RETHINKING GROWTH:

Strategies for Resilient Economies in Globalized World

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Rethinking Growth: Strategies for Resilient Economies in Globalized World

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PREFACE

Rethinking growth has become imperative in today's globally interconnected world to foster resilient and sustainable economies. Achieving this goal requires a multidimensional approach that accounts for the complex interplay between sustainability, digital transformation, and internationalization. Central to this endeavor are innovative management and marketing strategies, green economic development, and the crucial role of education in equipping societies to address pressing global challenges. Equally significant is the importance of collaborative action—across sectors, disciplines, and borders—to tackle the critical issues arising within an increasingly digital and interdependent environment. By promoting cross-sectoral and international cooperation, we can generate more comprehensive and effective responses to the complex problems confronting our societies.

In alignment with these objectives, the *7th Eastern European Conference of Management and Economics* (EECME 2025), titled *Rethinking Growth – Strategies for Resilient Economies in a Globalized World*, which was held on 22 May 2025 in a hybrid format at B2 Ljubljana School of Business, in cooperation with multiple co-organizing institutions, served as a platform for academic, professional, and policy-related dialogue among researchers, higher education faculty, institutional leaders, and practitioners. It provided an opportunity to critically examine the dynamic convergence of several timely and transformative themes. The discussions and contributions were structured around five central conference topics: i) Innovative Management and Marketing in the Digital Age – Redefining Strategies for Resilient Growth, ii) Navigating Economic Growth in a Green and Sustainable Economy, iii) Digital Transformation and Business Informatics – Strategies for Competitive Advantage, iv) Globalization and Internationalization – Building Resilient Economies in a Dynamic World, and v) The Role of Education – Preparing Future Leaders for Global Challenges. Scholars and professionals from more than 20 countries participated, submitting and presenting papers in both English and Slovene. This has resulted in a bilingual publication of the conference proceedings, reflecting the diversity and international scope of the event. This publication include selected papers approved for publication in proceedings, alongside other forms of EECME-related outputs.

The section INNOVATIVE MANAGEMENT AND MARKETING IN THE DIGITAL AGE – REDEFINING STRATEGIES FOR RESILIENT GROWTH brings together five contributions that collectively examine how management and marketing practices are evolving in response to digitalization, sustainability, and organizational transformation.

The article *Redefining Financial Strategies for Resilient Growth in the Digital and Sustainable Economy* highlights the integration of ESG (Environmental, Social Responsibility, and Corporate Governance) principles and green finance into financial strategies, emphasizing the potential of digital tools to improve resource efficiency and promote sustainability. The study offers practical examples of the application of these approaches in both developed and developing countries, while also identifying key challenges encountered during implementation. In their article titled *Directions for Improving Virtual Bank Marketing in Azerbaijan*, Nushaba Hajiyeva, Ayshan Mammadova, and Seymur Mammadov analyze the challenges and opportunities for improving virtual bank marketing in Azerbaijan. Drawing on international comparisons, the authors propose context-specific solutions to support the digital transformation of Azerbaijan's banking sector.

Innovative Practices in Human Resource Management: Re-Design in the Digital Age by Vesela Serafimova, Viktoria Todorova, and Valentin Vasilev investigates human resource management practices in the digital era that enhance employee motivation, improve the organizational climate, and support sustainability. The authors propose renewed conceptual frameworks that align with the capacities of digital technologies and the evolving expectations of employees. Further, Nikola Abramović and Nermin Škretović explore human resource branding in Montenegro's tourism sector. Their research suggests that employer branding, when strategically aligned with the country's cultural and natural assets, can enhance the sector's resilience and

long-term sustainability. Additionally, the article titled *Research Methodology for Staff Motivation and Values-Based Framework Within Educational Institutions* by R. Michael Cowgill presents a methodological approach for understanding staff motivation and the alignment of personal and institutional values in higher education. Drawing on extensive international experience and institutional surveys, the proposed framework reflects shifting expectations in the context of digital transformation and broader societal change.

The next section, NAVIGATING ECONOMIC GROWTH IN A GREEN AND SUSTAINABLE ECONOMY, addresses the intersection of environmental policy, sustainable development, and regional economic strategies.

The article *Circular Economy Strategies for Sustainable Land Management: PES Applications in Bovilla Watersheds*, authored by Klea Nikolla, Etleva Dashi, and Viktore Hoj, examines how circular economy principles and Payments for Ecosystem Services (PES) can jointly promote rural livelihoods and ecological resilience. Using the Bovilla Watershed in Albania as a case study, the authors illustrate the integration of conservation and economic goals through regenerative practices. Also within the Albanian context, Enea Qose, Anila Boshnjaku, and Rezart Dibra assess the country's preparedness to align its organic agriculture strategy with the European Green Deal. Drawing on insights from EU agricultural policy and local implementation challenges, the authors propose strategic measures aimed at policy harmonization, consumer education, and the development of market-based incentives to advance organic production in Albania.

Technological advancements and digital transformation form the core of the section DIGITAL TRANSFORMATION AND BUSINESS INFORMATICS: STRATEGIES FOR COMPETITIVE ADVANTAGE, featuring contributions that span topics from cybersecurity and surveillance to accounting systems and public services.

Kledia Tirana and Endri Bejleri investigate how agentic artificial intelligence (AI) can transform video surveillance practices. Their proposed model reduces the need for continuous human oversight by enabling AI to screen footage autonomously and escalate only high-risk scenarios. The study demonstrates notable cost reductions and improvements in monitoring accuracy. The article *The Effect of Digitalization in Accounting System of Azerbaijan*, authored by Narmin Hajiyeva, explores how digital tools streamline accounting processes and enhance transparency within Azerbaijan's financial reporting systems. The study emphasizes national initiatives supporting digital transition and highlights benefits such as increased efficiency, accuracy, and global competitiveness. A Slovene-language article by Mateja Gorenc and Aleksandra Grašič follows, presenting the results of a national survey on the use of e-government services in Slovenia. The findings reveal high levels of user engagement and show that trust significantly increases with the implementation of secure authentication methods such as SI-PASS and qualified digital certificates.

The global economic landscape is rapidly shifting under the influence of digital transformation, geopolitical realignments, and evolving legal frameworks. Within this context, the section GLOBALIZATION AND INTERNATIONALIZATION: BUILDING RESILIENT ECONOMIES IN A DYNAMIC WORLD includes three contributions that examine these changes and their implications for global resilience.

The article *Globalization Reconfigured: Digital Shifts Amidst Geopolitical Rifts* by Ali Yusifov explores how globalization is being reshaped by digital flows and geopolitical tensions. While traditional trade and capital movements decelerate, intangible digital exchanges are redefining global interdependence. The author advocates for structural reforms to ensure inclusive and sustained growth. Further, Endi Kalemaj and Fabian Pjetri assess Albania's corporate legal framework with a particular focus on the protection of minority shareholders. Their research identifies several legal shortcomings and calls for reforms aimed at strengthening investor confidence and corporate governance. Additionally, they present comparative insights from European countries to emphasize the benefits of enhanced protections, such as the right to appoint board members and improved dividend distribution policies.

The article *Prospects for the Development of Venture Financing in Azerbaijan*, written by Gubadova Aybeniz Enver and Suleymazada Suleyman Adalat, assesses the future of venture capital in Azerbaijan. By comparing global models with local conditions, the authors propose a comprehensive roadmap that includes legal reform, infrastructure development, and entrepreneurial education as key pillars for building a sustainable innovation ecosystem. The article also provides forecasts on how the proposed initiatives could stimulate innovation, increase the number of startups, attract investment, and reduce the country's dependence on the oil sector.

To conclude, the contributions collected in these proceedings provide a comprehensive and multidimensional perspective on how the fields of management, economics, and informatics are responding to the evolving demands of a digitally driven, environmentally constrained, and geopolitically dynamic global landscape. In alignment with the overarching theme of the 7th EECME Conference, the papers span a wide range of topics, illustrating how contemporary challenges are being addressed through innovative and strategic approaches.

From redefining financial strategies through the integration of ESG principles and green finance, to the digital transformation of marketing, human resource management, and accounting systems, the articles demonstrate how institutions are adapting to new economic paradigms. Studies on virtual banking, employer branding, and motivation in educational settings further highlight how organizations are reshaping internal cultures to foster resilience and adaptability. The proceedings also emphasize sustainability as a key pillar of future growth. This is seen in analyses of circular economy applications in land management and strategic planning for organic agriculture aligned with the European Green Deal. Contributions focused on AI in surveillance, the digitalization of public administration, and the use of e-government services demonstrate the critical role of digital technologies in improving efficiency, accessibility, and trust. At a global level, the articles address pressing issues related to internationalization, corporate governance, shareholder protection, and the reconfiguration of globalization in the context of geopolitical fragmentation and digital interdependence. The discussions on venture financing further reinforces the importance of legal and institutional frameworks in fostering innovation ecosystems and reducing reliance on traditional economic sectors.

The EECME 2025 proceedings reflect a truly international and global dialogue. They bridge local experiences with global strategies, showcasing diverse yet converging approaches to managing growth in an increasingly complex world. We are confident that the insights shared in this volume will serve as a catalyst for further research, policy development, and cross-sectoral cooperation. As societies and institutions continue to navigate uncertainty and transformation, this body of work contributes to a forward-looking, inclusive, and resilient rethinking of growth—one that is essential for building sustainable economies in a globalized world.

Katarina Aškerc Zadravec, Editor,
on behalf of the 7th EECME Committee

Innovative Management and Marketing in the Digital Age: Redefining Strategies for Resilient Growth

REDEFINING FINANCIAL STRATEGIES FOR RESILIENT GROWTH IN THE DIGITAL AND SUSTAINABLE ECONOMY

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In modern times, digital transformation and sustainable economy have become one of the important trends in the global economy. These processes require a review of financial strategies and their adaptation to sustainable development goals. The paper examines the main components of the digital economy and their impact on financial strategies. Here, special emphasis is placed on the efficient management of financial resources through the use of digital technologies, the application of green financial instruments, and the integration of ESG (Environmental, Social Responsibility and Corporate Governance) criteria in financial decisions. At the same time, the role of digitalization in ensuring sustainable development by having a positive impact on resource efficiency and environmental impacts is assessed. The study analyzes practical examples of the application of these approaches in both developed and developing countries and identifies the challenges encountered. The article aims to contribute to ensuring sustainable economic development by putting forward innovative approaches and proposals for the formation of new financial strategies that meet the requirements of a digital and sustainable economy.

