi sağlanacak, toplumsal dayanışma ve farkındalık kültürü dijital ortamda güçlenecektir.

Uygulama üzerinden toplanan veriler, hak ihlallerinin tespit edilmesini ve çözüm süreçlerinde etkin bir müdahale mekanizması oluşturulmasını mümkün kılacaktır. Anonim olarak raporlanan hak ihlalleri, bireylerin seslerini duyurmasına ve sorunların görünür hale gelmesine olanak tanıyacaktır. Bu verilerin analiziyle iş dünyasındaki yaygın sorunlar belirlenerek çözüm odaklı yaklaşımlar geliştirilecektir. Bu süreç, bireysel hakları korumanın yanı sıra iş kültüründe köklü bir dönüşüm sağlayacaktır.

Uygulama üzerinden gerçekleştirilen analizler ve raporlamalar, iş yerinde sürdürülebilir bir adalet ve eşitlik kültürünün oluşmasına katkı sunacaktır. Çalışanlar için daha şeffaf ve güvenli bir iş ortamı yaratılacak, iş memnuniyeti ve verimlilik artacaktır. İşverenler için ise iç denetim ve kurumsal iyileştirme süreçlerine rehberlik edecek nitelikte veriler sunulacaktır. Daha adil politikaların uygulanmasına olanak tanınacaktır.

Bu uygulama, bireylerden başlayarak organizasyonel yapılar ve toplumsal düzeyde etkiler yaratarak dijital dayanışmanın gücünü iş dünyasında dönüştürücü bir araç olarak gösterecektir. Hem bireysel hakların korunması hem de iş kültürünün geliştirilmesi için güçlü bir model oluşturacaktır.

Uygulamanın sağlayacağı düşüldüğü temel faydalar ise şunlardır:

1. Hak Bilincini Artırma: Kullanıcılar, işçi ve işveren hakları konusunda daha bilinçli hale gelerek haklarını savunma ve koruma becerisi kazanacaktır.
2. Hak İhlallerini Azaltma: Hak ihlali bildirimleri sayesinde, ihlallerin erken tespiti ve çözümü mümkün hale gelecektir.
3. Toplumsal Farkındalık Oluşturma: Dayanışma modülü, bireyler ve topluluklar arasında bilgi paylaşımı yaparak geniş kitlelerde farkındalık yaratacaktır.
4. İş Kültüründe Dönüşüm: Şeffaflık ve güven temelli bir iş ortamının oluşmasına katkı sağlayarak, işçi ve işveren ilişkilerinin güçlendirilmesine destek olacaktır.

Bu çalışmaya ihtiyaç duyulmasının temel nedeni, dijitalleşmenin hızla artmasına rağmen işçi ve işveren haklarının korunması ve ihlal durumlarının raporlanması için etkili dijital araçların sınırlı olmasıdır. Günümüzde sosyal medya platformları, bireylerin seslerini duyurmasında önemli bir rol oynasa da, bu platformların işçi-işveren ilişkileri bağlamında hak savunuculuğu için sistematik bir şekilde kullanılması yetersizdir. Geleneksel yöntemler çoğu zaman yavaş, maliyetli ve erişimi sınırlı olduğundan, dijital çözümler geliştirilmesi hem bireyler hem de organizasyonlar için kritik bir ihtiyaç haline gelmiştir. Bu çalışma, bu boşluğu doldurmayı amaçlayarak dijital dayanışma kavramını pratik bir modele dönüştürmek ve işçi-işveren ilişkilerinde şeffaflığı artırmak için yenilikçi bir çözüm sunmaktadır. Özellikle, işçi ve işverenlerin haklarını öğrenmesi, hak ihlallerini raporlaması ve topluluk desteği alması süreçlerinin daha hızlı, etkili ve erişilebilir bir hale getirilmesi hedeflenmektedir. Mevcut literatür ve uygulamalarda gözlemlenen eksikliklere çözüm getirmek amacıyla bu çalışmada geliştirilecek uygulama, hem teknik altyapısı hem de kullanıcı dostu yapısıyla sektörde fark yaratmayı hedeflemektedir. Uygulamanın geliştirilmesiyle, sadece mevcut hakların korunması değil, aynı zamanda iş kültüründe köklü bir dönüşüm sağlanması beklenmektedir. Bu süreçte, R programlama dili ve Shiny Framework kullanılarak esnek, dinamik ve genişletilebilir bir prototip oluşturulacak, uygulama daha fazla kullanıcıya hitap edebilecek şekilde geliştirilerek sektörel ve uluslararası uyumluluk hedeflenecektir.

Gelecekte, bu çalışmadan elde edilen veriler ve öneriler, daha geniş kapsamlı araştırmalar ve uygulamalar için bir temel teşkil edebilir. Geliştirilecek sistemin daha ileri versiyonlarında yapay zeka destekli analizler, karar destek sistemleri ve uluslararası standartlara uygun çözümler sunarak iş dünyasında daha adil, şeffaf ve sürdürülebilir bir yapı oluşturulması hedeflenmektedir. Bu çalışma, dijital dayanışmanın gücünü işçi ve işveren ilişkilerinde pratik bir dönüşüm aracı olarak ortaya koymayı amaçlamaktadır.

Uygulama, mevcut haliyle bile işçi ve işveren haklarına yönelik önemli bir adım niteliği taşımaktadır. Sağladığı temel modüllerle bilgiye erişimi kolaylaştırmakta, hak ihlallerini görünür kılmakta ve dayanışmayı teşvik etmektedir. Elbette uygulamanın geliştirilmesiyle daha geniş bir etki alanına ulaşması ve daha fazla kullanıcıya hitap etmesi mümkün olacaktır. Bu haliyle bile, iş dünyasında adalet, şeffaflık ve güven değerlerini desteklemek adına değerli bir araç olma potansiyeli göstermektedir. Daha geniş bir kullanıcı kitlesine ulaşabilmesi ve etkisinin artırılması için geliştirme ve genişletme çalışmaları yapılabilir. Örneğin, uygulama farklı sektörlerde veya uluslararası standartlara uyumlu hale

getirilerek daha kapsamlı bir kullanım alanına sahip olabilir. Ayrıca, yapay zeka algoritmalarıyla desteklenen bir karar destek sistemi eklenerek kullanıcıların hak ihlallerine yönelik çözüm önerileri alması sağlanabilir.

Gelecekte bu uygulamayı veya literatürü kullanacak araştırmacılar, dijital dayanışmanın toplumsal ve sektörel etkilerini daha geniş çerçevede inceleyebilir. Uygulamayı uzun vadeli bir analiz platformuna dönüştürerek, hak ihlalleriyle ilgili küresel veya ulusal eğilimleri tespit edebilir ve bu doğrultuda iş dünyasında politika önerileri geliştirebilirler.

Bu uygulama ve yaklaşım, işçi ve işveren hakları açısından dijitalleşmenin sunduğu fırsatları kullanarak sadece bireylerin değil, toplumun geneline fayda sağlayacak bir model ortaya koymaktadır. Sürdürülebilir bir iş kültürünün desteklenmesi ve hakların korunmasına yönelik bu tür yenilikçi girişimler, dijital dayanışma kavramının pratikteki gücünü bir kez daha kanıtlamaktadır.

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