

# ICOFESP<sup>II.</sup>

INTERNATIONAL CONGRESS ON FINANCE, ECONOMY AND SUSTAINABLE POLICIES

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Dear Respected Academics and Researchers,

On behalf of the Organizing Committee, we are pleased to announce that II. International Congress On Finance, Economy And Sustainable Policies (ICOFESP) will be held in Bursa Technical University from 24 – 27 April 2024 in Bursa, Türkiye

ICOFESP provides an ideal academic platform for researchers and professionals to discuss recent developments in economy. This event aims also to stimulate interaction in the field of finance, economy and policy developments in all these areas, and to showcase the expertise of our invited speakers and participants.

You can find more information about this event on the webpage of ICOFESP:  
[www.icofesp.com](http://www.icofesp.com)

All the papers are subject to rigorous peer-review by at least two members of scientific committee or additional reviewers. We are looking forward to seeing you in Bursa / Türkiye

With our best regards,  
Organising Committee of ICOFESP

## TOPICS

Circular Economy and Digitalization: Sustainable Future

- Green Transformation
- Digital Transformation in the Economy
- Financial Transformation and Innovations
- Entrepreneurship and Innovation
- Circular Supply Chain and Resource Management
- Innovation Ecosystems
- Sustainable Smart Cities and Smart Logistics
- Industry 4.0
- Society 5.0
- Artificial Intelligence and Ethical Values
- Sustainable Production and Consumption
- Climate Change
- Sustainable applied mathematics and numerical analysis

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Full version of submitted papers will be published in Special Volumes of reputed journals. Procedure, Guidelines and Checklist for the preparation and submission of papers to the Proceedings of ICOFESP can be found in the journals websites.

The journals in which selected and peer-reviewed full papers of ICOFESP will be published are as follows:

- Journal of Turkish Studies – Ulakbim TR
- Turkish Studies–Economics, Finance, Politics – Ulakbim TR
- International Journal of Economic and Administrative Studies – Ulakbim TR
- Research of Financial Economic and Social Studies
- Journal of Economics Public Finance Business – (ESJI)
- Van Yüzüncü Yıl Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi (Index Copernicus)
- Trends on Economics, Finance, Management Journal (EBSCO)
- Journal of Law and Politics (LPJ)
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**SOLUTION OF GENERALIZED BRATU-TYPE FRACTIONAL  
DIFFERENTIAL EQUATIONS BY HOMOTOPY PERTURBATION  
TRANSFORM METHOD**

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**Abstract**

We provide the generalized form of nonlinear fractional Bratu-type equation in this paper. We work with a generalized fractional derivative in this generalization, which is quite helpful in terms of applications. Additionally, a few unique instances of the generalized fractional Bratu equation are identified and investigated. We use the homotopy perturbation transform approach to solve these fractional order nonlinear differential equations. This work improves our understanding of these equations and gives a practical computational approach to solve them. Additionally, we plot a few numerical data to demonstrate the effectiveness of the acquired outcomes.

**Keywords:** Homotopy Perturbation Transform Method, Fractional Bratu-Type Equation, Generalized Fractional Derivative.

**STRATEGIC MANAGEMENT PRACTICES IN SMALL AND MEDIUM-SIZED  
ENTERPRISES AND THE STRATEGIC MANAGEMENT PERCEPTION OF  
MANAGERS: A STUDY IN THE CITY OF TEHRAN, IRAN**

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**Abstract**

In this research, the influence of managers mind and strategic thinking on the performance of small and medium companies in line with strategy development was investigated. The research method is qualitative and quantitative. In the qualitative phase, the variables were identified through the method of library studies and related articles and researches, and in the quantitative phase, based on a survey of managers of small and medium companies The analysis was done by the regression method, in relation to investigating the effect of the variables at a specific point in time. The research results showed that In this research, due to the fact that small and medium-sized companies in Iran need to use a strategic plan due to economic and political conditions and a turbulent and competitive environment, the strategic attitude of managers in these companies is important, and for this purpose, the researcher He identified and investigated the strategic attitude of managers and its effect on the competitive advantage and performance of small and medium-sized companies.

**Keywords:** Strategic - Manager - Competitive analysis - SWOT - Analysis



## **BOARD COMPOSITION AND ITS IMPACT ON GREEN AND SUSTAINABILITY REPORTING: INSIGHTS FROM THE BIST SUSTAINABILITY INDEX**

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### **Abstract**

This research seeks to investigate how board characteristics influence the focus on "green and sustainability" themes within sustainability reports. Within this framework, the proportion of green themes was identified through T5 cluster analysis of sustainability reports from companies listed on the BIST Sustainability Index over the period 2014 to 2022. The findings from subsequent regression analysis indicate that larger and more independent boards are associated with higher rates of "green and sustainability" themes in sustainability reports. However, results show that gender diversity of the board and CEO duality are not associated with extent of "green and sustainability" themes in the sustainability reports. The study explores deeper understanding the nuances of board composition and its impact on the prioritization of environmental and sustainability issues in corporate reporting. Furthermore, this research emphasizes the importance of board structure in encouraging a stronger emphasis on sustainability issues, suggesting that the composition of the board can significantly influence a company's commitment to environmental stewardship and sustainable development.

**Keywords:** Board of Directors, Green, Sustainability, Sustainability Reports, T5 cluster analysis

## **THE RELATIONSHIP BETWEEN ESG SCORES AND GREENHOUSE GAS EMISSIONS: A UK PERSPECTIVE**

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### **Abstract**

The credibility of Environmental, Social and Governance (ESG) scores is frequently questioned by investors, companies and regulatory institutions due to the challenges posed by factors such as widespread greenwashing practices, inconsistent public disclosure regulations and the unpredictability of climate changes. Employing Panel Data Analysis techniques, the study utilizes a structural equation model to investigate the causal relationship between greenhouse gas emissions and ESG ratings for the companies listed in the FTSE All-Share Index. We aim to determine to what extent ESG scores are related to changes in greenhouse gas emissions by controlling firm-specific characteristics and external factors through Fixed Effects Model and Instrumental Variable Estimation techniques.

Our research findings reveal a statistically significant and negative relationship between ESG scores and direct emissions; these results suggest that companies with higher ESG ratings tend to exhibit lower greenhouse gas emissions. On the other hand, considering the significant heterogeneity between different sectors and firm sizes, further research is needed to elucidate the magnitude of this relationship. Another important takeaway is that detailed regulatory frameworks are necessary to standardize emission disclosures and strengthen the reliability of ESG assessments.

**Keywords:** ESG Ratings, Greenhouse Gas Emissions, Green Transformation

## SEMI-ANALYTICAL SOLUTION FOR DYNAMIC BEHAVIOR OF A NONLINEAR FRACTIONAL ORDER KURAMOTO-SIVASHINSKY EQUATION

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### **Abstract**

In this paper, we apply the fractional homotopy perturbation transform method (FHPTM) to deliver an effective semi-analytical technique for determining fractional order Kuramoto-Sivashinsky equations. The project technique combines the Laplace transform with the Caputo-Fabrizio fractional derivative (CFFD) of order  $a$  where  $a \in (0, 1]$ . And fractional order Kuramoto-Sivashinsky equation (KSEs) is indeed important in the field of nonlinear physics and mathematics. It is a fractional partial differential equation that describes the behavior of waves in certain dissipative media, such as flames, and chemicals. The fractional homotopy perturbation transform method is described to be fast and accurate. Illustrative examples are included to demonstrate the efficiency and reliability of presented techniques.

**Keywords:** The Fractional Order Kuramoto-Sivashinsky Equation (FKSES); Fractional Homotopy Perturbation Transform Method; Caputo-Fabrizio Derivative ;

## **EXAMINING FORCE MAJEURE CONDITIONS IN BIOSECURITY SITUATIONS IN TERMS OF CAUSATION**

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### **Abstract**

Biosafety is the detection of the negative effects of biotechnology, which is widely used and developing today, on human, animal and environmental health and the elimination of possible risks. It is protected and its framework is determined by the Biosecurity Law No. 5977. Based on this law, some questions arise in terms of force majeure situations and the legal liability of the administration. In these questions, it is important to identify deficiencies in ensuring or improving biosafety conditions and to reveal the legal liability framework more clearly with the causal link. In this research, after determining the elements that form this causal link and examining the conditions, improvement suggestions regarding biosecurity and legal liability will be included. It is clear that changes are required to minimize these biosecurity threats and to achieve a sustainable solution to the liability that may arise regarding biosecurity.

**Keywords:** Biosecurity, Legal Liability, Force Majeure, Administration

## **FINANCIAL INNOVATION AND MONEY DEMAND IN NORTH MACEDONIA: EMPIRICAL RESULTS FOR THE RESEARCH**

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### **Abstract**

The quest to achieve an efficient payment system that reduces the demand for money for cash transactions and other motives, and makes the economy more competitive in the global market, necessitated the introduction of financial innovation in the financial system. This paper observed the impact of financial innovation on the demand for money, searching into the nature of their relationship and evaluating the stability of the money demand function in North Macedonia, to provide further empirical insights into the unsettled debate of demand for money in the North Macedonia economy. The paper adopted the ARDL model to determine whether there is a long run relationship between financial innovation and demand for money; the Granger causality test, to investigate the nature of the connection; and CUSUM and CUSUMSq to explore the stability of money demand function in North Macedonia. Quarterly data from 2010q1-2020q4 were used in the analysis. A disaggregated measure of financial innovation using the value of e-payment transactions of ATM, POS, MOB, and WEB to determine the relative impact of each financial innovation channel on the demand for money was employed. The disaggregated approach to measuring financial innovation and examining the causality issue, constitutes the novelty and point of departure of this paper from previous studies in North Macedonia. The findings showed a long-run relationship between financial innovation and demand for money existed. Also, there is the existence of a unidirectional causal relationship with causality running from broad monetary aggregate to financial innovation. The findings further revealed that financial innovation.

**Keywords:** Financial innovation, Global market, Financial management

## **“The Impact of E-Commerce On Digital Marketing Hopes and Ambitions”**

**(A case study in airline reservation offices in the Republic of Iraq)**

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### **ABSTRACT**

The current study aims to identify the impact of e-commerce with digital marketing in airline reservation offices in the Republic of Iraq. The study consists of two main variables: the independent variable that included e-commerce, which consisted of four dimensions: Business-to-Business, Consumer-to-Business, and Consumer-to. - Consumer, Business-to-Government, and the dependent variable represents digital marketing, the dimensions of which are: website design, social media marketing, search engine optimization, and email marketing.

This study relied on scientific sources such as books, articles, and research with the aim of clarifying the concepts related to the variables of the study. As for the practical aspect, the airline reservation offices were taken and included the governorates (Nineveh, Erbil, Dohuk, Kirkuk, Tikrit and Baghdad), and 250 questionnaires were accepted as valid questionnaires and were analyzed accordingly. To determine the relationship between the study variables, two main hypotheses and sub-hypotheses were proposed and tested using a number of statistical methods in Analysis of Moment Structures AMOS (V.24). The results showed that there is a positive

## **FINANCIAL STABILITY IN THE INSURANCE SECTOR**

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### **Abstract**

The global pandemic of the coronavirus 2019 (COVID-19) has had significant repercussions on numerous industries worldwide. We examine the side effects of the COVID-19 pandemic on the operational and financial outcomes of insurance firms operating in Albania. The selected sample consists of twelve insurance firms of the Albanian insurance market for nine years, from 2013 to 2021. This research is based on secondary data from the financial statements of both life and non-life insurance companies. It investigates how performance, as the most important indicator of financial stability, is influenced by different factors. Our findings show that the COVID-19 pandemic, the capital ratio, and the profitability significantly influence the Return on Assets (ROA) of the insurance firms.

**Keywords:** COVID-19, Insurance industry, Performance



## **EMPIRICAL ANALYSIS OF FACTORS AFFECTING ONLINE BANKING USAGE**

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### **Abstract**

As we run fast in the digitalization era, the usage of online services has become a common day-to-day practice in all areas. We empirically examine the factors affecting the usage of online banking in the EU and non-EU member states. Our analysis employs a panel dataset comprising macroeconomic datasets from Eurostat and the World Bank over the period from 2011 to 2023. Our main finding shows that there is a positive association between individuals using the Internet and individuals using the Internet for online banking purposes. Additionally, the results reveal that employment rate and educational level have a positive and statistically significant relationship with using the Internet for online banking. Overall, the results provide valuable guidance for policymakers aiming to enhance financial literacy and boost the adoption of online banking services.