Keywords: digital economy, sustainable development, financial strategies, ESG criteria, green finance

Introduction

The global economy is changing at a fast pace, and digital transformation is leading these changes. Technological advancement, through digital transformation, opens new opportunities in all areas of the economy. The fast development of technology and application of digital tools in business have led to the development of financial management as well as strategic styles of companies. These changes are not limited to improving economic performance but also lead to the creation of new strategies with social and environmental protection in mind (Brynjolfsson & McAfee, 2014).

Digital transformation is not only a question of innovations in the field of technology, but also one of automating business processes, processing data and leveraging analytics tools. Additionally, these processes create opportunities for faster decision-making, improved management of resources and increased transparency of operations in various sectors of the economy. In the meantime, the expansion of the digital economy offers new prospects for the achievement of sustainable development goals such as employment creation, simplification of production processes and environmental protection (Schwab, 2016).

Sustainable development is a philosophy that emphasizes the coexistence of environmental protection, social justice and economic growth. The prime mission of sustainable development is to secure recycling of resources for the present generation and transmitting a healthy and secure environment to future generations (United Nations, 2015). The digital transformation has an extensive connection to sustainable development where digital technologies are significant in bridging sustainable development. Digital tool and technology support achieving success in areas such as efficiency in using resources, ensuring the environment is safe and overall social responsibility (KPMG, 2020).

And so, digital transformation is not merely technological transformation, but also a tool focused on the implementation of sustainable development goals in every sector of the economy and society. This article will consider the influence of the digital economy on the financial strategy, the incorporation of ESG (Environmental, Social and Governance) factors into financial decision-making, and the usage of green financial instruments. The aim is to explain how digital economy and finance policies are interconnected to encourage sustainable development.

The main purpose of this article is to examine the relationship between the digital economy, financial strategies, and sustainable development. The creation of the digital economy creates a direct link between financial management and sustainable development, and such a link is of immense importance both in the modern economy and in the future prospect. It will study in detail how economic policies have changed with the rise of the digital economy, i.e., with the introduction of green financial products and ESG considerations (Environmental, Social Responsibility and Governance) while making financial decisions. The aim is to reveal new financial approaches and shifts in strategy adopted to foster sustainable economic growth through digitalization. This paper will also provide actual examples of the application of the digital economy in industrialized and developing countries and discuss the challenges faced by these approaches. In addition, it will consider the effect of the digital economy on fiscal policies and emerging approaches proposed for achieving sustainable development objectives.

Digital Economy and Its Main Components

The digital economy is the integration of information and communication technologies (ICT) into economic activities. Digital technologies are at the center of this economy model and enable transactions between various segments of the economy to be quicker, more efficient and more transparent. The digital economy is not only reliant on computers and the internet, but also includes the utilization of cloud technology, big data analytics, artificial intelligence (AI), blockchain and other newer technologies.

The digital economy is more flexible and globally integrated in nature than the conventional economy. It rests on the power of rapid diffusion of information and technology that stimulates the creation of new forms of production and innovative services across all sectors such as manufacturing, trade, and finance. Digital infrastructure, as it emerges, transforms traditional business models, enhances the efficiency of operations, and expands access to global markets. The main drivers of the digital economy are AI, Internet of Things (IoT), Blockchain, and Digital Finance, all of which play a significant role in reshaping modern economic systems.

AI is utilized to refer to machine-based technologies that are purposed for carrying out actions that typically require human intelligence. AI is being increasingly applied in data processing, customer services, and automatic decision-making. For instance, AI-driven chatbots maximize customer experience at a reduced operational cost. In manufacturing, AI improves product quality and workflow efficiency (Brynjolfsson & McAfee, 2017). Moreover, in finance, AI supports risk analysis and investment planning through processing big data to make accurate forecasts, enabling faster and wiser business decisions (Akhundzada & Rzayeva, 2023).

The other key driver of digitalization is the IoT. IoT enables the interconnection of physical things and their communication through the internet. With its widespread implementation in production, logistics, and retailing, IoT facilitates real-time data tracking and decision-making. In intelligent factories, IoT applications automate production lines, optimize energy consumption, and simplify inventory and maintenance management (Ashton, 2009).

Blockchain technology allows for secure, transparent, and tamper-proof data storage by decentralizing data on distributed networks. Although it was introduced with cryptocurrencies such as Bitcoin, its usage extends well beyond finance. It provides improved security and transparency of transactions in e-commerce and digital contracts, giving businesses more data integrity and trust in their operations (Tapscott & Tapscott, 2016).

Digital Finance is a wide field of financial services offered through digital channels, including mobile banking, online payment, cryptocurrencies, and fintech innovations. These services increase financial inclusion, reduce transaction time, and enhance transparency. The development of fintech solutions—such as smart contracts and decentralized finance—has transformed the financial sector, rendering financial operations faster, secure, and more inclusive (Arner, Barberis, & Buckley, 2016).

Financial Strategies in the Digital Economy

Traditional and Digital Financial Strategies

Financial strategies are the plan that an organization maps out for achieving its financial goals. The difference between conventional and digital financial strategies is largely driven by the way in which the technologies and the information are dealt with. Conventional financial strategies are mostly based on manpower and the traditional accounting and reporting frameworks, while digital financial strategies highly involve technological breakthroughs, analysis software, and automation.

Traditional Financial Strategies: Traditional financial techniques are aimed at controlling the finances of business entities in traditional terms. These encompass activities like accounting, budgeting, financial reporting and customer credit evaluation. In traditional financial practices, financial choices and transactions depend more on experience and human judgment. Such techniques are used more by small and medium-sized business entities with businesses in local markets, and the risks depend more on internal information, accounting factors and traditional market analysis.

Digital Finance Strategies: Digital finance strategies enable quicker and more responsive decision-making using new technologies and analysis tools. Digital finance strategies enable more accurate data analysis using digital methods (e.g. AI, big data, cloud computing, blockchain). Digital finance strategies enable operations on larger data sets and make more accurate decisions for operations using real-time data. For example, electronic payment systems and online financial services enable customer services to be faster and more transparent, and financial transactions to be more lucrative and secure.

Implementation of digital finance strategies: The take up of digital finance initiatives allows for better and faster analysis of customer information and transaction data compared to traditional practices. Fewer human touch points and ensuring transactions are completed at lower cost and faster pace are part of these initiatives compared to traditional practices. Digital technologies, especially big data analytics and artificial intelligence, enable enterprises to make better use of resources and reduce risks. Such tactics also enable companies to reduce costs of operation, create more value for shareholders, and operate more flexibly.

The Role of Digital Tools in Improving Financial Decisions and Resource Allocation

Digital technologies facilitate enterprises to make faster and more informed financial decisions. Digital technologies facilitate enterprises to better process data and make the decision-making process transparent and tailored. The most influential tools in digital financial strategies are:

- Big Data and Data Analytics - Big data enables organizations to gain a better perspective of their financial situations and utilize resources better. Data analytics enable companies to be better-informed regarding customers' behavior, market trends, and possible threats. It alerts them to better investment choices and reduced wasteful spending (Chen et al., 2012).
- Artificial Intelligence (AI) and Machine Learning - AI and machine learning technology is not discretionary in the financial data analysis and forecasting field. AI allows companies to search through large data sets and predict economic trends and customer behavior. This allows companies to make decisions with lower risk and more efficient allocation of resources (Brynjolfsson & McAfee, 2017).
- Blockchain and Smart Contracts - The security and transparency of financial transactions are increased

using blockchain technology. Financial transactions are improved and financial transactions become more transparent using smart contracts. The speed and reliability of financial transactions are increased with blockchain technology and allow companies to utilize resources optimally (Tapscott & Tapscott, 2016).

Digital technologies allow institutions to direct financial resources more effectively. Analytical software and artificial intelligence allow institutions to decide on utilizing resources more economically and more frugal budgeting. As a result, they bring about reduced financial risk and increased economic efficiency.

Green Financial Instruments and Their Role

Some of the major financial market trends of the past include the speedy rise of green financial instruments. Green financial instruments are new and innovative financial instruments that have evolved with the primary purpose of channeling financial resources towards investments and projects with positive impacts on the environment. They are critically important in facilitating environmentally sustainable development objectives as well as capturing investors' environmental and social issues (Berensmann & Lindenberg, 2016). Green financial instruments are generally categorized into the following categories:

Green Bonds: Green bonds are a form of bond issuing specifically to finance environmental projects. The money raised through these bonds is used directly for climate change mitigation, development of renewable energy projects, energy efficiency, and other environmental projects (International Capital Market Association [ICMA], 2021). The main advantages of green bonds are as follows:

- Environmental transparency and accountability: Green bond issuers are required to report publicly on the environmental impacts of projects.
- Attracting Investors: Attracts more capital by attracting environmentally and socially responsible investors.
- Economic advantages: Contributes to the development of a sustainable economy by providing long-term and stable capital.

Sustainable Investments: Sustainable investments are financial instruments where the investors put their money keeping in view environmental, social and governance (ESG) aspects. These investments are not only done with the intention of earning profit, but also for creating long-term social and environmental benefits. Key features of sustainable investments:

- Environmental, Social, Governance (ESG) criteria compliance
- Long-term prospective profitability
- Reducing risks and creating environmental value

The European Union (EU) has developed a special "Taxonomy Regulation" to promote investments that comply with ESG standards and aims to assess the environmental impacts of investment projects in a more transparent manner (European Commission, 2020).

Other Green Financial Instruments: Apart from sustainable investments and green bonds, other new green financial instruments exist. They are as follows:

- Green Loans: They are loans extended on special terms to fund environmental projects. Green loans are provided by financial institutions and banks at low interest rates for renewable energy, energy efficiency and environmental projects.
- Green Mortgages: A financial product aimed at the purchase or retrofitting of energy-efficient buildings. Consumers utilize these financial products to purchase energy-efficient homes or retrofit their existing homes.
- Carbon Markets and Carbon Credits: These markets are created to limit the emission of carbon. Companies need to sell or purchase carbon credits if they exceed their carbon emission levels. This instrument encourages companies to reduce carbon emissions (World Bank, 2020).

The application of green financial instruments not only possesses environmental significance, but also assists in the sustainable growth of the economy and accelerates the diffusion of environmental innovation within financial markets. Green financial instruments hold considerable strategic importance in the future development of financial markets and are increasingly attracting the interest of investors and financial institutions.