**Keywords:** COVID-19, Online Banking, Financial Literacy

## THE ROLE OF TURKEY IN ADDRESSING FOOD CRISIS AND HUNGER IN AFRICA

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### **Abstract**

Africa is currently grappling with severe food crisis and hunger affecting millions of people across the continent. In response to these pressing challenges, Türkiye has emerged as a potential key player in addressing these issues through various initiatives and collaborations. The paper aims to examine Türkiye's role in tackling the food crisis and hunger in Africa, focusing on critical areas such as agricultural support, infrastructure development, capacity building, humanitarian aid, and diplomatic engagement. Leveraging its resources, expertise, and partnerships, Türkiye has the potential to significantly contribute to enhancing food security, reducing poverty, and promoting sustainable development in Africa. However, it's worth noting that content analysis has been chosen as the methodology for the study.

**Keywords:** Food Crisis, Agricultural Support, Infrastructure Development, Capacity Building, Humanitarian Aid, Diplomatic Engagement

## **FROM INDUSTRY 4.0 TO SOCIETY 5.0: THE TRANSFORMATION OF AFRICA**

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### **Abstract**

This article explores how Africa can transition from the digital transformation brought about by Industry 4.0 to Society 5.0, which emphasizes human-centric and sustainable development. Africa is undergoing rapid technological and economic advancement, yet significant social and environmental factors need to be considered in this process. The article discusses both the opportunities presented by Industry 4.0 and how these opportunities impact the social and economic fabric of Africa. Subsequently, it addresses the prominent features of Society 5.0 and the role Africa can play in its adoption for development. Finally, it examines the challenges Africa may encounter in transitioning to Society 5.0 and proposes strategies to overcome these challenges. However, in the study, content analysis has been selected as the methodology.

**Keywords:** Industry 4.0, Society 5.0, Sustainable Development, Societal Transformation, Development Strategies.

## NEW EXACT SOLUTIONS OF THE BENNEY-LUKE EQUATION WITH THE NOVEL PROCEDURE

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### **Abstract**

This work aims to investigate novel precise solutions to the Benney-Luke equation. The Benney-Luke equation is a partial differential equation that characterizes the propagation of long waves on the outside of a fluid with an unobstructed surface. The Benney-Luke equation is an expanded model that incorporates supplementary elements to the Korteweg-de Vries (KdV) equation, a more straightforward model for long waves, in order to consider the influence of surface tension and nonlinearity. The objective is achieved by employing the modified exponential function method, which is a trustworthy strategy. It seems like you might be referring to the modified exponential function method (MEFM), a numerical technique used for solving differential equations. This method is particularly useful for stiff systems of ordinary differential equations (ODEs) or partial differential equations (PDEs) that arise in various scientific and engineering applications. Through a thorough examination of the solution functions, it becomes evident that several periodic functions, including hyperbolic and trigonometric functions, can be obtained in their rational versions as well. Furthermore, the Mathematica software offers the provision of 3D graphics for specific solutions that have been acquired. The objective of conducting computer simulations was to validate the efficacy and reliability of the proposed methodology. A demonstration has been provided regarding the effectiveness of the modified exponential function method in the analysis of solutions for the (1+1)-dimensional Benney-Luke equation.

**Keywords:** Modified exponential function method, Exact solutions, Benney-Luke equation.

## **INVESTIGATION INTO THE GENERALIZED MAGNETIC CURVES ON PARA- KAHLER MANIFOLDS**

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### **Abstract**

This paper delves into the examination of generalized magnetic curves situated on para-Kähler manifolds. Moreover, we expound upon various examples pertaining to these curves, thereby enriching our understanding of their properties and implications within the broader context of differential geometry.

**Keywords:** Curve, Para-Kähler Manifold, Magnetic Curve

## AKILLI KENTLERDE ENERJİ YÖNETİMİ: İSTANBUL ÖRNEĞİ

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Teknoloji devriminin yaşandığı ve yapay zeka uygulamalarının her alanda yaygınlaştığı günümüzde, kent mimarisinde de akıllı kent tasarımları birçok ülkede etkin şekilde uygulanmaktadır. Göç ve artan nüfusla giderek kalabalıklaşan kentlerde enerji tüketimi de hızla artarken kesintisiz ve sürdürülebilir enerji kaynaklarına sahip olmak ve bu kaynakları etkin ve verimli şekilde kullanmak da daha fazla önem taşımaktadır. Büyüyen kentlerin enerji ihtiyaçları ise artarken giderek daha karmaşık bir hal almaktadır.

Giderek büyüyen İstanbul gibi mega kentlerde diğer sosyal ve ekonomik sorunlarla birlikte, enerji sürdürülebilirliği ve kesintisiz enerji kaynaklarına ulaşım ilgili sorunlar da ortaya çıkmaktadır. Hane halkının ihtiyaçlarını görmek yanında ekonominin her alanında da ihtiyaç duyulan enerji kaynaklarının etkin, verimli ve sürdürülebilir şekilde kullanımı konusunda mevcut sistemler üzerinde alternatif enerji yönetim modelleri üzerinden yeni çözümler, farklı koordinasyon modelleri ve yeni yaklaşımlar geliştirilmesi gerekmektedir. Yenilenebilir enerji kaynaklarının sürekli sağlanması konusunda yaşanabilen yetersizlikler yanında giderek artan enerji talebi, enerji etkin ulaşım sistemlerinin gerekliliği enerji konusunda yaşanan sorunların her birisinin ayrı ayrı değil, bütüncül bir bakışla ele alınmasının gerekliliğini ortaya koymaktadır. İyi kurgulanmış enerji yönetimleri, kompleks energy sistemleri olan kentlerde hayati bir öneme sahip noktaya gelmiştir. Mega kentlerde akıllı kent tasarımlarında yeni, köklü ve teknolojiden etkin şekilde faydalanan modellemeler ve simulasyonlar üzerinden politika tercihlerinde bulunmak giderek yaygınlaşmaktadır. Bu çalışmada enerji üretimi, depolanması, enerji altyapısı, sanayi tesisleri ve ulaşım gibi farklı adımlarda yapılabilecek enerji yönetim modelleri konusunda açıklamalar yapılacaktır. Bu çerçevede, Türkiye'nin ve dünyanın en büyük ve en kalabalık kentlerinden olan İstanbul özelinde akıllı kent mimarisi çerçevesinde enerji modeli konusunda öneriler verilecektir.

Anahtar Kelimeler: Akıllı Kentler, enerji yönetimi, İstanbul

## ENERGY MANAGEMENT IN SMART CITIES: THE CASE OF ISTANBUL

## **SMALL AND MEDIUM ENTREPRISES GOING GREEN: A PANEL DATA ANALYSIS ACROSS EU NATIONS**

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### **Abstract**

Small and medium enterprises (SMEs) represent 99% of all businesses in the European Union and 90% of all businesses worldwide. Consequently, the investments in green production processes implemented by these enterprises are paramount within the framework of achieving a green economy during the next two or three decades at the European level. Moreover, eco-design, recycling, re-use, re-manufacturing, repair implemented by these enterprises can fuel economic growth and boost employment rate in the region. Using data for the period 2005-2020 and panel least squares, panel dynamic least squares, generalized linear model, robust least squares, panel EGLS, we aimed at exploring the link between investments made by small and medium enterprises in green facilities, such as environmental technologies, resource-efficiency measures, greener value chains, public support measures for SMEs and R&D transfer, and economic growth in the European Union. The policy implications of this study are extremely important especially considering the Green Action Plan for SMEs, adopted by the European Commission in 2014, along with the Green Employment Initiative and Circular Economy Package and Waste Target Review, which are meant to turn environmental challenges into business opportunities, thus contributing to the creation of green jobs and value added at the European and global level.

**Keywords:** Small and medium enterprises, Economic growth, Green economy, European Union



## **TEACHING AND LEARNING IN NORTH MACEDONIA BEFORE AND DURING THE COVID-19 CRISIS**

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### **Abstract**

Although affected by many previous challenges, in the last few years the education system in the Republic of North Macedonia has been additionally burdened by the imposed "reforms" as a result of the Covid-19 pandemic. These "reforms" were mainly expressed in the form of a mechanical transition from classical to distance learning, but in many cases without prior preparation and without prior appropriate experience. But, in truth, it must be noted that many other groups of countries in the region and beyond have found themselves in a similar position. There has been an increasing dependence of the education system, now in the area of lectures and learning, on communication technologies, as well as on the valorization of various platforms that serve as support and facilitate distance learning. Of course, educational institutions of all levels, the management structures, the teaching staff, the parents and the students, without exception, were interested in continuing the educational process, but, nevertheless, they all faced a series of difficulties and challenges. Having in mind that quality education is one of the most important UN sustainable development goals, online learning as an important aspect of adding value to existing education systems should be addressed among developing countries such as the Republic of North Macedonia. The paper is based on a research conducted during the pandemics, but offers insides on the general issues faced by higher education institutions in the Republic of North Macedonia.

**Keywords:** Online, Teaching, Learning

## **FINANCIAL PERFORMANCE ANALYSIS OF BIST TECHNOLOGY INDEX COMPANIES WITH MULTI- CRITERIA DECISION MAKING METHODS**

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### **Abstract**

Although the situation and financial structure of companies operating in the technology sector are of great importance for economies, the financial performance of companies is also closely related to the economies of countries. The technology sector, which continues to increase its market share in countries day by day, has a feature that makes life easier by increasing efficiency in every aspect of life and every branch of industry. The technology sector is essential for countries' economies because it can provide high-value-added products and services. While 57.8% of the companies in the BIST Technology index operate in the IT sector, 42.2% operate in the defence industry. Of the 35 companies in the BIST Technology Index, 14 started to be traded on BIST before 2017 and 21 after 2017. To have a long-term range of the companies whose financial performance will be evaluated in the study, the financial data of the 14 companies that started to be traded on BIST before 2017, obtained from independently audited financial reports for the 2016-2022 periods, and the financial performance measurement criteria Net Profit Margin, Liquidity Ratio, According to the financial performance analysis made with EDAS, which is a multi-criteria decision-making method for Asset Returns, Equity Returns and Leverage Ratio, the best performance was KRONT and the worst performance was NETAS in 2016. In 2017, LINK had the best performance and ARENA had the worst performance. In 2018, the best performance was ESCOM, and the worst was ASELS. In 2019, ESCOM showed the best performance, and NETAS showed the worst performance. In 2020, ESCOM had the best performance, and NETAS had the worst performance. In 2021, NETAS showed the best performance and ARENA showed the worst performance. In 2022, ESCOM showed the best performance, and NETAS showed the worst performance.

**Keywords:** Technology Index, BİST, Multi-Criteria Decision-Making Methods, EDAS.

## UNDERSTANDING HOW STARTUPS THRIVE: A STUDY OF ENTREPRENEURSHIP AND INNOVATION IN MACEDONIA

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### **Abstract**

In recent years, Macedonia has witnessed a growing startup ecosystem characterized by an entry of entrepreneurial risks and a growing culture of innovation. This study seeks to explore the factors that contribute to the success and sustainability of startups in Macedonia, focusing on the intersection of entrepreneurship and innovation within the local context. Through a qualitative research approach, this study aims to uncover the unique challenges, strategies, and opportunities that shape the startup landscape in Macedonia. Entrepreneurship has emerged as a driving force behind economic growth and development in Macedonia, offering individuals the opportunity to pursue their innovative ideas and create value in the marketplace. Within this dynamic ecosystem, startups play a essential role in driving innovation, creating jobs, and fostering competition. By understanding the factors that enable startups to thrive, policymakers, investors, and aspiring entrepreneurs can better support and nurture the growth of the startup ecosystem in Macedonia. One key aspect of startup success is the ability to identify and leverage opportunities in the market. In Macedonia, startups often emerge in response to needs, market gaps, or emerging trends, reflecting the entrepreneurial spirit and ingenuity of local innovators. Moreover, the availability of government support programs, incubators, and accelerators has facilitated the growth of startups by providing access to funding, mentorship, and networking opportunities. Additionally, this study explores the role of innovation in driving the success of startups in Macedonia. Innovation is not only about developing groundbreaking technologies but also about creating novel business models, processes, and strategies that deliver value to customers. Startups that embrace a culture of innovation and agility are better positioned to adapt to changing market conditions, differentiate themselves from competitors, and sustain long-term growth.

However, startups in Macedonia also face a countless of challenges, including limited access to funding, bureaucratic sprints, and a lack of entrepreneurial talent. Overcoming these challenges requires a collaborative effort between government agencies, educational

institutions, and the private sector to create a supportive ecosystem that fosters entrepreneurship and innovation. In conclusion, this study aims to provide valuable insights into the dynamics of entrepreneurship and innovation in Macedonia's startup ecosystem. By understanding the factors that contribute to startup success, policymakers and stakeholders can develop targeted initiatives and policies to foster a thriving environment for entrepreneurship and innovation, ultimately driving economic growth and prosperity in Macedonia.

**Keywords:** Startup Ecosystem, Entrepreneurship, Innovation, Macedonia, Success Factors

**EXPLORING THE ROLE OF DIGITAL TECHNOLOGIES IN ENHANCING  
PRODUCTIVITY AND INNOVATION IN MACEDONIAN INDUSTRIES:  
OPPORTUNITIES AND CHALLENGES**

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**Abstract**

This study researches into the complicated relationship between digital technologies and productivity as well as innovation within Macedonian industries. With the global shift towards digital transformation, understanding the specific opportunities and challenges faced by Macedonia is dominant for its economic growth and competitiveness.