Application of ESG (Environmental, Social and Governance) Criteria in Financial Decisions

The role of ESG (Environmental, Social, and Governance) considerations in investment decision-making has grown tremendously in the last several years. Investors and financial institutions have become aware that ESG metrics matter for the long-term sustainability and risk management of firms (Friede et al., 2015). According to a survey by EY, 91% of investors consider that companies with superior ESG performance are more sustainable and better equipped to deal with long-term risks (EY, 2020).

The incorporation of Environmental, Social, and Governance (ESG) considerations in financial decision-making is essential for safeguarding corporate reputations, mitigating regulatory risks, and enhancing investor trust (Eccles & Klimenko, 2019). Businesses that align their operations with ESG principles enhance their competitive edge by achieving benefits in employee satisfaction, customer loyalty, and innovation (Kell, 2018). ICTs and software applications are instrumental toward effective execution and management of ESG principles. Such tools enable firms to monitor, analyze, and report on ESG data in real time (Siew, 2015). For example, Environmental, Social, and Governance (ESG) metrics-based software platforms, including Enablon, Intelex, and Sphera, enable organizations to monitor ESG indicators in real-time while consolidating data from various sources. Such technologies enable firms to visualize their ESG performance with precision and transparency by automating data collection, analytical processes, and reporting systems (CSE, 2022).

Artificial intelligence-based computer systems are commonly utilized to extract and process structured ESG report data. Their usage enhances the quality of ESG data, enabling organizations to measure their ESG performance better (Arner et al., 2021). According to statistics, significant noteworthy advancement has been achieved in the field of ESG (Environmental, Social, and Governance) reporting by corporations in 2024:

- 90% of companies listed on the S&P 500 list now publish ESG reports regularly, which indicates that companies are serious about transparency in the field of sustainability (KPMG, 2024).
- Approximately 70% of companies in the Russell 1000 index make ESG information publicly available, which indicates a widespread trend towards environmental and social responsibility among large corporations (KPMG, 2024).
- 83% of consumers believe that companies should actively develop and implement best practices in the field of ESG. This reflects the increasing public expectations of social and environmental responsibility from companies (EY, 2024).
- 85% of investors believe that investments based on ESG criteria are more sustainable and lead to better financial outcomes, increasing the importance of ESG-focused investments in financial markets (EY, 2024).
- Nearly 75% of companies feel unprepared for new ESG-related regulations and standards requiring data verification, indicating a need for greater investment in infrastructure to ensure ESG compliance (KPMG, 2024).
- More than 50% of global investors plan to increase ESG investments over the next five years, indicating strong future demand for ESG-focused sustainable investments (KPMG, 2024).
- 88% of public companies already implement ESG initiatives, demonstrating the widespread acceptance of ESG principles in the corporate sector (KPMG, 2024).
- 94% of company leaders feel great pressure to prioritize ESG initiatives. This indicates that ESG criteria have become a key element in corporate strategy and decision-making processes (EY, 2024).

Thus, the statistical indicators of 2024 show that ESG factors have significantly increased in financial decisions and corporate activities, and the interest of investors, companies and the public in this area has increased.

The Role of Sustainable Development and Digitalization

Contribution of Digitalization to the Sustainable Development Goals (SDGs)

Digitalization and technological development play a crucial role in achieving the UN Sustainable Development Goals (SDGs). They not only provide opportunities for economic growth but also valuable contributions to strategic fields like the protection of the environment, social justice, and resource efficiency. Digital technologies have emerged as prime facilitators to global collective action towards achieving the United Nations Sustainable Development Goals (SDGs) across dimensions related to resource efficiency, environmental sustainability, and social inclusion.

Encouraging Resource Efficiency: Digital technologies in the guise of big data analytics, artificial intelligence (AI), and the Internet of Things (IoT) facilitate optimization across consumption and production processes. For instance, IoT technology enables direct-time monitoring of energy and raw material consumption in manufacturing processes, less loss and higher efficiency (UNCTAD, 2021). Through farming, wiser digital technologies assist in automating irrigations, fertilization processes, reducing wastage of inputs and maximizing farm outputs (FAO, 2022). These technologies facilitate SDG 12 – Responsible Consumption and Production, directly because they promote optimal and sustainable utilization of materials.

Contribution to Environmental Protection: Digital technologies are also significantly involved in environmental tracking and emission control. Drone and satellite technology is widely utilized in monitoring air quality, forest cover, and water body health. Even as companies rely more on digital systems to track real-time energy consumption and carbon output, allowing them to take proactive carbon-reducing actions (OECD, 2022). These innovations are essential to the attainment of SDG 13 – Climate Action and SDG 15 – Life on Land targets since they enable effective and precise environmental interventions.

Digital Finance and Social Inclusion: Apart from environmental benefits, digital technologies are enhancing social justice and financial inclusion. Digital banking, mobile payments, and fintech technologies are expanding access to financial services, especially in low-income rural areas. This contributes to SDG 1 – No Poverty and SDG 8 – Decent Work and Economic Growth, by empowering people and small businesses with tools for saving, borrowing, and investing (World Bank, 2023).

Overall Impact on the SDGs: 76% of digital technology initiatives in 2024 were directly attributed to one or more SDGs, according to the UNDP (2024). Furthermore, the UN Sustainable Development Report approximates that digitalization will be among the key drivers in attaining at least ten SDGs by 2030 (United Nations, 2024). In actuality, over 80% of public and private sector projects today use digital technologies to monitor and enhance their environmental and social performance (GSMA, 2024). This means digitalization is not merely a change in technology, but also a strategic facilitator of the fulfillment of global sustainability goals.

The Role of Digitalization in Resource Efficiency and Reducing Environmental Impact

The application of digital technologies not only increases economic efficiency, but also reduces negative environmental impacts by ensuring the proper use of resources. These technologies create new opportunities for enterprises to operate more responsibly and sustainably.

Computer technologies and automated systems have an important role to play in reducing the environmental footprint of business by reducing energy consumption, resources, and wastage. One example is energy management systems, which monitor electric consumption in industrial plants and office buildings in real time to avoid over-consumption and reduce carbon emissions. Smart buildings incorporating automated heating, cooling, and lighting have been shown to save energy costs by 20–30% (IEA, 2023), a vital contribution to Sustainable Development Goal 7 (Affordable and Clean Energy) and Goal 13 (Climate Action). Apart from saving energy, digital technologies enhance waste management in both production and consumption systems. IoT sensors and sensor networks track the raw material and semi-finished product life

cycle to prevent overproduction, and digital logistics systems reduce transportation emissions by streamlining supply chains. More significantly, firms that implemented digital control systems saw a mean 25% reduction in production waste in 2024 (Ellen MacArthur Foundation, 2024).

Digital innovations are critical in enhancing environmental sustainability in agriculture and water management. Satellite imagery and digital technologies enable efficient utilization of land and water, and smart irrigation systems avoid wasting up to 40% of water, enhancing productivity (FAO, 2024). Such activities directly contribute to the achievement of SDG 6 (Clean Water and Sanitation) and SDG 15 (Life on Land), hence making digital transformation a critical driver of sustainable development in all sectors.

The table 1 reflects the indicators achieved in the field of resource efficiency and environmental impact reduction as a result of the application of digital technologies. These indicators clearly demonstrate the positive impact of the application of digital solutions in various industrial and agricultural sectors on sustainable development.

Table 1

Key Global Environmental Performance Indicators in 2024 Based on Energy Efficiency, Waste Management, and GHG Emissions Reduction

Indicator	Result Achieved (2024)	Source
Energy consumption reduction (%)	1% improvement in energy efficiency	IEA (2024)
Waste reduction (%)	19% recycling rate (2020); 2.3 billion tons of municipal waste (2023)	UNEP (2024)
Greenhouse gas emissions reduction (%)	4.0% reduction in the EU (Q1 2024)	Eurostat (2024)

Source: Compiled by the author based on data from IEA (2024), UNEP (2024), Eurostat (2024).

Challenges in Implementing Financial Strategies

Amid the digital economy and the demands of sustainable development, the transformation of financial strategies has become necessary. However, various countries, sectors and enterprises face certain challenges in this transition process. These challenges are both technical, institutional and socio-economic in nature.

Digital financial strategies have been implemented in developed countries on a larger scale, but still face challenges such as data abundance, standardization of ESG criteria, and regulatory uncertainty. In developing countries, the process faces more complex and systemic barriers such as weak technological infrastructure, low financial literacy, and lack of capital and high operating costs. Maintaining a balance between digitalization and sustainability is a common challenge for both groups of countries. Technological innovations can lead to rapid transformation, but they must be balanced with environmental and social values. For example, artificial intelligence and data centers require large amounts of energy, and the introduction of new technologies may lead to the exclusion of some social groups and an increase in digital inequality. A 2024 survey found that 63% of companies operating in developing countries cited lack of infrastructure as the main obstacle to implementing digital finance strategies. 57% of companies reported regulatory uncertainty and lack of resources as the main challenges in preparing ESG reports. Additionally, approximately 41% of companies transitioning to digital finance strategies experienced a decline in profitability in the first year due to high transaction costs.

Practical Examples and Case Studies

Real-life examples of digital economy and sustainable finance strategies help to better understand the opportunities and limitations of their implementation. Below are concrete practical examples of the implementation of digitalization and sustainable finance strategies in both developed and developing countries.

In developed countries, digital technologies have led to significant improvements in supply chain management, energy management, and ESG data analysis. For instance, Maersk in Denmark has optimized its supply chain using IoT and artificial intelligence, resulting in reduced carbon emissions, savings in shipping costs, and real-time monitoring of supply chain data. Siemens in Germany has also adopted "digital twin" technology, reducing energy consumption and carbon emissions by up to 30%. Microsoft's ESG Data Intelligence Platform in the USA has reduced the time to prepare ESG reports by 40% and human error by up to 60%.

In developing countries, fintech startups like Paytm and Razorpay have implemented digital payment systems in the agricultural sector, increasing access to banking services in rural areas and cashless payments in vegetable markets. M-Pesa Mobile Banking in Kenya has provided access to financial services to millions of citizens, increasing access to micro-credits in poor areas by three times. In Brazil, Natura & Co has implemented ESG implementation strategies, increasing the share of recycled materials in production and transparently presenting ESG indicators on a digital platform.

In conclusion, the availability of technological infrastructure and regulatory compliance in developed countries facilitates the wider adoption of digital and ESG-based strategies. However, in developing countries, the main goal is to increase inclusion and financial access, with mobile technologies providing faster and more effective results.