Through a comprehensive analysis of industry data, interviews with key stakeholders, and case studies, this research aims to shed light on how digital technologies can enhance productivity and drive innovation in Macedonian industries.

By identifying opportunities for leveraging digital tools and addressing the challenges hindering their adoption, this study provides valuable insights for policymakers, industry leaders, and other stakeholders seeking to foster sustainable economic development in Macedonia among the digital era.

**Keywords:** Digital Technologies, Productivity Enhancement, Innovation, Macedonian Industries, Opportunities and Challenges

## **THE RELATIONSHIP BETWEEN CARBON EMISSION, ENERGY CONSUMPTION AND ECONOMIC GROWTH IN TURKEY**

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### **Abstract**

The climate change problem arising from global warming creates the need to explain the interaction of factors such as energy consumption and carbon emissions with economic growth, as well as many macroeconomic variables related to economic growth. With the Kyoto Protocol based on the United Nations Framework Convention on Climate Change, many developed and developing countries have tended to redesign their production processes in order to realize their commitments to reduce greenhouse gas emissions. In Turkey, which acts in this context, it is observed that energy demand and carbon emissions are increasing over the years. In this study, the relationship between carbon emissions, energy consumption and economic growth in Turkey between 1980 and 2020 was examined. In the analysis, the causality relationship was investigated with Granger Causality Test, Johansen Cointegration Test and Granger Causality Test Based on Error Correction Model (VECM), and as a result of the analysis, a causality relationship from carbon emission and energy consumption to economic growth was determined in the long term, and also a causality relationship from economic growth to carbon emission was determined. In line with the findings obtained as a result of the study, policy recommendations regarding the relationship between carbon emissions, energy consumption and economic growth in Turkey have been formulated.

**Keywords:** Carbon Emission, Energy Consumption, Economic Growth.

## **SUSTAINABLE TOURISM AWARENESS IN TOURISM BUSINESSES IN KYRGYZSTAN**

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### **Abstract**

In today's world, the international dimension of tourism has become a subject of debate, bringing along economic, social, and environmental issues. The concept of sustainable tourism aims to balance the industry for long-term viability and provide fair benefits to all stakeholders. This study, conducted among tourism organizations in Bishkek, aims to evaluate the existing awareness and understanding, identify challenges and opportunities in the sector, and develop a conscious strategy tailored to specific needs. The research will be conducted using qualitative research methods, specifically through interviews with top-level executives of tourism organizations in Bishkek. Data will be collected and analyzed through these interviews. The findings of the research will reveal the current level of awareness and understanding of sustainable tourism practices among tourism organizations in Bishkek, as well as the challenges and opportunities in the sector. Based on the results of this study, recommendations will be provided for promoting sustainable tourism practices in the tourism industry in Bishkek and ensuring long-term sustainability

**Keywords:** Sustainability, Bishkek, Tourism Businesses, Awareness, Implementation, Kyrgyzstan



## **THE CAUSALITY BETWEEN THE OUTPUT GAP IN AGRICULTURAL GDP AND SOME MACROECONOMIC VARIABLES:THE CASE OF TÜRKİYE**

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### **Abstract**

Global warming and increasing population negatively affect country economies, causing them to be inadequate in the field of food. Fluctuations in energy costs, especially oil prices, together with climate change, cause a serious search for resources in the agricultural sector. In this study, the variables that cause the Gross Domestic Product deficit in the agricultural sector will be examined. The analyzes in the study were made for Türkiye and the agricultural sector GDP deficit was obtained with the Hamilton (2018) filter. The causalities between the output gap and CO2 emissions, oil prices, average temperatures in Turkey and the producer price index were examined with linear and non-linear causality tests. As a result, the variables that cause the output gap in the agricultural sector are determined and the measures to be taken are stated.

**Keywords:** Output GDP, Causality, Global Heating

**NEW SOLUTIONS FOR A NONLINEAR COMPLEX HYPERBOLIC  
SCHRODINGER DYNAMICAL EQUATION WITH A TRUNCATED M-  
FRACTIONAL**

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**Abstract**

This study aims to find novel soliton solutions for a complex hyperbolic Schrödinger equation with a truncated M-fractional derivative, focusing on modified generalized Kudryashov and modified exponential function methods. These analytical methods have not been utilized previously in discovering solutions for this equation, making our results innovative. The outcomes can be explained through trigonometric and hyperbolic functions. A software program is employed to examine the wave function's behavior by assigning particular values to create 2-dimensional and 3-dimensional, contour and density plots based on specific parameters. These plots assist in visualizing the physical arrangements of the solutions and understanding the dynamic processes involved.

**Keywords:** Fractional Derivatives; M-Fractional Derivative; Traveling Wave Solution; Modified Generalized Kudryashov Method; Modified Exponential Function Method

## **A REVIEW OF GREEN BONDS WITHIN THE CONTEXT OF SUSTAINABLE FINANCE**

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### **Abstract**

The aim of this study is to review the green bonds as a financial instrument and type of security within the framework of sustainable economic development. Green bonds are defined as fixed- income-securities designed to raise funds to finance climate and also environmental projects. Climate change has been influencing all economic units varying from individuals (consumers) to governments. In the world, the leading institution issuing green bonds is the World Bank, which channel funds to projects looking for mitigating climate change (or provide help for affected people to adapt to the change). In the case of green bonds issues by this Bank, investors of this type of security find an opportunity to invest in climate solutions with the help of AAA- Credit-Quality fixed income product. From 2014 to 2022, statistics show that the total value of green bonds issued worldwide increased from USD 37 billion to USD 487 billion. As far as bond markets in Türkiye (as an emerging economy) is concerned, there is a remarkable incline -in terms of number and amount- in green bonds issued by banks. Recent figures in this study indicates that there is a great increase in the number and the total amount of green bonds in both developed economies and emerging economies in comparison to conventional fixed income bonds.

**Keywords:** Green Bonds, Sustainable Economy and Finance.

## THE DECISIVE ROLE OF ARTIFICIAL INTELLIGENCE IN THE RECRUITMENT PROCESS

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### **Abstract**

The business world of today is aware that it must make the best use of technological innovations in order to maintain its existences in the future, increase productivity, and effectively manage the intense competitive environment. Industry 4.0, or in other words the "digital age," has made artificial intelligence-based technology available in all areas of life. Digital transformation is used in different fields such as electronic commerce, health systems, smartphones, automotive, security systems, human resources department. The irrepressible progress of technological developments has become indispensable for modern businesses, which want to have a long life. Surviving in an intense competitive environment is possible by quickly adapting to these developments. Businesses must create competitive advantage to take part in the national or international market.

One of the important elements that will provide competitive advantage is human resources. Although the human resources department is not so technological, it could not remain indifferent to the benefits of the digital age. Especially in the recruitment process, the use of artificial intelligence-based virtual assistants in the first interview reduces the workload of the human resources department, whose job is not only to select personnel, and increases work efficiency. The human resources department, where big data dominates and the candidate pool is constantly evolving, has left the pre-selection to artificial intelligence-based virtual assistants in order to make the right employee selection.

This study focuses on the applications of artificial intelligence studies, which came into our lives with Industry 4.0, in the recruitment process in human resources management. Emphasis was placed on recruitment virtual assistants Mya and Vera applications.

**Keywords:** Artificial Intelligence, Digital Transformation, Human Resources Management, Industry 4.0

## **SYNTHESIS AND APPLICATIONS OF GRAPHENE BASED MATERIALS FOR PURIFICATION OF WASTE WATER**

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### **Abstract**

One of the main environmental contaminants that have caused considerable worry about the state of Mother Nature around the world is Heavy Metal pollution. In order to clean up the main causes of water pollution, composites made of better materials are urgently needed. Researchers discovered Graphene, an allotrope of carbon, as a viable solution to the aforementioned issue because of its many desirable properties, including a very high adsorption capacity, a mesoporous width, and a large specific surface area. According to current study, Graphene oxide (GO) composites have been utilized extensively for the removal of heavy metals like arsenic, nickel, cadmium, and mercury with removal efficiencies of more than 80%, 83.08%, 98%, and 99.3%. An understanding of synthesis and physicochemical techniques is provided in this review. Isotherm studies and significant uses of Graphene and its composites in the management of water pollution are provided, along with numerous examples of the removal of various heavy metals, for the purpose of water purification.

**Keywords:** Adsorption, Adsorption Isotherms, Graphene Oxide, Heavy Metals, Water Pollution

**PRESENTING A PARADIGMATIC MODEL OF SOCIAL MARKETING  
BASED ON ETHICAL MARKETING FOR BRAND VALUE CREATION AT  
IRAN'S SOCIAL SECURITY ORGANIZATION**

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**Abstract**

The present study was a fundamental study aiming to present a paradigmatic model of social marketing based on ethical marketing to create brand value at Iran's Social Security Organization. Concerning data collection methods, this study fell under non-experimental (descriptive) research, based on a cross-sectional survey approach. This study was also a qualitative study. The statistical population of the study consisted of all theoretical (marketing management professors) and experimental (directors of the national social security organization) experts. Sampling was done by Glaser's Theoretical Sampling method as theoretical saturation was reached by people. Tools to collect data included a semi-structured interview with primary questions as other questions were also raised during the interview. Grounded Theory was used to analyze specialized interviews. Data were analyzed by MAXQDA software. The study's paradigmatic model indicated that ethical factors such as organizational ethics, working and professional ethics influenced social marketing. Also, ethical marketing provided a good context for social marketing. Organizational ethical capital and social responsibility were also intervening factors. In the end, organizational ethical leadership was found to be a strategy that could help achieve brand value for the Social Security Organization.

**Keywords:** Social Marketing, Ethical Marketing, Brand Value, Social Security Organization

## **INNOVATION FOR SUSTAINABILITY: THE IMPORTANCE OF INNOVATIVE BUSINESS BEHAVIOR IN BUSINESSES**

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### **Abstract**

Sustainability is the capacity of businesses to maintain long-term success across environmental, social, and economic dimensions, while innovative business behavior involves the development of novel ideas, methods, and solutions to accomplish sustainability objectives. The significance of innovative business behavior is increasingly recognized in sustainability contexts. Its importance lies in its ability to address environmental, social, and economic factors crucial for businesses' enduring success, thereby underscoring its relevance for sustainability. Solutions stemming from innovative business behavior align with sustainability principles by promoting efficient resource utilization, waste reduction, mitigation of environmental impacts, and meeting societal needs. Innovative business behavior not only streamlines the achievement of sustainability goals for businesses but also reinforces their sustainability strategies. Moreover, it enables businesses to seize sustainability-driven market opportunities and enhance their reputations, thereby gaining a competitive edge.

This research aims to define sustainability and innovative business behavior, explore their interrelation, and illustrate the role of innovative business behavior in fostering sustainability within enterprises through existing literature. It specifically focuses on how innovative business behavior can aid businesses in implementing sustainability principles and gaining a competitive advantage through inventive solutions. The research employs a literature review method to comprehensively examine different facets of the topic. Findings from the literature underscore that innovative business behavior incentivizes the development of more efficient solutions to attain sustainability goals by fostering the advancement of new technologies and business processes. Crucially, this research serves to guide business managers in embracing innovative business practices to fortify sustainability strategies, offers fresh insights to the literature, and lays a groundwork for future studies.

## THE ROLE OF VIRTUAL SOCIAL NETWORKS IN IRAN'S ETHNIC CONVERGENCE AND DIVERGENCE

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### **Abstract**

Nowadays, no field can be examined without paying attention to the role of the media, and the importance of this role has doubled with the new presence of social networks and its expansion among different strata. The increasing spread of new media has affected human life in different ways. One of the important areas mentioned is the discussion of national identity and ethnic groups. From this point of view, the increasing expansion of technology and communication and the formation of information is important for the evolution and transformation of identity, both in the national and ethnic dimensions.

Considering the theory of "Media Richness" and "Media Representation" and paying attention to the capacity of virtual social networks to transmit messages, this article deals with the recognition of the existing situation in the virtual space and its relationship with the field of ethnic groups. Therefore, the purpose of presenting this article, which is prepared with descriptive and analytical method, is to examine the role of virtual social networks in the divergence of illusionism between Iranian ethnic groups and to answer the questions of how the role of virtual social networks in the divergence of ethnic illusionism in Iran is? And is the function of social networks towards ethnic convergence or divergence? A concept and category that can be examined in different dimensions due to its novelty.