Innovative Approaches and Future-Oriented Perspectives

In the modern era, new financial instruments enabled by digitalization lead to the formation of more flexible, transparent and sustainable strategies:

- Blockchain-based green bonds: This tool allows investors to track the real impact of investments on the environment. Digital identification and transparent traceability increase trust in green projects.
- ESG tokens and digital assets: Digital tokens that are consistent with ESG values (e.g. NFTs representing carbon credits) are a new segment that is attracting the attention of investors (World Economic Forum, 2023).
- AI-based risk models: Machine learning and AI algorithms are applied to assess ESG risks and climate risks. These approaches allow for more accurate financial decisions under uncertainty (MIT Technology Review, 2024).

Emerging Trends and Ideas in Digital Finance and Sustainability

The integration of RegTech, digital modeling, and blockchain-based smart contracts plays a crucial role in advancing ESG-aligned financial strategies. RegTech solutions enable the digitalization of financial regulations, allowing for automated monitoring and reporting of ESG compliance, thereby increasing transparency for both companies and regulators. At the same time, digital models such as digital twins and simulation technologies support circular economy principles by enhancing product lifecycle management and promoting resource reuse. Furthermore, smart contracts powered by blockchain technology facilitate fast, transparent, and efficient financing of sustainable projects, streamlining ESG-aligned financial flows.

The following areas are considered priorities for ESG-based strategic transformation in finance and technology:

- Global harmonization of ESG standards - There is a need for uniform international standards to ensure ESG reporting and comparability for companies (IFRS, 2024).
- Green finance incentives in investment markets - Governments and international organizations should introduce tax incentives and loan guarantees for green financial instruments.
- Strengthening digital inclusion - Training and technical support programs are necessary to increase digital financial literacy, especially in developing countries.
- Digital modeling of climate risks - Decision support systems based on digital analysis of climate risks should be created to shape business models that are resilient to climate change.

These four priorities are essential pillars for driving effective ESG-based transformation in global finance and technology.

Conclusion

This article analyzes the impact of the digital economy on financial strategies and sustainable development goals based on theoretical and practical approaches. The main results of the study show that digitalization plays an important role in the transformation of modern financial management and at the same time contributes to environmental protection, efficient use of resources and increasing social inclusion. The integration of ESG criteria into financial decisions is of strategic importance in terms of both corporate reputation and long-term financial stability (Eccles & Klimenko, 2019; Friede et al., 2015).

The key findings of this study underscore that effective ESG-based transformation in finance and technology requires global harmonization of ESG standards, targeted green finance incentives, enhanced digital inclusion in developing economies, and the development of advanced digital tools for climate risk modeling.

The strength of the study is that it is multifaceted - rich in theoretical analysis, practical examples and current statistical data. The contribution of digital technologies to the SDGs, the improvement of ESG reporting with digital tools, and innovative financial strategies are proven with real examples (Maersk, 2023; Microsoft, 2024; World Bank, 2024).

A weakness is that, since the study is mainly based on existing literature and international experience, specific empirical studies in the local context were not conducted. This may limit the generalizability of the results. However, the approaches and recommendations obtained can be applied to countries with similar economic structures.

As an alternative explanation, it can be noted that the progress in ESG indicators is not only related to digitalization, but also to regulatory pressures, public expectations and investor interests (Kell, 2018). These factors also stimulate the popularity and application of ESG.

In terms of applied results, this study puts forward a number of recommendations:

- Financial institutions and companies should prioritize the use of digital ESG platforms, ensure accountability and transparency of ESG data.
- Governments and regulators should accelerate the harmonization of ESG standards and introduce green finance incentives (IFRS, 2024).
- Digital financial literacy training programs should be implemented and technological infrastructure should be strengthened in developing countries (NITI Aayog, 2023).

For future research, it is recommended to conduct empirical studies on specific sectors (energy, agriculture, transport) in different countries and regions, and to develop indicators that measure the effectiveness of digitalization and ESG.

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DIRECTIONS FOR IMPROVING VIRTUAL BANK MARKETING IN AZERBAIJAN

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For the successful operation of the bank, it needs a marketing service, which deals with the development and implementation of the bank's strategy and policy, as well as monitoring their results. The choice of the structure of the marketing service in banks depends on the nature and volume of production, the diversity of the bank's economic relations. The main goal of the article is to examine the methods used in developed countries to solve problems and to make suggestions for their application in the country's banking system. The article concludes by identifying the improvement of legislation on digital payments in Azerbaijan and the introduction of innovative solutions, the formation of a risk-based regulatory and supervisory framework for the payment ecosystem, etc.

Keywords: marketing service, bank, population's income, digital payment strategy

Introduction

Bank marketing is a special field of marketing. Marketing is an entrepreneurial philosophy, strategy and management method aimed at solving the bank's current and future tasks. Today, it is necessary to apply marketing in the activity of banks, to organize and manage its activities based on marketing principles. As a result of all this, banks are trying to focus on the priority segments of customers and the market and study the needs and demands of these segments, develop services that allow to meet these needs more fully, and improve the culture of customer service.

Each bank creates a marketing department or other such department with the aim of optimally enabling the achievement of its market goals. The top management of the bank (general meeting of shareholders, bank board, bank administration) determines its general strategic goals, and a number of structural divisions carry out measures for the realization of the bank's strategy. Scientific and economic methods such as analysis, synthesis, generalization, complex and systematic approach were preferred in the research process.

Functions of Marketing Service in a Bank

The Bank's marketing service has the following functions:

- market research and active influence on it;

- preparation of marketing strategy;
- development of marketing concepts for selection, planning of new services and their implementation;
- determination of the interval for maneuvering with prices;
- selection of locations and sales channels;
- promotion of advertising and sales;
- training (education) of the bank's personnel;
- control over the implementation of the marketing strategy (Hajiyeva, 2018).

The goals of the commercial bank's marketing service are as follows:

- Detailed study (research) of customer needs, internal and external market conditions, and real capabilities of the manufacturer;
- Studying the demand and realizing the products and services in the planned volumes in the specific markets, for the maximum possible satisfaction of the customers' needs;
- Constant preparation and practical implementation of new scientific and technical ideas for the development and provision of promising products and services for the market;
- Uniformity of tactics and strategy of behavior of market economic structures, active adaptation to the changing needs of customers, and at the same time influence on their formation and stimulation (Urkayev et al., 2020).

The main provisions of the marketing department in the bank:

- Expanding the nomenclature of products and services offered to the market based on detailed information about the customer's needs;
- Conducting enhanced advertising events;
- Expanding the range of services to attract new customers;
- Increase in the market share due to the reduction of the sales volume by the competitor;
- Constructive improvement of products and services according to market requirements (Hajieva et al., 2021).

The marketing service provides an analysis of the market situation, studies the dynamics of the market, prepares proposals for the improvement of the marketing policy for management. If the marketing program is aimed at more effective use of the services provided by the bank to its customers, then the marketing service works on how to increase market share, which is achieved through the use of advertising. The complex of services provided can be expanded due to the implementation of additional services (Humbatov et al., 2020).

Digital Payment Strategy of the Central Bank of the Republic of Azerbaijan for 2021-2023

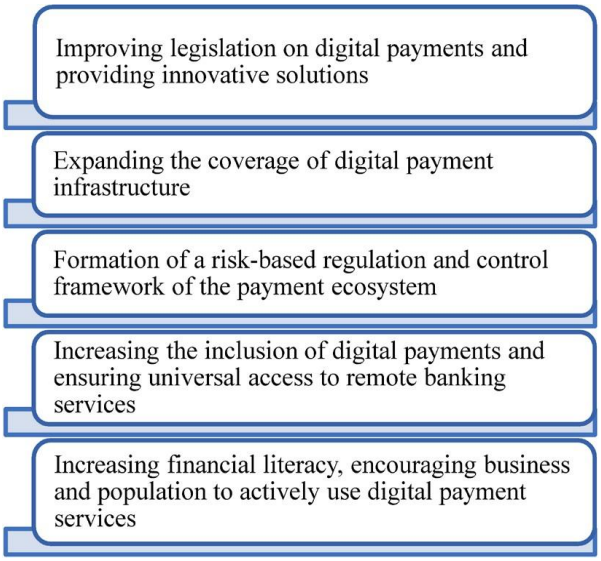
In order to expand the use of digital payment services in our country "Digital Payment Strategy of the Central Bank of the Republic of Azerbaijan for 2021–2023" prepared. The main objective of the Digital Payment Strategy from providing convenient and accessible payment services for the state, businesses and citizens. In this direction, the Strategy aims to achieve the following goals:

- Ensuring the stability and sovereignty of the National Payment System;
- Creation of a favorable legal level for the introduction of innovations in the sphere of payment;
- Providing more profitable payment services to economic subjects by strengthening the competitive environment;
- Providing access to payment services for all population groups regardless of residence and income factors.

Taking into account international trends and elimination of existing short comings on the payment market to the formation of a competitive, innovative and accessible payment ecosystem. As shown in Diagram 1, in the targeted strategic plan, concrete actions were defined in 5 main directions (Kheyrkhabarov, 2015).

Picture 1

Strategic directions



Source: Kheyrkhabarov (2015, p. 98).

Problems and Solutions

There are many problems in this direction in our country. Thus, the main obstacle in the development of non-cash payments and the dominant position of cash circulation is related to the institutional, economic and infrastructural factors that determine the high level of the shadow economy. At the same time, a weak competitive environment in the payment market, the lack of a legislative framework supporting innovation, low financial literacy, and a number of factors related to the demand and supply of payment services have a negative impact on the development of digital payments.

Also, the main part of the population's income is in cash: although the "whitening" policy carried out in the last 2 years has removed 240 thousand jobs from the shadows, a small part of the employed population (34.4%) still works for wages. At the same time, high non-bank cash turnover (M0 /M2 = 53%) indicates the presence of private sector unregistered income (State Statistical Committee of the Republic of Azerbaijan, 2025).

The low-income group (DSK: 69% of the employed population has an income of less than 500 AZN) uses digital payment services less due to poor access to financial services. The high-income class prefers cash payments due to low transparency of income sources. The average increase in the production of goods and services in the last 3 years has a negative effect on the demand for payment services (Websites of banks operating in Azerbaijan, 2025). Weakness of the possibility of depositing liquid funds makes banks uninterested in promotional campaigns that stimulate people to keep funds in their bank accounts (Ismayilov et al., 2021).

The concentration of salary projects of pension and state organizations, which are the main card users, in large banks makes other banks uninterested in infrastructure development, increasing product variety, conducting marketing campaigns and prevents optimization of acquisition rates.

Inadequate knowledge level of the population on financial services, as well as lack of knowledge about digital payments, their methods of use and advantages, negatively affects the indicator of using these services. Research conducted by the World Bank shows that there is significantly less interest in opening bank accounts in Azerbaijan. Financial literacy is lower in regions and rural areas, especially among housewives and elderly population groups.

In modern times, there are no separate normative-legal documents that would stabilize the sphere of electronic banking in the Republic of Azerbaijan, and only some of the banks issuing these documents have

application rules. It should be emphasized that the important goals of the reforms carried out by the Central Bank to increase the amount of non- cash circulation in the state economy and the progress of the payment card market include informing the social environment about the qualities and possibilities of modern electronic payments and the realization of a large propaganda campaign to increase the volume of the use of cards in settlements for processes such as purchase and sale. Realizing a high-level payment culture in the social environment, increasing people's habits of using electronic payment services and non-cash means of payment, providing more in-depth information to the public about the advantages and possibilities of payment cards, as well as the rights and duties of credit institutions, retail trade, catering and other service organizations and card holders is one of the important goals of periodic activities (Central Bank of the Republic of Azerbaijan, 2025).

In the direction of solving the problems listed above Azerbaijan should take advantage of the experience of developed countries, study the used methods and apply them in the country's banking system. According to our research, our country prefers the schemes of Western countries when choosing a strategy. But at this time, the difference between the levels of provision of the markets should be taken into account.

For example, if we look at the experience of France on digital payments. In the action plan covering the years 2019–2024 within the framework of the "National Strategy for non-cash payment instruments", the following measures have been determined in the direction of the development of digital payments, increasing the security of non-cash payment instruments and accelerating innovation applications (Everything about banks, 2025):

- Increasing electronic payments in consumer-business entity relations;
- Promotion of electronic approaches in business and government payments;
- Supporting the development of new identification technologies;
- Strengthening payment data security;
- Expansion of financial inclusion;
- Expanding the use of application programming interface (API);
- Directing the development of French expertise in artificial intelligence and "big data" into payments.

Currently, it is considered sufficient to consider 3 main (Anglo-American, German and Japanese corporate model) models in the country. In particular, the German and Japanese model is characterized by low liquidity of financial markets, high level of banking supervision and, in some cases, mutual exchange of shares. In the mentioned models, the bank loan acts as the main financing tool, and in this regard, the application of the German and Japanese models in Azerbaijan can be considered more appropriate (Hajieva, 2024).

Conclusion

Based on the conducted research, the following directions were determined for the development and improvement of digital banking marketing in Azerbaijan:

Creation of legal framework for electronic money and payment organizations;

Using international experience, implementing measures to create a favorable regulatory environment for Fin techs in Azerbaijan, involve them in payment services, and provide non-material (legal assistance, professional consulting, etc.) support (Hajiyeva et al., 2023);

Creation of “Sandbox” platform and promotion of Fin techs activity;

Creating the possibility of applying modern solutions for customer identification in digital services-The development of digital technologies makes the requirements related to the security of data related to electronic payers even more stringent. With the aim of strengthening security measures and simplifying the payment process, the use of personal biometric data of the payer (recognition of facial image, fingerprint, retinal image or voice fragment) is being expanded. Since biometric data can provide the highest level of security, the world’s leading banks currently use this type of data when accessing their customers’ digital

banking pages and confirming payments. Despite the numerous benefits of the digital identity identification system, such as inclusiveness and stability, continuous analyzes are being conducted by advanced countries in order to minimize the risks it may create. In order to expand the use of similar practice in our country, the areas of practical application of biometric methods will be analyzed together with financial institutions for the implementation of digital payments and secure identification of customers when using electronic banking, and suggestions will be prepared;

Improving the legal framework for electronic banking-Currently, a number of electronic banking services are provided by all banks operating in the country. Although electronic banking increases the efficiency and effectiveness of banking services, it requires the improvement of operational and security risks and privacy policy. The degree of sensitivity of approaches to these issues in the procedural rules of the regulatory bodies of different countries is different. In the experience of progressive countries such as the European Union, Hong Kong, Singapore, and India, special importance is attached to the implementation of digital identification and optical security features in the development of electronic banking. One of the global trends in electronic banking, the "Account switching" solution enables the client to choose between banks on the basis of transparent service fees and to "move" his bank account to the bank of his choice. This, in turn, affects the formation of service fees at a more affordable level by strengthening competition between banks (Humbatov et al., 2020);

Expanding the coverage of digital payment infrastructure;

Application of ISO20022 standard in financial infrastructure-In the context of the expansion of digital payments, the implementation of the ISO20022 standard in leading countries is expanding in order to improve the communication of the financial sector in the digital environment, to make different standards, concepts and formats the same for everyone in the financial sector. The application of the standard in the financial sector of the country allows to increase the automatic processing coefficient in electronic payments, to increase the completeness of the transmitted data (Kheyrkhabarov, 2015);

The expansion of the application of new digital technologies and the modernization of payment systems in the world, including advanced countries such as the United States, the European Union, the United Kingdom, China, India, Canada, Russia, Turkey, Japan, and the transition to the ISO20022 standard, have turned this process into a global trend. According to the recommendations of the SWIFT society, the payment system operators should complete the work on the transition to new data formats by 2022, and international financial payments should be executed in data formats prepared according to the ISO20022 standard by 2025. Taking into account the innovations taking place in the international world, the transition to the ISO20022 standard in the financial sector of Azerbaijan will be ensured in accordance with the prepared action plan. Data formats compliant with ISO20022 standards to be applied in the National Payment System infrastructure will be prepared, as well as functional possibilities for using these formats will be created in the infrastructure components and internal information systems of the participants.

Development of QR code standards-In recent years, the significant expansion of the scope of payments made by means of QR codes in countries where technology is developing rapidly and is given importance has created the need to create standards and procedures for the aforementioned innovative solution. The development of these standards allows to increase efficiency and improve security, while preventing fragmentation in the acceptance of QR code payments within the country. The standards also facilitate the creation of cross-border QR payment acceptance capabilities. Successful QR code payment between India and Singapore, Poland and Denmark, Thailand and Cambodia is used. Cross-country integration allows a citizen of one country to pay by scanning QR codes through mobile applications in another country. This service promotes digital payments while enabling cheaper cross-country payment solutions. Uniform standards for QR code payments will be developed in the country using international experience. In the next stage, the possibility of accepting QR payments will be assessed with countries with extensive economic and tourism relations;

Strengthening cyber security requirements in payment infrastructure;

Extension of agent banking application-In many countries where the development of financial inclusion is a

priority goal, the practice of creating a network of payment agents is successfully applied. The payment agent network of financial institutions plays an important role in the expansion of access to financial services, as well as in the provision of these services in a more effective form. In the legislation, the definition of softer requirements for payment agents that provide limited services in relation to other financial institutions and the variety of provided payment services stimulate the faster development of the payment agent network. gives For this reason, the “Agent banking model” project will be developed and financial services will be available to both the population and business organizations even in the remotest parts of the country.

Strengthening country-wide awareness and promotion of digital payments and e-banking services.

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INNOVATIVE PRACTICES IN HUMAN RESOURCE MANAGEMENT: RE-DESIGN IN THE DIGITAL AGE

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The development emphasizes the application of innovative practices in human resource management and their relationship with the overall organizational development, refracted through the scientific prism of the digital age. Focus is placed on the presentation of key and established ideas and practices, drawing attention to the author's interpretations and renovated conceptual frameworks aimed at achieving sustainable development in organizations. The authors bring out some new, but already proven in practice, ideas related to increasing motivation for work and improving the organizational climate. The authors present a balanced impact of the digital age on the overall management decisions aimed at human capital in the organization, linking these ideas with their own scientific research in recent years.

Keywords: innovation, good practices, human resource management; re-design; sustainable development

Introduction

In the rapidly evolving landscape of the digital age, organizations are being compelled to rethink traditional models of human resource management (HRM). The fusion of technological advancement with an increased focus on sustainability and employee well-being has given rise to a wave of innovative HR practices that extend beyond mere operational efficiency. Today, innovation in HRM is not just about adopting new tools - it involves a holistic re-design of HR functions, processes, and values to align with long-term organizational sustainability and workforce expectations.

From artificial intelligence in recruitment to employee experience platforms, and from remote work models to personalized learning ecosystems, organizations are leveraging innovative approaches to attract, retain, and develop talent in more human-centric and purpose-driven ways. These innovations not only optimize performance but also contribute to creating resilient and sustainable workplace ecosystems that are better equipped to navigate uncertainty and change.

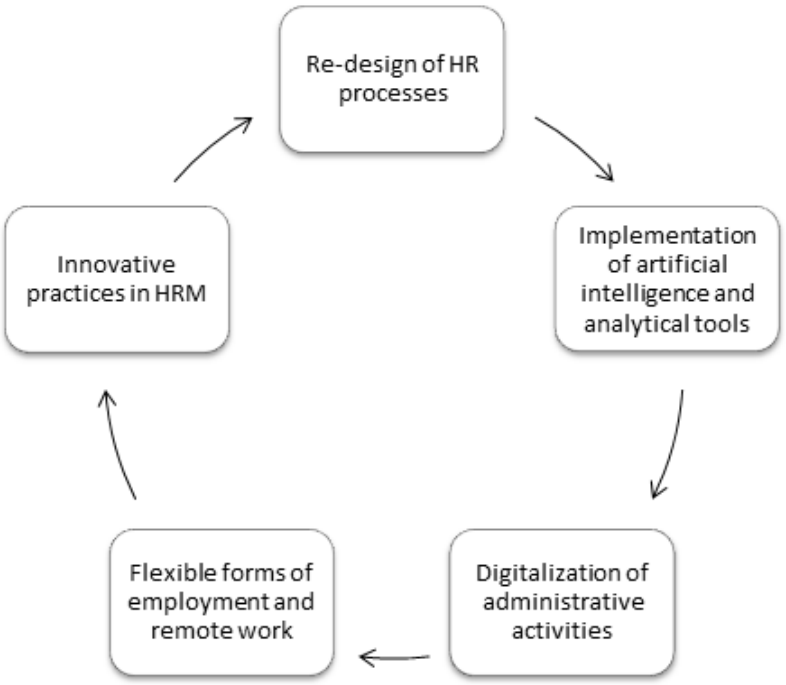
This article explores the application of innovative practices in human resource management, tracing the journey from re-designing traditional frameworks to integrating sustainable development principles. It highlights emerging good practices, examines the strategic role of innovation in modern HRM, and offers insights into how organizations can future-proof their workforce strategies in an increasingly digital and sustainability-conscious world.