**Keywords:** Virtual Social Networks, Divergence and Convergence, Iranian Ethnic Groups.



## **E-COMMERCE ENTREPRENEURSHIP IN THE ERA OF DIGITAL TRANSFORMATION: ECONOMIC CHANGE AND OPPORTUNITIES**

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### **Abstract**

Innovation and novelty are inherent aspects of entrepreneurship. With the impact of digital transformation on the economy, e-commerce emerges as the broadest and most influential area of entrepreneurship when considering trade. This study aims to evaluate the definitions, commonalities, and interactions of e-commerce and e-commerce entrepreneurship shaped by digital transformation. The proliferation of the internet and the expansion of global logistics networks have reshaped individual consumption habits, leading to an increase in new consumption habits through e-commerce, which is one of the most significant reasons for the growth of the e-commerce market. In this context, the need for new and easily accessible platforms arising from digital transformation has been a driving force in the emergence of e-commerce entrepreneurship. E-commerce attracts the interest of entrepreneurs by providing new generation business opportunities and environment in this respect. At the point where the technological adventure has reached, e-commerce and entrepreneurial activities in this field are important both in terms of adding value to trade and creating an environment for employment and qualified entrepreneurial workforce. Based on this, types of e-commerce and definitions of entrepreneurship are discussed. The development of e-commerce in Turkey has been examined through various statistics, and moreover, the position of e-commerce in the entrepreneurship ecosystem, as well as its advantages and disadvantages, have been addressed.

**Keywords:** Digital Transformation, E-Commerce Entrepreneurship, E-Commerce.

## DIGITAL NOMADS AS PART OF THE PLATFORM ECONOMY

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### **Abstract**

In recent years, the dizzying transformation in information and communication technologies has deeply affected labor markets. Both the nature of work and the structure of employees are re-evolving to keep pace with technological transformations. In this context, along with the traditional relations between actors in labor markets, new relations that are technology-centered, more complex, and multifaceted are also emerging. The most striking and unique of these new relationships are undoubtedly digital nomads. Digital nomads, which have emerged almost independently of traditional labor market relations, have low dependence on labor markets in terms of time and space, are highly dependent on technology in terms of working styles, and have a different perspective in terms of lifestyles. In this context, the main purpose of the study is to determine the place of digital nomads in the platform economy and to evaluate which countries are preferred by digital nomads and why, in the context of Digital Nomad Index (DNI) data.

**Keywords:** Digital nomad, platform economy, gig economy, digitalization

## **EVALUATION OF LOGISTICS ACTIVITIES APPLIED IN ELECTRONIC COMMERCE IN TERMS OF SUSTAINABILITY**

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### **Abstract**

The increase in the volume of electronic commerce in recent years also causes a significant increase in logistics activities. This increase should not only be evaluated in terms of volume, but also should aim to leave a habitable environment and world to future generations while meeting today's needs. In this context, it is extremely important that the logistics activities implemented in electronic commerce are sustainable. Transportation, as one of the logistical activities, holds a significant share in electronic commerce, particularly in the delivery stage of orders. Considering that electronic commerce orders are mainly fulfilled via road transportation, issues such as carbon emissions and traffic density can be evaluated negatively in terms of sustainability. Additionally, the high rate of returns experienced in electronic commerce imposes an extra load on reverse logistics activities. The packaging and parceling activities used for product delivery are categorized as non-recyclable items, contributing negatively to sustainability. In the study, the logistics activities implemented in electronic commerce are evaluated in terms of sustainability, information is given about what kind of applications the companies are working on, and evaluations are presented about how they will contribute to the development of the process.

**Keywords:** Electronic Commerce, Logistics, Sustainability.

**MEDIATING EFFECT OF WORKPLACE PRO-ENVIRONMENTAL BEHAVIORS  
ON THE EFFECT OF INTRINSIC MOTIVATION LEVEL ON WORK  
ENGAGEMENT THE CASE OF HEALTH WORKERS**

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**Abstract**

The purpose of this study is to determine the effect of employees' intrinsic motivation levels on their job commitment and to determine whether pro-workplace environmental behaviors play a mediating role in this relationship. For this purpose, a questionnaire was applied to nurses working in the field in Erzincan Mengücek Gazi Training and Research Hospital. The population of the study consists of 1216 employees. The questionnaires were distributed to 864 employees selected from the population by simple random sampling through the human resources department representative and 374 complete and fully completed questionnaires were returned. The data obtained were analyzed and interpreted through SPSS and AMOS statistical programs. The findings revealed that the increase in intrinsic motivation of health workers significantly and positively affected their level of work engagement. It was also found that proworkplace environmental behaviors have a mediating role in the relationship between intrinsic motivation and work engagement.

**Keywords:** Intrinsic Motivation, Work Dedication, Pro-Workplace Environmental Behavior

## **THE ROLE OF MICROALGAE AS A RENEWABLE ENERGY SOURCE IN SOLVING THE CLIMATE CHANGE PHENOMENON**

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### **Abstract**

Climate change can be defined as the impact on the climate of activities that cause large amounts of greenhouse gas emissions, such as industrialization, use of fossil fuels, and deforestation, which cause global warming. As a result of the climate change phenomenon, the world's surface temperature has increased by approximately 1.01°C, events such as melting of ice masses in Antarctica, sea level rise, different natural disasters and drought have begun to occur more frequently. Microalgae are photosynthetic organisms that can be eukaryotic or prokaryotic, unicellular or multicellular, and can be found in fresh and marine water and in very extreme habitats. Microalgae convert atmospheric inorganic carbon into organic carbon biomass through photosynthesis. They have valuable secondary metabolites such as proteins, carbohydrates, lipids, vitamins and minerals in most of their biomass. They form the basis of aquatic food chains, contribute to climate regulation through carbon dioxide absorption, and support biodiversity. Increasing consumption of fossil fuels following rapid population growth and technological development causes not only a decrease in resources but also a serious deterioration of the natural environment and global warming. As a result, there is an urgent need to develop new clean energy sources to replace fossil fuels. The concept of third generation biodiesel refers to the production of microalgae that produce lipids through carbon fixation during photosynthesis and have high lipid yield. Microalgae are considered the most suitable alternative feedstock for biodiesel production due to their short growth cycle, high yield and effective carbon fixation.

**Keywords:** Microalgae, Climate Change, Global Warming, Biodiesel.

## ECONOMIC GROWTH AND CLIMATE CHANGE: GRANGER CAUSALITY ANALYSIS APPROACH

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### ABSTRACT

Many scientific studies have confirmed that climate changes caused by the addition of greenhouse gases to the atmosphere through the burning of fossil fuels and the use of land are directly or indirectly attributed to human activity that are changing the composition of the global atmosphere. Economic growth, since the Industrial Revolution, has generally been associated with increased greenhouse gas emissions. For this reason, a transition from fossil fuel-based energy sources to low-carbon energy sources can help maintain the same or even higher levels of production while reducing emissions, thereby enabling growth to be decoupled from emissions. Economic growth presents the rate of change of domestic production, or real gross domestic product.

The main aim of the paper is to define, describe and analyze the causal relationship between economic growth and climate change in the Republic of North Macedonia. In order to examine the relationship between economic growth and climate change in the Republic of North Macedonia, the ARDL (Autoregressive Distributed Lag) technique and Granger Causality analysis have been applied for the period 1991-2020. The results imply climate change as a statistically proven factor to substantially affect the economy of the Republic of North Macedonia in the long term. As a developing country, Republic of North Macedonia has adopted policies and strategies to be implemented, bearing in mind the evident role of climate change as a potential damaging factor, therefore climate change can be highlighted as an integral component that must be taken into consideration during planning, design and implementation of development activities.

**Keywords:** *Economic growth, climate changes, developing economies, Granger causality, CO<sub>2</sub>*

**JEL classification:** Q1, O44, Q5, Q54

## **GREEN MANAGEMENT AND PUBLIC ADMINISTRATION: A NEW FIELD FOR IMPLEMENTATION?**

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### **Abstract**

Defined as using innovation to achieve sustainability, waste reduction, social responsibility, and a competitive advantage across the entire organization through ongoing learning and development and the adoption of environmental goals and strategies that are completely integrated with the organization's goals and strategies, green management has grown in popularity over time as a management concept reflecting of sustainable development. Other social science disciplines have adopted concepts from the management discipline, such as empowerment. Based on this finding, the purpose of this research is to ascertain if public administration now employs the green management concept. In order to achieve this goal, the study will first disclose numerous definitions and components of the idea of green management by an extensive review of the literature. After a brief discussion of the new public management approach and its guiding principles, the annual activity reports of Turkey's three metropolitan municipalities—Istanbul, Ankara, and Izmir—which have been major players influencing the Turkish economy over the past ten years will be scrutinized to determine the degree to which this concept and its constituent parts have been put into practice. The study intends to offer a modest contribution to the literature on both public administration and green management, given the paucity of studies in this area.

**Keywords:** Green Management, Public Administration, Metropolitan Municipalities

## THE INTERNET OF BEHAVIOR IN HOSPITALITY SERVICES

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### **Abstract**

The Internet of Behaviour (IoB) it's a new concept derived from Internet of Things (IoT). This technology assists in analyzing the behavior of users. IoT understanding data is a means of actions, while IoB tries to disentangle the meanings underlying it. The interconnection of devices produces many new data points and extends from the Internet of things (IoT). Businesses collect information from customers through 'sharing' between connected devices, monitored through a single computer in real life. This work is brief about the IoB and its role to fulfil customer requirements. This study also identifies and discusses IoB applications for better customer services. The aggregation of use and information from IoB devices gives helpful insight into consumers' compartments, desires, and tastes, something coined as a computer network. It encompasses many devices from phones to vehicles, exercise reloads, credit cards, to everything else literally connected to the Internet. Thus, The IoB's aim is to summarize, analyze, comprehend, and respond to all forms of human behavior in a way that allows people to be tracked and interpreted using developing technology advancements and advances in machine learning algorithms.

**Keywords:** Hospitality, Internet of Behavior, Internet of Things



## **THE EFFECTS OF INNOVATION ON THE ECONOMIC GROWTH: PERSPECTIVE FROM DEVELOPING ECONOMIES**

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### **Abstract**

Main aim of this research is to analyze the impact of innovation on the economic growth in the developing economies of Western Balkans for the time spin 2013 - 2022. In this regard, it is tested how Global Innovation Index (GII), which is the dependent variable measuring the innovation by using average of two sub-indices such as Innovation Input Index (III) and Innovation Output Index (IOI) effects the GDP per capita of the economies in the region of Western Balkan for the last two decades.

Moreover, by utilizing the generalized linear models, findings found out a strong positive impact of the Global Innovation Index - GII on the economic growth for the countries of Western Balkans for the analyzed period 2013 - 2022. Moreover, having into consideration the large body of studies dealing with the similar theme and different approaches and their mixed results, this paper will contribute significantly on the empirical literature on the impact of innovation on the economic progress of developing countries.

Last but not least, it is very crucial to highlight national innovation policies of these countries should be focused on supporting innovation and its sub - indexes and pillars for promoting economic growth in their country.

**Keywords:** Innovation, Economic Growth, Generalized Linear Models, Developing Countries

## THE EFFECTS OF RENEWABLE ENERGY ON GREEN GROWTH: AN EMPIRICAL EVIDENCE FOR OECD COUNTRIES

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### **Abstract**

As the world faces with the challenges of climate change mitigation and sustainable economic development, the role of renewable energy in fostering green growth has gained a significant attention. Thus, this paper's aim is to provide empirical evidence regarding the relationship between renewable energy and green growth in OECD countries for the period 1990-2021. The research methodology consists of panel regression analysis based on static and dynamic models. The empirical analysis reveals several key findings. Firstly, renewable energy investments have been shown to stimulate economic growth. Secondly, the transition towards renewable energy sources has contributed to the reduction of CO<sub>2</sub> emissions and mitigated environmental degradation, thereby promoting sustainable development. Thirdly, the deployment of renewable energy technologies has led to improvements in public health outcomes by reducing air pollution and enhancing access to clean energy services. However, the empirical evidence also underscores that the effectiveness of renewable energy investments and regulatory frameworks in driving green growth varies across countries, highlighting the importance of country-specific approaches and policy coherence.

**Keywords:** Renewable Energy, Green Growth, CO<sub>2</sub> Emissions, Sustainable Development  
OECD

## **THE IMPACT OF RENEWABLE ENERGY CONSUMPTION AND FINANCIAL DEVELOPMENT ON CARBON EMISSIONS IN SELECTED EUROPEAN COUNTRIES**

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### **Abstract**

In the Sustainable Development Goals (SDGs) set by the United Nations, combating global warming and limiting global temperature increases to 1.5°C are critical objectives, where renewable energy and financial development are believed to play pivotal roles. The prominence of sustainable development in European Union (EU) countries has led researchers to scrutinize the extensive interactions among sustainable development indicators. To this end, this study investigates how financial development, renewable energy consumption, and economic growth contribute to environmental protection by examining the top 10 European countries with the highest carbon emissions values. The impact of financial development, renewable energy consumption, and economic growth on carbon emissions during the period from 2000 to 2021 is analyzed using the Westerlund (2007) cointegration test and CCE MG estimators. The results indicate that all variables are cointegrated in the long run, with renewable energy having a negative effect on environmental degradation and financial development exerting a positive impact. Additionally, according to the Dumitrescu and Hurlin (D-H) causality test, financial development increases CO<sub>2</sub> emissions while renewable energy consumption reduces them. These findings obtained indicated that it could have significant implications for achieving sustainable development goals and in terms of environmental policy in European countries.

**Keywords:** Carbon Emissions, Renewable Energy, Financial Development, Panel Data

## THE RELATIONSHIP BETWEEN ATYPICAL EMPLOYMENT AND JOB INSECURITY: A QUALITATIVE STUDY ON MOTORCYCLE COURIERS

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### **Abstract**

One of the main factors in increasing job insecurity is that employers want to reduce labor costs to increase their profits. Therefore, employers employ workers with low wages, flexible working conditions, and temporary employment contracts. This causes job insecurity to increase. These situations cause workers to suffer material and moral harm. While job insecurity lowers workers' living standards, it also affects economic growth. While job insecurity causes workers to work in precarious conditions, it also negatively affects the competitiveness of businesses. Therefore, combating job insecurity and ensuring job security is important for both workers and businesses. This thesis examines the effects of atypical employment types, especially on motor couriers. Issues such as job insecurity, low wages, working hours, working conditions, occupational safety, and health significantly affect the daily working lives of motorcycle couriers. This research aims to examine in depth the working conditions, job insecurity, and atypical employment types of motor couriers, to reveal the problems on these issues and to offer suggestions. The thesis presents the results of the qualitative research conducted with motor couriers and discusses the effects of atypical employment types on job security and working life. This research aims to contribute to the understanding of the negative effects of atypical employment forms.

**Keywords:** Motorcycle Couriers, Non-Standard Employment, Job Security, Job Insecurity

## **POVERTY OUTLOOK OF INTERNATIONAL STUDENTS**

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### **Abstract**

The number of international students in Turkey increases every year as a result of the strategies implemented and decisions made by the Council of Higher Education. International students, with their short-term immigrant qualifications, may be in a disadvantaged group and may experience cultural, social and economic problems. In this context, the study aims to measure the poverty level of international university students in general and to reveal their socioeconomic status. The study was carried out using the literature review method. A literature review is a critical analysis and synthesis of previously conducted academic and scientific research on a particular topic. A literature review provides an overview of the current state of knowledge, as well as identifying gaps, highlighting important findings in the literature, and providing new ideas on the topic under investigation. With this study, it will be possible to reveal the role of socio-economic factors in the adaptation process of students and the poverty outlook of students. Moreover, a comparison can be made between international students and other students. As a result, policy recommendations can be made that will facilitate the integration processes of international students who begin or continue their education in Turkey and improve their socio-economic situations.

**Keywords:** Poverty, International Students, Disadvantaged Groups, Migration

## THE EFFECTS OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES ON MARKETING

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### **Abstract**

With the transformation brought about by Industry 4.0 in economies, the importance of technological tools and processes has increased significantly across all sectors. Technologies such as artificial intelligence, Internet of Things (IoT), and additive manufacturing, which are highlighted more prominently by the Industry 4.0 paradigm, have also influenced companies' strategic processes, leading to the necessity for each company to position itself as a technology company. Within this rapid technological change and transformation, "artificial intelligence" has taken center stage in the marketing strategies of sectors and companies. Artificial intelligence has exerted significant effects on marketing and has become an important tool for coping with the increasing complexity of the competitive environment in marketing. Unlike traditional marketing methods, artificial intelligence offers valuable opportunities for marketers, such as better understanding and analyzing customer behaviours, delivering personalized content and experiences, and assisting in identifying trends and making predictions to reach the target audience more effectively and consistently. In line with these developments, companies have begun to adopt AI-based solutions, restructuring and optimizing their marketing strategies. This technology also has a significant impact on practices such as retargeting and programmatic advertising within the marketing process. Additionally, with the advancement of technology, artificial intelligence fosters growth and development in areas such as mobile marketing and mobile advertising.

This study discusses the effects of artificial intelligence technologies on marketing and potential opportunities for development.

**Keywords:** Artificial Intelligence, Industry 4.0, Marketing

## **HOW DO SUSTAINABLE ENTREPRENEURSHIP PRACTICES IMPACT SUSTAINABLE CONSUMPTION BEHAVIOR?**

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### **Abstract**

The increasing prevalence of sustainable entrepreneurship practices in developing countries is essential in encouraging consumers to adopt sustainable consumption. The growing importance of sustainable consumption has directed businesses, researchers, practitioners, and policymakers toward analyzing eco-friendly products and ecological, economic, and social behaviors. Therefore, this research examines the impact of businesses' sustainable entrepreneurship practices on consumers' sustainable consumption behavior. The data for the research was obtained through an online survey of 365 participants in Turkey, which is categorized as a developing country. A convenience sampling technique was adopted for participant selection, including individuals aged 18 and above in the research sample. In the descriptive statistics utilized for data analysis, frequency, and percentage (%) distributions were employed, while Confirmatory Factor Analysis and Structural Equation Modeling (SEM) were utilized in the inferential statistics. The results indicate that eco-friendly, social solidarity, and energy-saving practices, which constitute businesses' sustainable entrepreneurship practices, statistically affect consumers' sustainable consumption behavior. The statistically significant impact of such practices on consumers implies their effectiveness in achieving sustainability goals and suggests consumers' inclination towards adopting such behaviors. Furthermore, these findings highlight that businesses' sustainability-oriented practices have both environmental and social impacts and can alter consumers' shopping behaviors by considering these impacts. This situation suggests businesses could find significant motivation to develop sustainability strategies and take steps in this direction.

**Keywords:** Sustainable Entrepreneurship Practices, Sustainable Consumption Behavior.

## ANALYSIS OF THE RELATIONSHIP BETWEEN COMMERCIAL LOANS AND FIXED CAPITAL INVESTMENTS: TÜRKİYE EXAMPLE

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### **Abstract**

Many financial tools are possible that is applied for use to meet financing needs for various purposes like maintaining production and increasing investments by firms which are the main driving force of the economy. Loans are among the fastest financial tools that can be shaped according to demands of the companies. Investments that directs the economy by impressing many macroeconomic elements such as employment, growth and exports in the country's economy. In this study, the relationship between commercial loans provided by banks and fixed capital investments in the Turkish economy is analysed in real terms on a quarterly basis between 2006 and 2023 (including the third quarter of 2023). According to results of econometric model where Engle-Granger cointegration analysis is applied, it is determined that there is a causality relationship from commercial loans to fixed capital investments in the short term and long term, and there is no relationship from fixed capital investments to commercial loans in both periods. It is concluded that 1% increase in commercial loans increase fixed capital investments by 0.388% in the long term. Assuming commercial loans and all other variables are constant, it is concluded that fixed capital investments increase by 10.948 unit. It is concluded that 56% of the short term imbalances from commercial loans to fixed capital investments are corrected in the first period (the first 3 months), and the total imbalances are corrected approximately after 5 months and reach long term balance.

**Keywords:** Turkish Economy, Commercial Loans, Fixed Capital Investments, Engle-Granger Cointegration Analysis.



## CONVERGENCE OF RANDOM OPERATORS TO A COMMON FIXED POINT

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### **Abstract**

In this paper, we define a new type of iteration. This iteration method converges faster than other iterations. Strong convergence theorems have been stated and proven by this iteration method. Our results extend to findings in the literature.

**Keywords:** Random Operators, Seperable Banach Spaces, Random Fixed Point

## THE CHANGING COMPETITION POLICIES IN TRANSITION TO CIRCULAR ECONOMY

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### **Abstract**

When considering the beginning from the Industrial Era, spanning approximately 300 years during which the 'Linear Economy' prevailed, the concept of competition evolved and developed continuously in both economic theory and practical applications at the level of business, industry, or nation.

While the Circular Economy, accelerated by the transformation brought about by the climate crisis, is increasingly becoming widespread conceptually, there are still many paths to be taken in practice. In the environment of the Circular Economy, where the scope and severe consequences of the climate crisis are constantly elevated, sectoral standards are still forming and settling, and practices, policies, and legal regulations regulating economic activities are still in transition, the issue of competition has also been subject to similar uncertainties.

The transition from a more 'growth'-oriented linear economic structure to a more 'environment'- focused circular economic structure will undoubtedly change the concept of competition in all its dimensions. The circular economy, based on resource efficiency, material retention and reuse, zero waste, and zero carbon emissions, will lead to different incentives, dynamics, and business models than traditional linear economic systems. Therefore, the compatibility of existing competition laws and policies with the new paradigm and the regulations to be enacted will become important.

**Keywords:** Circular Economy, Competition, EU Competition Policy, Climate Crisis

## **GREEN SYNTHESIS OF METAL NANOPARTICLES AND THEIR MEDICINAL APPLICATION IN TREATMENT OF CANCER**

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### **Abstract**

Study of nanoparticles has attracted the immense attention of researchers because of their wide applications in the medicine, chemical industries, and biotechnology. This paper highlights that plants and microbes can be a source of bio-compounds in nanoparticle synthesis in place of toxic chemicals. As this is an environmentally friendly approach following the principles of green synthesis which is cheap and is not toxic. Both sources provide antioxidant, anticancer, and antimicrobial properties which hold great importance in the manufacturing of NPs. This review aims to bring together the diversity of synthesized metallic nanoparticles mediated by plant extracts, fungi, algae, bacteria, and yeasts. All the mentioned bio-resources contain biomolecule which includes protein and enzyme which serves the twin action of both reduction and capping of the synthesized nanoparticles. The synthesized NPs are characterized by using UV-visible spectrometry, FT-IR, XRD, TEM, SEM and EDX. Also, the biomedical application of the synthesized NPs is explored in the treatment of cancer.

**Keywords:** Metal Nanoparticles, Green Synthesis, Medicinal Application, Cancer Treatment

## **ARTIFICIAL INTELLIGENCE IN DIGITAL MARKETING: A BIBLIOMETRIC ANALYSIS**

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### **ABSTRACT**

The digital age brought alternative ways for consumers to do their everyday tasks. Searching for information, sharing opinions, and buying products is now easier than ever. However, technological advancements and digital transformation drastically altered consumer behavior and marketing activities. In order to satisfy consumers' needs and wants better and more effectively, companies increasingly use digital marketing tools. This shift from traditional marketing methods to modern marketing techniques is growing momentum in using digital technologies such as artificial intelligence. A literature review reveals increasing studies covering artificial intelligence in digital marketing. Therefore, this study aims to analyze this field's thematic evolution and identify trends and patterns in artificial intelligence in digital marketing. With this purpose, a bibliometric analysis was conducted on articles written in English and published in SSCI and SCI-E-indexed journals in the Web of Science database. This study comprehensively investigates research in this field, visualizes the literature through a scientific mapping approach, and intends to shed light on future studies conducted in this research area.

**Keywords:** Digital Marketing, Artificial Intelligence, Bibliometric Analysis, Scientific Mapping

## **SUSTAINABLE ECONOMY WITHIN THE FRAMEWORK OF THE CHANGING NATURE OF PUBLIC ADMINISTRATION**

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### **ABSTRACT**

Sustainability, a technical term, is a functional and versatile conceptualization that developed in the last quarter of the 20th century but gained its central position in the modern world of the 21st century.

The concept of sustainability, which was used for the first time in the report titled "Limits to Growth" written by Dennis and Donella Meadows with a group of scientists, has created a widespread area of activity and a complex socio-economic and political network interaction.

It is observed that deep and long-term processes such as economic development, circular economy, development and growth are being tried to be included within the scope of a dynamic ecosystem with the concept of sustainability.

The proposal to complement model building for the use of economic resources and an inclusive growth concept with an eco-political culture that respects the environment, rather than being an end in itself, is presented as a necessity for a sustainable market perception.

A technical, social and administrative organization in which dramatic, depressive and sudden collapses do not occur, basic living needs are met regularly, and no retrospective costs are imposed on subsequent generations have been highlighted as the basic principles for a sustainable economic approach.

Success in attributing a sustainable quality to economic life requires the management apparatus to adapt similar technical elements to its own structure. For this purpose, the New Public Management (N.P.M.) approach, which has been developed since the 1990s, includes privatization, flexible employment, market security, efficient, effective and result-oriented management design, bringing together product and service quality with performance criteria and shifting from management to governance model. Modern administrative values, including the principles of ensuring transition, need to be complemented with a different management perspective.

This managerial focus is based on combining the Weberian State model, which was aimed to be overcome with the New Public Management (N.P.M.) criticism that it produced unnecessary bureaucracy and inefficiency, with new principles in a mixed structure. Neo-Weberian State (N.W.S.) has been introduced to the management literature as a conciliatory and broad-participation option for this type of synthetic administrative structure.