The Digital Age and its Impact on HRM

In the modern digital era, human resource management (HRM) is undergoing a profound transformation, provoked by technological advances, dynamic social changes and new employee expectations. Traditional HR models, based mainly on administrative functions, no longer meet the requirements for efficiency, flexibility and strategic thinking (Vasilev, 2021). In this context, the need arises to implement innovative practices that not only optimize processes, but also create a sustainable, digitally oriented HR environment.

Today, HR professional has to respond to increased competition for globally digitalized transformation and rapid advances in HR technology (Trigunait & Singh, 2017). Dynamically changing labor market conditions, demographic transformations, and continuous technological advances are significantly impacting the way organizations understand and manage human resources. In the context of this complex change, it is crucial to clarify how human resource management (HRM) can effectively contribute to increasing the motivation, engagement, and development of employees as active participants in the innovation process. Digital HRM is a path by which strategies, policies and practices can be effectively implemented (Rana, 2019).

Figure 1
Important elements of transformation



Source: author's systematization

Key elements of this transformation include:

- Redesign of HR processes, which review and adapt activities such as selection, induction, performance appraisal and training, using digital technologies and automation;
- Implementation of artificial intelligence and analytical tools that support data-driven decision-making (data-driven HR);
- Digitalization of administrative activities, including the use of electronic platforms for communication, training and management of official documents;
- Flexible forms of employment and remote work, which are becoming sustainable models in many organizations, including the public sector.
- Innovative practices in HRM are not just a technological change – they represent a cultural and organizational transition. This requires HR departments to become strategic partners in managing

change, in building an adaptive organizational culture and in attracting and retaining talent in the conditions of digital transformation.

Addressing the complexity of challenges in the contemporary era, critical aspects such as the selection, development and retention of talented employees are top priorities that organisational leaders must address (Zen et al., 2023). IT instruments have affected the method for formal learning in a workplace. In the era of digitalization, E Learning provides an enormous chance for the employees by making learning more interesting and attractive (Rana, 2019).

In the modern digital era, human resource management (HRM) is being transformed by the introduction of innovative practices based on the use of artificial intelligence (AI). This transformation leads to higher efficiency, objectivity and strategic management of human capital in organizations (Serafimova & Vasilev, 2024).

AI-based recruitment - One of the most significant aspects of the application of AI is the automated screening of applications. Specialized algorithms analyze resumes, cover letters and public professional profiles (e.g. LinkedIn), comparing them with predefined criteria for the position (Battour, Barahma, & Al-Awlaqi, 2021). This allows for a quick and objective selection of the most suitable candidates, eliminating the possibility of human error or bias. Selection systems with built-in AI often also include analysis of language and behavioral patterns, which helps to more accurately assess the cultural compatibility of the candidate with the organization.

Hiring and Payroll - Once a candidate is selected, the hiring process can be automated through HRIS (Human Resource Information Systems), which also use AI elements. When a new employee is hired, the system automatically creates a file, prepares the necessary contracts and declarations, and logs them into the payroll (Serafimova, Vasilev, & Dissanayake, 2024). This significantly reduces the administrative burden and speeds up the onboarding process.

Knowledge and skills analysis - By using internal assessment platforms based on artificial intelligence, organizations can track the individual competencies of employees (Dissanayake et al., 2025). The systems analyze test results, performance appraisals, and feedback from colleagues and managers to create a profile of each employee's strengths and weaknesses. This data allows for more accurate identification of training needs, as well as the creation of personalized development programs.

Training planning and personalization - AI also finds application in the creation of individualized training paths that are based on the real needs of the employee and the requirements of the position held. Such systems can automatically recommend appropriate courses, webinars, certification programs, and even mentoring sessions (Amladi, 2017). What's more, AI analyzes the learner's progress, tracks their engagement, and suggests adjustments to the training plan if necessary. The integration of artificial intelligence into human resource management is not just a technological innovation, but a complete transformation of the role of the HR department – from an administrative center to a strategic engine of organizational development. AI enables more intelligent, objective, and personalized people management, leading to higher efficiency, better employee experience, and sustainable development of organizations.

The leading challenge faced by global management of human resources is the *motivation* of people to get involved with desire and curiosity in this new stage of human development (Vasilev & Ognyanski, 2020, p. 91).

Redesigning Traditional HRM Practices

"Redesign" means rethinking and reworking an existing structure, process or system in order to improve its efficiency, adaptability or sustainability. In the context of human resources (HR), redesign often includes (Vasilev, 2021):

- Changing the organizational structure – for example, moving to more flexible or decentralized teams.

- Updating the processes of selection, training and evaluation of employees – by implementing technology, automation or new approaches.
- Building a new company culture – with a focus on innovation, sustainability, flexibility and employee well-being.
- Redefining the roles of the HR department – by transforming it from an administrative function into a strategic partner of the business.
- The goal of redesign is not just a "cosmetic change", but a complete transformation of HR practices so that they respond to the new realities of the digital age and contribute to the sustainable development of the organization.

Agile Performance Management and Employee Engagement - In the context of a rapidly changing environment, traditional annual performance reviews are proving to be increasingly ineffective. In their place, more and more organizations are introducing agile (flexible) performance management - an approach that emphasizes constant feedback, short assessment cycles and adaptive goals (Todorova, 2022). The agile methodology, borrowed from the world of software development, allows HR processes to be more dynamic and oriented to current realities, while improving communication between managers and employees (Stefanova, Vasilev, & Efremovski, 2023). This approach has a direct connection with employee engagement, as it includes their active participation in setting goals, self-assessment and receiving timely feedback. Constant interaction between managers and employees leads to higher motivation, clarity of expectations and a sense of recognition, which is key to talent retention. Agile performance management not only supports individual development, but also promotes a culture of collaboration, rapid response and innovation (Shouraki et al., 2024).

Flexible Work Environments and Hybrid Employment Models - Another significant trend in modern human resource management is the implementation of flexible work environments and hybrid employment models. The COVID-19 pandemic has accelerated the process of rethinking the workplace, showing that productivity is not necessarily tied to physical presence in the office. As a result, more and more organizations offer combined models in which employees work both remotely and from the office - according to specific needs and opportunities (Todorova, 2022).

Flexible models include different forms: full-time or part-time remote work, variable work schedules, shared workplaces (hot desking), as well as working from different locations. This allows employees to balance their professional and personal lives, which is particularly important for increasing satisfaction and long-term engagement (Gigauri & Vasilev, 2022). On the part of organizations, the implementation of flexible and hybrid models requires a new culture of trust, clarity in communication, as well as an appropriate technological infrastructure. When these conditions are met, the results are visible: increased efficiency, lower turnover, and a stronger employer brand.

Analysis of a Survey in Public Sector Organizations in Bulgaria

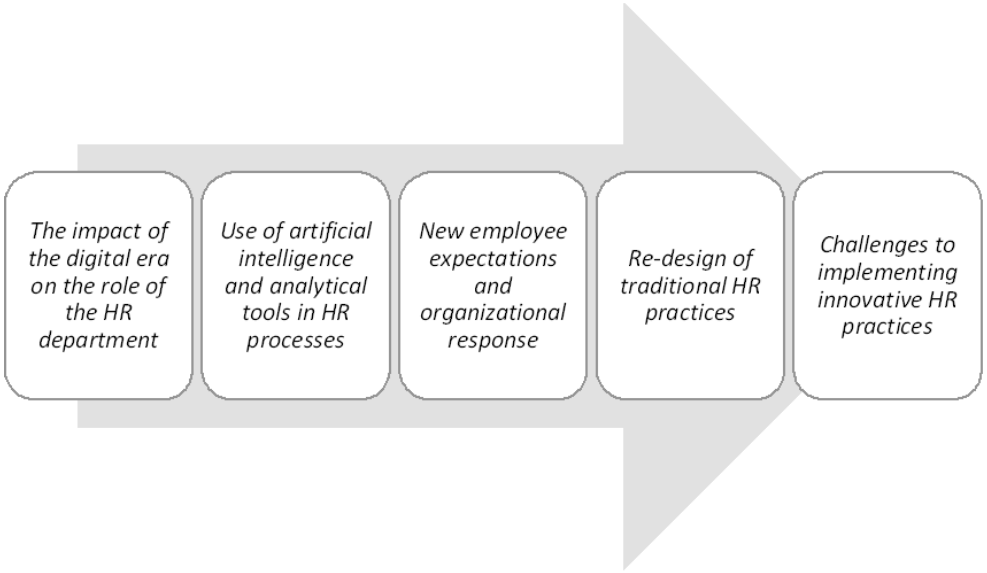
In the context of accelerated digitalization and technological progress, the public sector in Bulgaria – including institutions such as healthcare, municipal and tax administration (National Revenue Agency) – is actively rethinking and adapting the functions of human resources (Serafimova & Vasilev, 2024). The survey conducted among representatives of these three spheres aims to establish the extent to which innovative practices are applied in human resources management, as well as the challenges that organizations face in the process of re-design in the digital era.

The impact of the digital era on the role of the HR department - To the question “To what extent do you think that the introduction of new digital technologies is changing the role of the HR department in your organization?”, the results clearly show that a distinct transformation is being observed in the public sector. More than 50% of respondents stated that the role of the HR department in their organizations has completely changed, emphasizing the new strategic function of the unit – from administrative to a partner role in the process of digitalization and organizational development. 30% said that the change is partial but

visible – for example, through the automation of routine processes or the use of online training platforms. The remaining 20% do not report a significant change, which is often observed in smaller administrative structures with limited access to technology or funding.

Figure 2

Innovative practices in human resources management in the process of re-design in the digital era



Source: author's systematization

Use of artificial intelligence and analytical tools in HR processes - In response to the question "Is AI or analytical tools used in processes such as selection, assessment or training?", 45% of respondents stated that they actively use such technologies. This includes automated candidate selection systems, self-learning platforms with progress tracking and statistical models for performance evaluation. 25% indicate that they use them partially – usually for administrative activities such as tracking working hours or registering attendance at training. Interestingly, 30% do not use AI at the moment, but plan to introduce it in the near future, which is an indicator of a perceived need for technological transformation, albeit implemented in stages.