Social equality, justice, administrative accountability reconciled with commitment to the democratic political regime, expansion of the field of political participation, promotion of

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<sup>1</sup>Tirana Education Attaché  
PhD (C)

private-public partnerships within a rational framework, testing public expenditures with their outputs and sensitivity to the environment are the technical parameters of this new mixed management plane.

Considering that economic sustainability operates on a set of values that are based on a presupposition for structurally healthy development and growth, public administration, defined as the formulation and implementation of public policy, needs to create an optimum administrative capacity to make a parallel system of principles a harmonious and integrative part of this goal.

The Neo-Weberian State's perspective of bringing together the environment, human element, production factors and administrative principles with the idea of social justice and equality for effective management can also create an inspiring total effect for sustainable economic models. This means that the concept of sustainability, defined by environmental and social dimensions, will be supported by management technology.

**Key Words:** Sustainability, Sustainable Economy, Environmental Impact, New Public Management, Neo-Weberian State.

## **CHANGE IN THE EUROPEAN UNION'S CYBER SECURITY POLICIES: FROM DEFENSIVE TO PROACTIVE APPROACH**

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### **Abstract**

Today, the digital sector is increasingly vulnerable to cybersecurity threats due to the rapid development of transport, information and communication technologies as a result of globalisation. The economy, communication systems, finance, energy, healthcare, and logistics sectors are among the most vulnerable areas to cyber attacks. The cyber-attacks that targeted Estonia in 2007 marked a significant turning point in the European Union's approach to cyber threats and the policies implemented to combat these threats. During the economical phase of European integration, cyber security regulations were limited to ensuring the security of the economic integration area. However, due to the increasing number of cyber attacks worldwide, including against some EU member states, the EU Commission published the Cyber Security Strategy in 2013. The strategy aims to strengthen Europe's ability to resist hybrid attacks. It outlines a common foreign policy stance that is not only defensive, but also aims to progressively reduce threats in this area. The study aims to evaluate the shift in the EU's cyber security policies from a defensive to a proactive direction. The changes in the cyber field are primarily caused by the reinterpretation of cyber security threats and the development of new strategic approaches based on the new understanding of security; in addition to the diversification of sectors and actors exposed to cyber threats and effective in ensuring cyber security, the compatibility/incompatibility between the cyber security policies developed by EU Member States at national level and the general policy of the EU will be examined.

**Keywords:** Cybersecurity, European Union, Resilience

## GREEN TRANSFORMATION AS A DRIVING FORCE FOR EXPORTS

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### Abstract

The industrial revolution led to a rapid increase in production volumes and population growth. This resulted in increased consumption, depletion of natural resources, and environmental pollution. The concept of sustainability, which aims to meet the needs of the present without compromising the needs of future generations, has been compromised as a result. International organizations with significant global and regional influence, such as the United Nations (UN) and the European Union (EU), have introduced green product lists to promote international commercial activities that align with sustainability. This encourages countries to trade relevant products sustainably. Failure to comply with these standards results in high import taxes, creating a sanction system. From this perspective, the identification and trade of green products have significant impacts on the foreign trade potential of countries. The EU's emphasis on sustainability in global trade of green products and the fact that nearly half of Turkey's foreign trade is with EU countries have heightened the significance of green exports. This study aims to analyze foreign trade data to reveal the significance of green transformation in Turkey's exports.

**Keywords:** Export, Green Transformation, Green Export, Green Economy, Import-Export Analysis.



## **QUANTIFYING THE LINK: ASSESSING THE RELATIONSHIP BETWEEN DIGITAL ECONOMY AND SOCIETY INDEX AND QUALITY OF LIFE INDEX**

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### **Abstract**

This research focused on the impact of the Digital Economy and Society Index (DESI) on the Quality of Life Index (QoLI) in 27 European countries for the latest data of 2022. For the research, the Digital Economy and Society Index was measured with 4 sub-dimensions. These were “connectivity”, “digital public services”, “human capital” and “integration of digital technology”. The data comes from the European Commission. And the Quality of Life Index was measured with 8 sub-dimensions. These included the “purchasing power index”, the “safety index”, the “health care index”, the “cost of living index”, the “property price to income ratio”, the “traffic commute time index”, the “pollution index”, the “climate index” and a data set from Numbeo. The analyzes were conducted using SmartPLS 4 and the results showed that the digital economy and society index increases the quality of life index for the 27 EU countries for the year 2022 ( $b=0.80$ ;  $t=13.61$ ). According to the results, the digital economy and society indicators can be an effective strategy to increase the quality of life in European countries.

**Keywords:** Digital Economy and Society Index, Quality of Life Index, SmartPLS

## COMPARATIVE ANALYSIS OF THE EUROPEAN UNION AND TÜRKİYE WITHIN THE FRAMEWORK OF THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

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### Abstract

Sustainable Development (SD) is a development model that envisages the balanced consumption of the world's natural resources, enables today's modern societies to progress on the path of economic development and prosperity, as well as considers the right of future generations to benefit, and takes into account social and environmental impacts as well as economic concerns. This model has been concretized by the United Nations (UN) by setting 17 goals and 169 targets for 2030. Thus, a development model that can be implemented politically and economically by the European Union (EU), a supranational structure as well as all national states, has emerged. In this context, in the study, the policy and implementation results developed by the EU and Türkiye within the framework of the Sustainable Development Goals (SDGs) were analyzed by comparing them with current data in the context of selected SDGs. The analysis is important to see the level of compliance in the policies that Türkiye will implement to achieve the SDGs, which that is a candidate country for the EU which that has initiated a green transformation for an environmentally friendly and circular economy with both the SDGs and the European Green Deal. Because Türkiye's degree of compliance and level of achievement of the goals can create a positive impact for EU membership. Therefore, the aim of the study is; As of the current situation, it is to determine and analyze the degree of convergence and harmony between Türkiye and the EU in terms of the UN 2030 targets. As a result of the study; It has been understood that Türkiye, an EU candidate country, differs negatively from the EU average - excluding exceptions - according to the selected SDG indicators compared, and that the gap between it and the best-performing member country has widened exponentially, and this situation cannot have a positive impact on the membership negotiations.

**Keywords:** Sustainable Development Goals, European Union, Türkiye

**COMPARATIVE STUDY OF SUSTAINABLE DEVELOPMENT GOALS AND  
FINANCIAL DEVELOPMENT RANKINGS IN EUROPEAN UNION COUNTRIES  
AND TÜRKİYE: AN ANALYSIS USING COPRAS AND GRANGER CAUSALITY  
METHODS**

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**Abstract**

The main aim of this research is to analyze the interrelationships between the Sustainable Development Goals Index (SDG) and the Financial Development Index (FDI) within EU member countries and Türkiye using two distinct analytical approaches: the Complex Proportional Assessment (COPRAS) method and the Granger causality test.

Initially, the COPRAS method is utilized as a multi criteria decision-making (MCDM) technique to assess and rank EU countries and Türkiye based on subdimensions of SDG and FDI, respectively. By examining the relationship between the rankings obtained from the SDG and FDI subdimensions through the COPRAS method, this study aims to identify key correlations and divergences between sustainable development and financial development across EU countries and Türkiye. This analysis seeks to uncover whether the EU countries and Türkiye that perform well in sustainability also excel in financial development, or if these dimensions evolve independently.

The finding of the high correlation between the SDG and FDI rankings of EU countries and Türkiye indicates that advancements in financial development effectively support sustainability efforts, and that EU policies are successfully integrated, enhancing both financial and ecological goals. This finding guides policymakers in further optimizing strategies that balance financial development with sustainability, offering a model for strategic alignment and predictive planning across the EU. Additionally, this high correlation highlights the potential for EU countries to use insights from one domain to anticipate and enhance outcomes in the other, affirming the effectiveness of dual-focus policy frameworks.

The second part of this study investigates the causal relationships between the subdimensions of the SDG and the FDI within the EU and Türkiye using the Granger causality test. This analysis seeks to identify directional influences between specific metrics of financial development and sustainable development, assessing whether advancements in one area can predict improvements in another. By determining the presence of Granger causality, this research sheds light on the dynamic interactions between financial development and sustainable development objectives. The findings support policymakers in pinpointing strategic interventions where financial development could significantly enhance sustainability outcomes or vice versa. Ultimately, this study contributes to the ongoing discussion on policy integration and effectiveness, demonstrating how targeted sustainable strategies can bolster broader financial development goals in the EU.

**Keywords:** Sustainable Development Index, Financial Development Index, COPRAS Method.

## EVALUATION OF E-COMMERCE IN TURKEY'S DIGITALIZATION PROCESS

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### **Abstract**

The world is going through a period of serious disruptions due to the influence of globalization. Digital transformation, which is described as a technological revolution, brings with it some uncertainties for all countries. Countries take all these uncertainties into consideration when determining their economic policies. Digital Economy is one of the important variables that need to be evaluated in order to keep up with digitalization in general. Digital economy, also known as internet economy, new economy, WEB economy, is defined as doing business through WEB-based markets using the internet and computer technologies. Along with the increase in internet use, the widespread use of smart mobile devices and the parallel increase in the use of social media have added a new value to the digital economy globally. Technological tools, whose use has become widespread, have also led to changes in production methods and consumption patterns. Countries that successfully use artificial intelligence, autonomous vehicles, data analytics, internet of things and cloud technologies have improved their competitiveness by increasing their market shares.

BETAM created the Türkiye Digital Society Index (TDTE) covering the period 2004-2021 using data from 138 countries. TUBİSAD, on the other hand, created the Turkey Digital Transformation Index for the years 2019-2022 with four sub-components and sixteen sub-dimensions to evaluate Turkey's digital transformation process. In Turkey's digitalization process, e-commerce indicators that increase year by year, as well as the Turkey Digital Society Index and Digital Transformation Index, are also important. E-commerce development has a significant share in GDP, and the sale of products and services online is developing in parallel with the development of digital technologies.

In this study, using qualitative data analysis, the adaptation process to the digital economy will be discussed with Turkey Digital Society Index and Turkey Digital Transformation Index data, and the situation of purchasing goods and services from the internet between the specified years will be evaluated.

**Keywords:** Digitalization, Digital Index, E-Commerce

## FRACTIONAL INTEGRATION, DIFFERENTIATION AND JACOBI TRANSFORMATIONS OF THE GENERALIZED Y-FUNCTION

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### **Abstract**

The aim of this article to establish the generalized Y-function by using Saigo fractional integration and differentiation operators. Corresponding assertions in terms of Riemann-Liouville and Erdelyi-Kober fractional derivatives are also presented. Further we also derived integral transforms like Laplace transform and Euler's beta transform of the generalized Y-function.

**Keywords:** Fractional Calculus Operators; Genralized Y-Function; Erdelyi-Kober Operator; Saigo Operator, Integral Transform

## **AN EVALUATION ON THE EFFECTS OF INNOVATION ON THE PERFORMANCE OF EXPORT COMPANIES**

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### **Abstract**

For exporting companies, strategies to penetrate in international markets, reaching higher trade volumes and profit rates, and having a long term existence in global markets have become much more technology and innovation focused than in the past. In today's global competitive environment, working harder, reaching higher trade volumes by cheaper price strategies or engaging in more marketing activities is not enough to increase profits and deepen in the sector. The technological revolution and technological innovations which had initiated in 1990s, provided an opportunity of new strategies and models in all areas of business life. R&D studies and innovation have become increasingly critical in increasing the global competitiveness of exporting companies. Developing new products and services and providing differentiation from competing products and services contribute to the development of the share of exporting companies on a micro scale and the competitiveness of their countries in the global economy on a macro scale. Indeed, the products exported by companies and countries that focus on innovation and R&D activities have higher added value and competitiveness because they contain higher technology and innovation. This divergence allows these firms and countries to achieve higher levels of export performance.

In this study, the value addition and advantages provided by innovation and R&D activities to exporting companies and their effects on export performance will be discussed. In this context, the performances of companies that focus on innovation will be analyzed comparatively based on data obtained from various institutions. In the study, some policy recommendation will be put forth for the export companies and governments to incorporate more innovation and R&D in their production and trading processes.

**Keywords:** Export Companies, Innovation, R&D

## FOOD SYSTEM AND ENVIRONMENTAL FOOTPRINT

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### Abstract

Food systems have significant environmental footprints, leading to unsustainable exploitation of natural features and environmental degradation. It is widely used to assess global environmental pressures, such as greenhouse gas emissions, water pollution and biodiversity loss, and the environmental impacts of food systems. Environmental impacts occur at different stages of the supply chain. It creates environmental impacts at every stage: production, processing, consumption and waste. Increasing food demand with population growth and the externalities created by food systems increase the effects of global food systems on the environment.

Therefore, this situation has a negative impact on global warming, which is one of the sustainable development goals. To eliminate these impacts, not only agricultural producers but also other supply chain actors, consumers and policy makers need to be mobilized.

It is necessary to reduce the costs of green technologies with financial support, to make them accessible and more usable, and to develop policies that can minimize external costs at every stage in the food supply chain. This study examines the environmental impacts of food systems.

**Keywords:** Food System, Footprint, Global Warming, Sustainable



## **GREEN TRANSFORMATION FOR SUSTAINABLE DEVELOPMENT**

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### **Abstract**

In recent years, India has emerged as a frontrunner in the global pursuit of sustainable development, propelled by a concerted effort towards green transformation across various sectors of the economy. This abstract provides a comprehensive overview of India's initiatives aimed at fostering environmental sustainability and addressing climate change challenges through a paradigm shift towards green practices. India's green transformation encompasses multifaceted strategies spanning renewable energy deployment, afforestation programs, sustainable urban development, and innovative policies promoting eco-friendly practices in industries. Notably, the country has made significant strides in the adoption of renewable energy sources, with ambitious targets set for solar and wind power generation. Furthermore, India's commitment to afforestation and biodiversity conservation has been underscored by ambitious reforestation initiatives like the Green India Mission and the National Afforestation Programme. These endeavors not only contribute to carbon sequestration but also enhance ecosystem resilience and support biodiversity conservation efforts. In urban areas, sustainable development practices are being mainstreamed through initiatives like the Smart Cities Mission, which promote resource-efficient infrastructure, waste management systems, and green transportation solutions. Additionally, regulatory frameworks such as the Energy Conservation Act and the National Clean Air Programme aim to mitigate environmental pollution and enhance energy efficiency across industries. In conclusion, India's journey towards green transformation reflects a holistic approach to sustainable development, driven by ambitious targets, innovative policies, and collaborative partnerships.

**Keywords:** Sustainable Development, Green Transformation, Innovative Policies

## A RELIABLE COMPUTING HEURISTIC APPROACH FOR THE BIOLOGICAL DIFFERENTIAL SYSTEMS

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### **Abstract**

The current work presents the solutions of the nonlinear biological models by implementing a reliable stochastic computing schemes. These studies are not presented to solve the dynamical systems only but the extended form of the biological models is also investigated through the competent designed solver. A Morlet wavelet function is designed based neural networks optimized along with reliable global and local search approaches. The particle swarm optimization scheme is applied as a global search technique, whereas the interior point algorithm or Nelder Mead are applied as a local search process. The achieved performances have been accomplished implementing the combination of global/local search techniques. The results comparison based on the exact and proposed solutions are provided in order to check the correctness of the solver. For the efficiency of the designed stochastic solver, the plots of absolute error are derived to solve the biological system. For the constancy of the proposed solver, the statistical mean square error, root mean square error, semi-interquartile ranges are derived through multiple operations to present the numerical solutions of the dynamical systems.

**Keywords:** Biological Systems, Global and Local Search Techniques, Hybrid Combination, Statistical Indices, Numerical Results

## **DOES ARTIFICIAL INTELLIGENCE HYPE LEAD NASDAQ AND BIST INDICES IN THE TECHNOLOGY SECTOR TO DOT-COM MANIA?**

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### **Abstract**

Technology, which is in a cycle of continuous change and innovation with the industrial revolution, is now in big data, smart cities and logistics, robotic systems, etc. with different usage tools. It continues its existence with artificial intelligence-focused technological innovations. Technology-based indices in financial markets are also attracting increasing attention. In this study, referring to the dot-com bubble, bubble assets in the technology sector indices for the USA and Turkey were investigated with the GSADF test with 1301-day observation values for the period 01.01.2019-29.02.2024. According to the findings of the study, no bubble was found in the NDXT index within NASDAQ at the 5% significance level. However, considering the study period in the XUTEK index within BIST, the presence of 5 bubbles at the 1%, 5%, and 10% significance levels indicates the presence of a statistically explosive unit root. While the longest-lasting bubble existence was 115 days, the bubble created on December 28, 2023, continues to exist. Moreover, it has been observed that the graphs of NASDAQ in the period leading up to the dot-com bubble and the graphs of the XUTEK index during the working period are like each other. Accordingly, it can be said that the bubble phase in the XUTEK index is in the denial section of the bursting phase. It is thought that presenting the artificial intelligence mania as a bubble in BIST technology companies will be a guide for policymakers to take precautions.

**Keywords:** Dot-com, Bubble Assets, Nasdaq, Stock Market Istanbul

## DYNAMIC VOLATILITY SPILLOVER OF CRYPTOCURRENCY TYPES

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### Abstract

Cryptocurrencies, which have been included in financial markets in recent years, have a decentralized structure, high trading volume, high returns and high volatility, attract the attention of individual and professional investors as well as academics. In the researches, issues such as price movements in cryptocurrency markets, market development, investor behavior, legal regulations for the market have been examined. In this study, the relationship between the financing areas of Bitcoin, Ethereum and altcoins, which are the two main instruments of the cryptocurrency market, Analytics, Defi, Gaming, Health, Identity, Iot Coin, Logistics, Marketing, Memes Coin, Metaverse, Music, Privacy, Stablecoin, Stroge, Tourism, Wallet, Web3, NFT groups is analyzed. An index was calculated for each of the related financing areas and the data generated for eighteen groups were included in the analysis. The indices are calculated by taking into account the prices of the five cryptocurrencies with the highest trading volume in the relevant groups and their weight in the group. Diebold-Yılmaz analysis based on the vector error correction model (VECM) was conducted with data for the period 01.01.202106.03.2023. As a result of the analysis, Bitcoin is affected by 97.6% of its own shocks, Ethereum, Stablecoin variables (0.4%), Analytics, Defi, Memes Coin, Metaverse variables (0.1%), Logistics (0.7%), Marketing (0.3%), Privacy (0.2%), respectively. Ethereum is affected by its own shocks by 32.4%, while Bitcoin (65.3%) is affected by the shocks of the subcoin groups Analytics, Defi, Marketing variables (0.1%), Gaming, Logistics, Stroge, Tourism variables (0.2%), Iot Coin (0.4%), Privacy (0.6%). When the effects of the altcoin groups subject to analysis are analyzed, it is determined that while Health, Identity, Music, NFT, Stroge, Wallet, Web 3 altcoin groups are affected by shocks within themselves, there is no effect on Bitcoin and Ethereum variables.

**Keywords:** Bitcoin, Ethereum, Altcoin, Diebold-Yılmaz

## **CLASSIFICATION OF THE PROPERTIES OF DIFFERENT TOOLS USED IN MEASUREMENT AND DEVELOPMENT OF VISUOSPATIAL ABILITY**

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### **Abstract**

Visual-spatial ability is classified as perceiving the visual world accurately, making changes and transformations on the initial perception, and being able to reproduce visual experience even in the absence of physical movements. The definition of visual-comprehensive ability, identification and development of this ability is important. Different tools are used to monitor and develop visual-spatial ability. These tools used are manipulatives, materials and apparatus. For this purpose, the field of "Measurement and Development of Visual - Spatial Ability" is expanded and the information used is examined, determined and classified. For this purpose, the database was examined using the scanning method, one of the qualitative research methods, and the bibliometric analysis method was used for data analysis. In the study, while tools that can be applied by touching more students are used to demonstrate Visual-Spatial ability, it is a company that deals mostly with virtual and dynamic works to recreate Visual-Spatial ability.

**Keywords:** Visual-Spatial, Tool, Material, Manipulative, Mathematics

## ETHICAL EVALUATION OF THE RISKS OF ARTIFICIAL INTELLIGENCE IN THE FIELD OF ACCOUNTING

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### Abstract

Changes in technology have also brought changes in human life. The concept that attracted the most attention among these changes was artificial intelligence. This concept, which always remains current on the agenda, closely concerns all sectors and sector employees. According to research, artificial intelligence can take place in every field where humans are present. The field of accounting also has its share of the effects of artificial intelligence. Artificial intelligence has the potential to significantly increase the levels of economy, effectiveness and efficiency in operations thanks to technologies such as advanced learning and advanced performance techniques. Many engineers and academicians who are experts in their fields claim that artificial intelligence, which is an advanced learning method, can be smarter than the human brain, and they also point out that this advanced learning method may pose serious scientific, social and religious problems. One of the main aims of our study is to examine the possible effects of the benefits and drawbacks of new artificial intelligence applications on our economic, social and religious life. In addition, in the first part of this five-part study, a literature review is made to determine whether artificial intelligence can apply professional ethics and principles as much as a professional, and the process is examined ethically; in the second part, the reasons for the need for artificial intelligence; in the third part, the possible contributions of artificial intelligence to human life; in the fourth part, artificial intelligence is examined. In the fifth chapter, the use of artificial intelligence in accounting and the risks it will pose are examined, and suggestions are made by making evaluations on the subject.

**Keywords:** Artificial Intelligence, Accounting Ethics, Technology Risk, Robot

## **COMPARISON OF THE COSTS OF TRADITIONAL ENERGY PRODUCTION AND GREEN ENERGY PRODUCTION**

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### **Abstract**

Increasing consumption with the industrial revolution has led to a high demand for energy. In order to meet this demand, countries turned to the discovery of new energy sources and oil emerged for this purpose. Oil has been the cause of the irregularities and conflicts in the Middle East that continue even today. The oil crisis in 1971 is just one of the crises experienced due to energy needs. In order to meet the increasing energy demand, energy production from existing resources has increased, thus the damage caused by fossil fuels to both the environment and human health has begun to emerge. Scientists state that carbon and fossil fuels are the cause of the depletion in the ozone layer, which has been revealed by scientific studies in recent years and whose impact is increasingly felt day by day. Due to the effects of fossil and carbon fuels on human health and global warming, the search for energy sources that are less harmful to the environment and nature continues to increase. In this context, windmills, which are the providers of wind energy, which is called green energy today, solar energy panels that produce energy from solar energy, and hydraulic energy obtained from hot water come to the fore. These energy types attract attention as sustainable energy types that are less harmful to the environment and sensitive to human health. These energy types attract attention as sustainable energy types that are less harmful to the environment and sensitive to human health. Countries that want to move away from traditional energy production due to its negative effects on human health continue their studies in the field of green energy, and the cost of obtaining energy stands out as the biggest factor in these studies. In this context, our study, which aims to examine energy costs, consists of 5 chapters, including the comparison of the costs of traditional energy production and green energy production. In the first chapter, the concept of energy is defined and the need for energy is

explained. In the second part, the costs of traditional energy production and the difficulties experienced in obtaining it are revealed. In the third chapter, green energy, which is more environmentally friendly, is defined and the reasons for the need for green energy are emphasized. The fourth chapter focuses on the costs of green energy. In the fifth chapter, the cost differences between green energy and conventional energy production are revealed and suggestions are made on this subject.

**Keywords:** Energy, Green Energy, Sustainable Energy, Cost, Opportunity Cost



## **ELASTIC STRUCTURE OF EDUCATION DEMAND AND SUPPLY IN OECD COUNTRIES**

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### **Abstract**

When education is considered as an input for production, it is a concept that has both supply and demand. Although the calculations of education demand and education supply elasticities vary, they are generally inelastic. There are not enough studies on this subject in the literature. In our research, the education supply and demand elasticities of the member countries of the Organization for Economic Co-operation and Development (OECD) are compared and analyzed. In the study, demand and supply elasticities of education are calculated for twenty countries. While making these calculations, data on the total number of students, per capita national income, public and private expenditures on education, health expenditures and the total number of teachers are used. OECD country education and training data were taken as the sample of the study. Quantitative research method was used. The research is an explanatory study in terms of purpose. In the literature focusing on the price and income elasticities of education demand, when education prices increase, the demand for education decreases. According to the findings from the relevant study, when income increases, the demand for education decreases; In addition, the study observes differences between countries in terms of the elasticities of education demand and education supply.

**Keywords:** Education, Elasticity, Price, Substitution, Income

## ECONOMIC UNCERTAINTY AND ACCESS TO FINANCE: AN EMPIRICAL EXAMINATION ON TURKISH SMES<sup>1</sup>

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### **Abstract**

Both in developed and developing countries, Small and Medium-Sized Enterprises (SMEs) are among the most important economic actors and key determinants of growth. Although access to finance for SMEs is vital to survive, they are among the most disadvantaged groups, particularly under high uncertainty conditions. The objective of the study is to determine how global and local economic uncertainty affects the access to finance of SMEs, using the TURKSTAT Company Accounts Dataset covering the periods of 2009-2022. The study considered total leverages, short-term leverages, long-term leverages, financial debts to total assets, and trade credits to total assets as proxies for the level of access to finance. The results of the fixed effects regression model show that both the global and Türkiye's economic uncertainty levels significantly and adversely impact firms' access to finance. The analysis is also conducted for sub-groups including micro, small, medium, and larger companies, revealing results remain unchanged. In addition, some firm characteristics are also analyzed, including profitability, liquidity, tangibility, sector, export rate, asset size, and employment. The study provides beneficial insights for policymakers to constitute policies for enhancing SME finance.