New employee expectations and organizational response - The study shows that over the past 2–3 years, a significant change in employee expectations has been observed. The *National Revenue Agency* (NRA) has introduced a model of remote work for up to two days a week, with employees required to submit specialized reports on completed tasks. This combines flexibility with accountability and control. In *municipal administrations*, the emphasis is on the digitalization of training - with platforms that allow electronic registration for courses and tracking of their results. This saves resources and improves access to employee development. In the *healthcare sector*, where physical presence is often mandatory, flexible schedules and internal rotations are observed in order to ensure a balance between work and personal life. For example, in some hospitals, the opportunity has been introduced for medical staff to choose between day and night shifts in certain periods, depending on workload and family circumstances.

Re-design of traditional HR practices - When asked "Which elements of traditional HR practices have been rethought or redesigned?", the results show a wide amplitude in the reforms:

- Selection process – 68% of participants share that online application and pre-screening through electronic systems have been introduced, which speeds up the process and ensures a more objective selection.
- Onboarding – 55% of respondents confirm that new employees undergo electronic induction programs, including video training and electronic manuals.

- Employer branding – 40% of organizations are working purposefully on positioning themselves as a desirable workplace through social media presence and campaigns.
- Performance evaluation – 62% have changed the system by including key performance indicators (KPIs) and feedback from the team.
- Learning and development – 70% indicate that they have internal online training platforms, with access to courses according to the position.
- None of the above – only 12% answer that there is no change, mainly in small structures with limited resources.

Challenges to implementing innovative HR practices - When asked "What are the biggest challenges in implementing innovative HR practices?", respondents shared several clearly outlined difficulties: Lack of financial resources – especially in municipal structures, where the implementation of new systems often depends on projects or external funding; Resistance to change – older employees often experience difficulties in switching to digital solutions; Lack of qualified personnel in the field of HR technologies – need for additional training of HR teams; Slow regulatory adaptation – in some cases, legal frameworks lag behind the needs of digital transformation; Limited IT resources and infrastructure, especially in regional offices.

The study shows that innovative practices in human resource management have already entered the public sector in Bulgaria, albeit at different speeds. There are clear steps towards the redesign of traditional HR processes, active digitalization, as well as responding to new employee expectations. The main challenges remain related to resources, skills and resistance to change, but the trend is towards sustainable modernization and strategic development of HR in public institutions.

Conclusion

The study reveals that artificial intelligence (AI) and analytical tools are increasingly being integrated into HR processes within Bulgaria's public sector, particularly in recruitment, training, and performance evaluation. While 45% of respondents report active use, 25% use them for administrative tasks, and 30% plan future implementation, reflecting a gradual but clear shift toward digital transformation. Employees' expectations have notably evolved in recent years, prompting organizational adjustments such as remote work with performance reporting, digitalized training registration systems in municipal administrations, and flexible scheduling in healthcare to improve work-life balance.

Traditional HR practices are being widely redesigned. Significant reforms include the use of online applications and automated pre-screening (68%), digital onboarding (55%), and enhanced performance evaluation methods involving KPIs and team feedback (62%). Internal training platforms are now common (70%), and employer branding efforts have increased (40%). Only a small minority (12%) report no changes. However, several challenges hinder full implementation of modern HR practices. These include limited financial and IT resources, especially in municipal and regional offices, resistance to change from older employees, and a shortage of skilled HR tech professionals. Additionally, slow regulatory adaptation poses a barrier to rapid digital transformation.

The public sector in Bulgaria is embracing modern HR approaches at varied paces. Despite resource-related and structural challenges, the trend indicates sustained progress toward digitalization, innovation, and responsiveness to evolving workforce expectations—positioning HR as a strategic function in the public domain.

The survey conducted among public sector organizations in Bulgaria – healthcare, municipal and tax administration – shows that the process of redesigning human resources management in the context of the digital era is already underway, albeit with varying intensity. Most participants share that HR functions in their organizations have already changed or are actively changing under the influence of technological innovations and new expectations from employees. The most significant changes are observed in the processes of selection, training and induction, where digital tools are increasingly replacing traditional approaches. In

addition, new forms of work – such as remote work and flexible schedules – show that institutions are starting to adapt to modern models of human capital management. Despite the positive examples, however, a number of challenges also stand out, including a shortage of resources, resistance to change and the need to increase digital competence in HR departments.

In conclusion, innovations in human resources management in the public sector are not a matter of choice, but of necessity. They guarantee higher efficiency, commitment and sustainability of administrations in the face of a constantly changing environment and high public expectations.

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BUILDING A STRONG EMPLOYER BRAND: A CASE STUDY OF HUMAN RESOURCE PRACTICES IN MONTENEGRO'S TOURISM SECTOR

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In today's highly competitive global market, employee branding has become a critical strategic tool for organizations aiming to attract, engage, and retain top talent. This study explores the concept of employee branding within the context of Montenegro's tourism industry, which is one of the country's key economic drivers. The research highlights how tourism companies in Montenegro can leverage effective employee branding strategies to enhance their reputation as employers of choice, thereby strengthening their competitive advantage. By analysing the perceptions and expectations of current employees, potential recruits, and industry stakeholders, this paper identifies key factors that influence employer attractiveness in the Montenegrin tourism sector. These include corporate culture, professional development opportunities, work-life balance, and alignment with personal values. Furthermore, the study emphasizes the importance of aligning employee branding efforts with the unique cultural and natural assets of Montenegro to create a distinct employer value proposition. The findings suggest that investing in employee branding not only improves workforce satisfaction and retention but also contributes to the overall growth and sustainability of the tourism industry. This research provides valuable insights for HR practitioners, business leaders, and policymakers seeking to optimize human capital management in Montenegro's burgeoning tourism sector.

Keywords: Employee branding, tourism industry, Montenegro, employer value proposition, human resources management

Introduction

In an era of globalization and heightened competition, organizations across industries are increasingly recognizing the importance of employer branding as a strategic imperative. Employer branding, defined as the process of positioning an organization as an employer of choice, has emerged as a critical factor in attracting, engaging, and retaining top talent. This is particularly relevant in industries where human capital is a cornerstone of success, such as the tourism sector (Nakipova, Arynova, Berezyuk, Zhunusova, & Syzdykbayeva, 2021) As a service-driven industry, tourism relies heavily on the skills, motivation, and commitment of its workforce to deliver exceptional customer experiences and sustain competitive advantage.

Montenegro, with its breathtaking natural landscapes and rich cultural heritage, has positioned itself as a growing hub for tourism in Southeast Europe. The tourism sector is a vital pillar of the country's economy, contributing significantly to GDP and employment. However, as the industry expands, so does the need for skilled and dedicated professionals who can uphold the standards of service excellence that international

tourists expect. In this context, employer branding becomes not just a human resources (HR) strategy but a business imperative for tourism companies in Montenegro.

This study delves into the role of employer branding within Montenegro's tourism sector, examining how organizations can leverage HR practices to build a strong employer brand. By exploring the perceptions and expectations of current employees, potential recruits, and industry stakeholders, the research aims to identify the key drivers of employer attractiveness in this unique market. Factors such as corporate culture, opportunities for professional growth, work-life balance, and alignment with personal values are analyzed to understand their impact on workforce satisfaction and retention.

Moreover, the study highlights the importance of aligning employer branding strategies with Montenegro's distinctive cultural and natural assets. By integrating these elements into their employer value proposition, tourism companies can create a compelling narrative that resonates with both local and international talent. *This approach not only enhances the organization's reputation but also contributes to the sustainable development of the tourism industry as a whole*.

The findings of this research offer practical insights for HR practitioners, business leaders, and policymakers seeking to optimize human capital management in Montenegro's tourism sector. By investing in employer branding, organizations can not only improve workforce outcomes but also strengthen their competitive position in an increasingly dynamic and demanding market.

Literature Review

Employer branding has emerged as a critical strategic tool for organizations aiming to attract, engage, and retain top talent in today's competitive global market (Ambler & Barrow, 1996). It involves creating a distinct identity as an employer of choice, which resonates with both current employees and potential recruits (Backhaus & Tikoo, 2004). Employer branding is not merely about recruitment; it encompasses the entire employee experience, from onboarding to career development and retention (Edwards, 2010).

The significance of employer branding lies in its ability to enhance organizational reputation and competitiveness. According to Cable and Turban (2003), a strong employer brand positively influences job seekers' perceptions of an organization, making it more attractive as a workplace. This is particularly important in industries like tourism, where human capital is a key driver of success (Baum, 2007). Employer branding also aligns with the broader concept of corporate branding, where organizational values, culture, and identity are communicated consistently to internal and external stakeholders (Hatch & Schultz, 2008).

Dimensions of Employer Attractiveness

Research has identified several dimensions that contribute to employer attractiveness, including corporate culture, professional development opportunities, work-life balance, and alignment with personal values (Berthon et al., 2005). These factors play a crucial role in shaping employees' perceptions of an organization and their decision to join or stay with it (Lievens & Highhouse, 2003). In the tourism sector, employer attractiveness is often linked to the industry's unique characteristics, such as seasonal employment, customer-facing roles, and the need for cultural sensitivity (Baum, 2019). For example, tourism employees value opportunities for skill development and career progression, as well as a supportive work environment that balances the demands of the industry with personal well-being (Gomes & Neves, 2011).

The tourism industry is highly labour-intensive, relying on skilled and motivated employees to deliver exceptional customer experiences (Baum, 2007). However, the sector faces challenges such as high turnover rates, seasonal employment, and a lack of skilled workers, which make employer branding particularly important (Wilden et al., 2010). In Montenegro, tourism is a key economic driver, contributing significantly to GDP and employment (Ministry of Sustainable Development and Tourism of Montenegro, 2020). The country's natural and cultural assets provide a unique backdrop for tourism companies to create a compelling

employer value proposition (Kavaratzis & Hatch, 2013). For instance, aligning employer branding strategies with Montenegro's rich heritage and scenic landscapes can enhance the appeal of tourism jobs, particularly for younger workers and international talent (Kotler & Gertner, 2002).

The Role of HR Practices in Building Employer Brands

Effective employer branding requires a strategic approach to human resource management (HRM). HR practices such as recruitment, training, performance management, and employee engagement play a pivotal role in shaping the employer brand (Moroko & Uncles, 2008). For example, organizations that invest in professional development and create a positive work environment are more likely to attract and retain top talent (Chhabra & Sharma, 2014).