**Keywords:** Economic Uncertainty, Access to Finance, SMEs

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<sup>1</sup> This study is a part of an ongoing doctoral thesis by Ph.D. candidate Semih Yilmazer under the supervision of Professor Emin Avci (Ph.D.) of Social Science Institute of Marmara University in department of Accounting and Finance.

## **IS EAST ASIA PACIFIC COUNTRIES' ECONOMIC GROWTH SUSTAINABLE THROUGH ESG FACTORS?**

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### **Abstract**

East Asian countries are currently experiencing rapid economic growth. Is this growth based on ESG (Environmental, Social, and Governance) factors and aligned with sustainable practices? Therefore, this study explores the relationship between ESG indicators and economic growth in East Asia Pacific and South Asia. We utilize the FMOLS, DOLS, and AMG models to achieve this objective. Empirical findings reveal significant long-term positive effects of environmental and governance factors on economic growth. These findings underscore the multifaceted nature of ESG factors and offer valuable insights for policymakers aiming to align strategies with the Sustainable Development Goals (SDGs).

**Keyword:** Environmental, Social, Sustainable Development Goals

## THE IMPACT OF INFLATION ON THE INCREASE IN INTEREST RATES IN NORTH MACEDONIA

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The conventional view among economists is that higher interest rates lead to lower inflation. The reason behind this perspective is that higher interest rates increase the cost of borrowing and reduce demand throughout the economy, resulting in excess supply and lower inflation. In this paper, using various methods, it is confirmed that as inflation rises, short-term interest rates also increase from the central bank's side. Additionally, another crucial topic to be analyzed is the difficulty of loan repayment when interest rates are high. The lower the interest rate, the more willing people are to borrow for major purchases, such as homes or cars.

Businesses and farmers also benefit from lower interest rates, as it encourages them to make large equipment purchases due to the low cost of borrowing. This creates a situation where production and productivity increase. Conversely, higher interest rates mean that consumers have less disposable income and must cut back on spending. When higher interest rates are accompanied by stricter lending standards, banks provide fewer loans. Stricter lending standards also imply that consumers will reduce spending, which will ultimately impact the bottom line of many businesses. This paper verifies two hypotheses: that inflation affects the increase in short-term interest rates and that high interest rates for loans make it difficult for loans to be repaid.

**Keywords:** Inflation, Interest Rate, Loans, Cost off Borrowing

**THE CONTRIBUTION OF CORPORATE SOCIAL RESPONSIBILITY TO  
PERCEIVED SERVICE QUALITY AS INDICATOR OF CUSTOMER  
SATISFACTION: EVIDENCE FROM PIVARA SKOPJE COMPANY**

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**Abstract**

This project study examines the contributions and sustainability eKorts of Pivara Skopje, a prominent beverage company in North Macedonia, to the community and its initiatives in social responsibility. In the face of ongoing global and external changes, businesses, including Pivara Skopje, are challenged to adapt to new conditions driven by globalization and internationalism and because of this corporate social responsibility (CSR) has become an integral part of modern business practices, reflecting a company's commitment to sustainable development and ethical conduct. Pivara Skopje recognizes the rapid evolution of the environment and acknowledges its role and importance as one of the most successful companies in the country. The company's approach to CSR, includes environmental sustainability efforts, community engagement programs, philanthropic endeavors, including greater transparency, stakeholder engagement, and alignment with global sustainability goals. Through these initiatives, Pivara aims to create a positive impact on society, and they believe that North Macedonia has the potential to develop by relying on local resources and capacities. Focusing on local resources, the company aims to not only contribute to the economic growth of North Macedonia but also to strengthen its social fabric. Overall, this research contributes to the understanding of Pivara's inspiring journey towards responsible corporate citizenship and provides insights that can inform future CSR strategies for Pivara. Through innovative strategies and genuine dedication, this research demonstrates how businesses can succeed while making the world a better place. Keywords - Pivara Skopje, North Macedonia, corporate social responsibility (CSR), sustainability, community engagement.

**Keywords:** Pivara Skopje, North Macedonia, Corporate Social Responsibility (CSR), Sustainability, Community Engagement

**THE IMPACT OF ECONOMIC AND DEMOGRAPHIC FACTORS ON THE  
FINANCIAL SUSTAINIBILITY OF THE PENSION SYSTEM OF THE REPUBLIC  
OF NORTH MACEDONIA**

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**Abstract**

The pension system poses an ongoing challenge for lawmakers, regulators, and pension beneficiaries alike. For many developed and transitioning nations, determining the course of pension system development, as well as ensuring its structure and performance, remains a significant dilemma. Operating on the principle of intergenerational solidarity, the pension system has aimed to establish pension funds for retirees while preserving a relatively stable standard of living since its inception.

This paper seeks to illustrate the impacts of the pension system and its implications for its administration, addressing the extent to which the system ensures security in realizing pension and disability insurance rights for all generations, and its role in bolstering public trust and fostering economic growth. Through an examination of demographic and economic factors, which are pivotal in ensuring the sustainability of the pension and disability system in the Republic of North Macedonia. Through the analysis of the inflows into the Pension Fund for the period 2017-2021 and the trend of revenues or expenditures of the Pension Fund in the same period of analysis, the presented hypotheses will be examined and verified.

**Keywords:** Economic and Demographic Factors, Revenues, Expenditures, Pension System

## **THE IMPACT OF NON-PERFORMING LOANS ON THE FINANCIAL PERFORMANCE OF STOPANSKA BANKA, NORTH MACEDONIA**

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### **Abstract**

The topicality of reforms in the management of banking risk, especially in transitional economies such as the Republic of North Macedonia, with the special pretext of risk management with non-functional or problematic loans and their impact on banking performance is also the main purpose of this research. So, this research aims to analyze the role and concept of non-performing or problematic loans (loans for the population and loans for corporations) and their impact on banking performance (bank assets, total profit), namely, the impact of non-performing loans on the performance of Stopanska Banka AD Skopje during the years 2012-2022, so in order to evaluate this impact, some main indicators or variables have been structured which are the result of relevant research and are part of the conceptual framework of the research in question.

Based on the data from the financial reports of Stopanska Bank AD Skopje for the years 2012-2022 as well as the data from the financial reports for the banking system in RMV from the popular bank of RMV, with descriptive statistical analyzes as well as inferential ones (correlation and linear regression – factorial analysis) this research aims to find a correlation between the level of loans and banking performance.

The results show that there is a strong correlation between Total Assets and the level of total loans of Stopanska Banka AD Skopje, or in other words, with the increase in the level of loans, the increase in total assets in the years 2012-2022 as well as a high impact total loans are significant in the performance of Stopanska Banka AD Skopje where in particular we can single out the influence of the level of loans for corporations as more influential despite the level of loans for the population.

**Keywords:** Banking System; Non-Functional Or Problematic Loans; Credit Risk Management; Bank Capital; Banking Performance;

## EXAMINATION OF EMPLOYEES' GENERAL ATTITUDES TOWARDS ARTIFICIAL INTELLIGENCE AND MULTIFACETED LEADERSHIP ORIENTATIONS IN TERMS OF DEMOGRAPHIC VARIABLES<sup>1</sup>

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### Abstract

Artificial intelligence is rapidly becoming prevalent in all aspects of life, especially in the business world. Consequently, it is a subject of interest to explore to what extent leadership processes, which are considered crucial for businesses to achieve their goals, are influenced by employees' general attitudes towards artificial intelligence. Simultaneously, this study aims to determine how these variables differ based on employees' demographic characteristics. For this purpose, the study was conducted with 413 full-time employees using a simple random sampling method. The data were collected through an online survey tool. The study employed a quantitative research method, and the collected data were analyzed using the SPSS package program. According to the findings of the research, employees' general attitudes towards artificial intelligence and Multifaceted Leadership Orientations (MLO) do not significantly differ based on gender and education variables. However, a statistically significant difference was found in the positive attitude sub-dimension of general attitudes towards artificial intelligence based on the age variable ( $F=3.678$ ,  $p<0.006$ ). Additionally, concerning the age variable of the participants, statistically significant differences were found in MLO's structural leadership ( $F=9.375$ ,  $p<0.000$ ), political leadership ( $F=8.053$ ,  $p<0.000$ ), charismatic leadership ( $F=8.682$ ,  $p<0.000$ ), and human-oriented leadership ( $F=2.843$ ,  $p<0.000$ ) sub-dimensions. Regarding work experience and marital status variables, there was no significant difference observed in employees' general attitudes towards artificial intelligence, but there were significant differences observed among MLO. Finally, it was determined that there is a significant and positive relationship between negative attitudes towards artificial intelligence and MLO sub-dimensions, whereas no significant relationship was found between positive attitudes and structural leadership sub-dimension. Negative and significant relationships were found between political and charismatic leadership sub-dimensions, and a significant and positive relationship was found with the human-oriented leadership model.

**Keywords:** Artificial Intelligence, Leadership, Demographic Variables

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<sup>1</sup>This study was prepared based on the master's thesis titled "The Effect of Employees' General Attitudes Towards Artificial Intelligence on Leadership Processes: The Example of Bursa Province", which was carried out in the 2023-2024 academic year under the supervision of Assoc. Prof. Dr. Nihan Birincioglu.



## **THE NEXUS BETWEEN NATURAL RESOURCE EXTRACTION AND ENVIRONMENT DEGRADATION: THE CASE OF AZERBAIJAN**

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Natural resource extraction contributes significantly to the economic development of countries as an important source of national income. However, natural resource extraction also causes a significant trade-off between high export income and environmental degradation. The right to live in a healthy and sustainable environment, which is also the right of future generations, is ignored in many countries due to the significant contribution of natural resource extraction to domestic consumption and export revenues in line with economic growth and development goals. It is estimated that there are approximately 70,000 oil regions in a 100 oil producing countries and millions of people live in oil extracting regions. It is also estimated that these 100 countries currently have 1600 billion barrels of oil reserves. Oil extraction processes not only increase the number of people working in this business and the population density in these regions, but also more air, water and soil pollution due to the enlargement of towards the city centers where more people and animals live. This may cause the more hazardous effects on the environment.

The need to make a balance between environmental quality and energy export income is also important for Azerbaijan, which is one of the most important oil producing countries in the world with proven reserves of 1.5 billion tons of oil (40 billion barrels) and 2.2 trillion cubic meters of natural gas reserves. In this study, we will try to analyze the contributions of oil and natural gas production, which are the most important income sources of Azerbaijan, to the country's economy and the effects of natural resource production on the environmental quality.

**Keywords:** Republic of Azerbaijan, environmental degradation, environmental quality, natural resource extraction

## LAW ON FOREIGN DIRECT INVESTMENT: A PANEL ESTIMATION OF ECONOMIC GROWTH IN THE WESTERN BALKAN COUNTRIES

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### **Abstract**

This aims to assess FDI's effects on Western Balkan countries and analyze each nation's FDI laws. The World Bank Indicators provided the 1995-2022 data utilized for the empirical estimation. For additional econometric estimations, the study employs panel data techniques as Hausman Test, Pooled OLS, and fixed and random effect estimation. This study concludes that foreign direct investment (FDI) has a favorable influence on the economic growth of Western Balkan countries after providing a brief and extensive examination. The research findings indicate that other factors analyzed, such as savings, employment, unemployment, and gross fixed capital creation, have an effect on the economic growth of the Western Balkans. The research highlights how the fixed effect estimation, which was suggested as the most suitable model for interpretation based on the tests that were carried out, indicated that the results of the inflation and corruption were not statistically significant under the analysis circumstances. In order to encourage foreign investment into the Western Balkan countries, the report suggests enforcing laws pertaining to FDI, lowering the corruption index, and creating a friendly environment.

**Keywords:** Foreign Direct Investment, Law, Panel Data, Economic Growth

## **DIGITAL EVOLUTION: DISENTANGLE TURKEY'S BANKING TERRAIN**

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### **Abstract**

This paper presents an analytical framework to explore the evolving business model landscape within Turkey's digital banking sector. Drawing from traditional banking theories and the evolving digital transformation discourse, it sheds light on prevailing trends and forecasts the impact of innovative financial technologies on financial intermediation. It assesses strategic avenues available to incumbent banks to navigate challenges posed by shadow banking and the rise of all-digital banking entities. Central to the discussion are the pivotal functions of deposit-taking and lending within Turkey's digital banking ecosystem. By providing a structured framework, the paper aims to facilitate empirical research into the future trajectory of digital banking in Turkey. It delineates four strategic pathways for market participants: customer retention, customer acquisition, banking-as-a-service, and leveraging social media payment platforms. The paper concludes that while trust remains paramount, the role of liquidity transformation will undergo significant shifts in Turkey's digital banking landscape, ultimately reshaping the nature of banking and financial services.

**Keywords:** Digital Evolution, Banking, Turkey



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