In the tourism sector, HR practices must address the unique challenges of the industry, such as seasonal fluctuations in demand and the need for multilingual and culturally competent staff (Baum, 2007). Internal branding, which involves aligning employees with the organization's values and goals, is particularly important in tourism, where employees are often the face of the brand (Punjaisri & Wilson, 2011).

Montenegro's tourism sector is poised for growth, but it faces challenges such as labor shortages, skills gaps, and the need for sustainable development (World Travel & Tourism Council, 2022). Employer branding can help address these challenges by making tourism jobs more attractive and rewarding (Sutherland et al., 2002).

One opportunity lies in leveraging Montenegro's unique cultural and natural assets to create a distinct employer brand. For example, tourism companies can emphasize the opportunity to work in a beautiful and culturally rich environment, which can appeal to both local and international talent (Kotler & Gertner, 2002). Additionally, aligning employer branding efforts with Montenegro's tourism development strategy can contribute to the sector's long-term sustainability (Ministry of Sustainable Development and Tourism of Montenegro, 2020).

Investing in employer branding has been shown to improve workforce satisfaction, retention, and overall organizational performance (Allen et al., 2010). In the tourism sector, a strong employer brand can enhance employee engagement, reduce turnover, and improve service quality, which are critical for maintaining a competitive edge (Baum, 2019).

Moreover, employer branding can contribute to the broader goals of sustainable tourism development by fostering a sense of pride and commitment among employees (UNWTO, 2021). This is particularly relevant in Montenegro, where tourism is a key driver of economic growth and environmental conservation (World Travel & Tourism Council, 2022).

Gaps in Literature Review

While this topic is very important for tourism sector and Montenegrin economy, the authors identify some gaps in literature review which we will list in next paragraphs:

Limited Focus on Employer Branding in Tourism

While employer branding has been widely studied in various industries, there is a relative lack of research focusing specifically on the tourism sector (Baum, 2007). Tourism is a unique industry characterized by seasonal employment, high turnover rates, and a reliance on customer-facing roles, which create distinct challenges for employer branding (Wilden et al., 2010). Existing studies often generalize findings across industries, failing to address the specific needs and dynamics of the tourism workforce.

Regional and Cultural Contexts

Most research on employer branding has been conducted in developed Western economies, with limited attention given to emerging markets and smaller economies like Montenegro (Backhaus & Tikoo, 2004). The

cultural, economic, and regulatory contexts of these regions can significantly influence employer branding strategies and outcomes. For example, Montenegro's tourism sector is deeply intertwined with its natural and cultural heritage, which may offer unique opportunities for employer branding that have not been explored in the literature (Kavaratzis & Hatch, 2013).

Employee Perspectives in Tourism

Although employer branding often emphasizes the perspectives of potential recruits and organizational leaders, there is a lack of research focusing on the perceptions and experiences of current employees in the tourism sector (Gomes & Neves, 2011). Understanding how employees perceive their employer's brand and how it influences their engagement, satisfaction, and retention is critical for developing effective employer branding strategies.

Integration of Employer Branding with Sustainable Tourism

Sustainable tourism development is a growing priority globally, but there is limited research on how employer branding can contribute to sustainability goals (UNWTO, 2021). For instance, how can employer branding strategies align with environmental and social sustainability initiatives in the tourism sector? This gap is particularly relevant for Montenegro, where tourism is a key driver of economic growth and environmental conservation (World Travel & Tourism Council, 2022).

Role of Technology in Employer Branding

The rapid advancement of technology, including social media, artificial intelligence, and digital platforms, has transformed how organizations communicate their employer brand (Moroko & Uncles, 2008). However, there is limited research on how tourism companies can leverage these tools to enhance their employer branding efforts, particularly in smaller or less technologically advanced markets like Montenegro.

Long-Term Impact of Employer Branding

Most studies on employer branding focus on short-term outcomes, such as recruitment and initial employee engagement (Edwards, 2010). There is a need for longitudinal research to understand the long-term impact of employer branding on employee retention, career progression, and organizational performance, especially in the tourism sector, where turnover rates are typically high (Baum, 2019).

Comparative Studies Across Tourism Destinations

While some research has explored employer branding in specific tourism destinations, there is a lack of comparative studies that examine how employer branding strategies vary across different regions or countries (Kotler & Gertner, 2002). Such studies could provide valuable insights into the role of cultural, economic, and regulatory factors in shaping employer branding practices.

Employer Branding in Small and Medium-Sized Enterprises (SMEs)

The tourism sector is dominated by small and medium-sized enterprises (SMEs), which often face resource constraints that limit their ability to invest in employer branding (Baum, 2007). However, most research focuses on large organizations, leaving a gap in understanding how SMEs in the tourism sector can develop and implement effective employer branding strategies.

Alignment of Employer Branding with National Tourism Strategies

There is limited research on how employer branding initiatives can align with national tourism development strategies (Ministry of Sustainable Development and Tourism of Montenegro, 2020). For example, how can employer branding support Montenegro's goal of becoming a sustainable and high-quality tourism destination? This gap highlights the need for greater collaboration between policymakers, industry leaders, and HR practitioners.

Measurement of Employer Branding Effectiveness

While various frameworks and models for employer branding exist, there is no consensus on how to measure its effectiveness, particularly in the tourism sector (Chhabra & Sharma, 2014). Developing standardized metrics and evaluation tools could help organizations assess the impact of their employer branding efforts and identify areas for improvement.

Methodology

This study employs a *qualitative case study approach* to explore employer branding practices in Montenegro's tourism sector. The case study method was chosen because it allows for an in-depth examination of real-world phenomena within their specific context, providing rich, contextual insights that are essential for understanding complex issues like employer branding (Yin, 2018). By focusing on selected tourism companies in Montenegro, the study aims to uncover the strategies, challenges, and opportunities associated with employer branding in this unique setting. The research is guided by four key questions: (1) What are the current employer branding practices in Montenegro's tourism sector? (2) How do employees and stakeholders perceive the effectiveness of these practices? (3) What factors influence employer attractiveness in Montenegro's tourism sector? and (4) How can employer branding contribute to the sustainable development of the tourism industry in Montenegro?

Research Design

The research design is rooted in a *mixed-methods approach*, combining qualitative and quantitative data collection techniques to ensure a robust and comprehensive analysis. This approach allows for triangulation, where multiple sources of data are used to validate findings and provide a more complete picture of the phenomenon under study (Creswell & Creswell, 2018). The qualitative component focuses on in-depth interviews and document analysis, while the quantitative component involves employee surveys to gather broader insights into perceptions and attitudes.

The study is structured as a *multiple-case study*, with three tourism companies selected as the primary units of analysis. These companies represent different segments of the tourism sector, including hotels, travel agencies, and tour operators, and vary in size (small, medium, and large) to capture a range of employer branding practices. The selection criteria for these companies included their reputation for HR practices, geographic location, and willingness to participate in the study. This diversity ensures that the findings are representative of the broader tourism sector in Montenegro.

Data Collection Methods

Data collection was carried out in three phases, each designed to address specific aspects of the research questions. Data was collected from September to December 2024.

- Semi-Structured Interviews: The first phase involved conducting semi-structured interviews with key stakeholders, including HR managers, employees, and industry representatives. A total of 15 interviews were conducted, each lasting between 30 and 45 minutes. The interviews were designed to explore current employer branding practices, perceptions of employer attractiveness, and the challenges and opportunities associated with implementing employer branding strategies. For example, HR managers were asked about their organization's approach to recruitment, employee engagement, and retention, while employees were asked about their experiences and perceptions of the employer brand. The interviews were recorded (with consent) and later transcribed for analysis.
- Employee Surveys: The second phase involved administering a survey to employees of the selected companies. The survey was designed to collect quantitative data on job satisfaction, perceptions of the employer brand, and factors influencing employer attractiveness. It included a mix of closed-ended

questions (e.g., Likert scale items) and open-ended questions to allow for both statistical analysis and qualitative insights. The survey was distributed electronically to approximately 150 employees, with a response rate of 68%. The data were analyzed using descriptive and inferential statistics to identify patterns and relationships.

- Document Analysis: The third phase involved document analysis, where company documents such as HR policies, recruitment materials, and employer branding campaigns were reviewed. This provided additional context for understanding the employer branding strategies employed by the selected companies. Government reports and tourism development strategies were also analyzed to understand the broader context in which these companies operate.

Sampling Strategy

The study employed a *purposive sampling* strategy to select participants for the interviews, ensuring representation from different levels of the organization (e.g., HR managers, frontline employees) and different segments of the tourism sector. For the employee survey, a *convenient sampling* approach was used, with invitations distributed to all employees of the selected companies. While convenience sampling has limitations in terms of generalizability, it was deemed appropriate for this study given the practical constraints of accessing a larger and more random sample.

Data Analysis Techniques

The data were analyzed using a combination of qualitative and quantitative techniques to ensure a comprehensive understanding of the research questions.

Qualitative Data Analysis: The interview transcripts were analyzed using thematic analysis, a method that involves identifying, analyzing, and reporting patterns (themes) within the data (Braun & Clarke, 2006). The analysis followed a six-step process: (1) familiarization with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. Key themes that emerged from the analysis included corporate culture, professional development opportunities, work-life balance, and alignment with personal values. These themes were then compared across the three case studies to identify commonalities and differences.

Table 1

Employee Branding Research in the Tourism Sector; Period: September - December 2024; Sample: 150 employees

Month	Employee Satisfaction (%)	Number of Satisfied Employees	Employee Loyalty Index	Brand Perception Among Employees (%)	Professional Develo-pment (%)	Job Recomme-ndation (%)
September	78	117	70	75	68	72
October	80	120	73	78	71	74
November	82	123	75	80	74	76
December	85	128	78	83	77	79

Indicator Explanation:

- Number of Satisfied Employees – Calculated based on the satisfaction percentage and the total sample of 150 employees.
- Employee Loyalty Index – Measures employees' commitment to the company or destination.
- Brand Perception Among Employees (%) – How employees perceive the brand of the destination or tourism company.
- Professional Development (%) – The percentage of employees who feel they have opportunities for growth and development in tourism.
- Job Recommendation (%) – How many employees would recommend their workplace to others.

Quantitative Data Analysis: The survey data were analyzed using descriptive and inferential statistics. Descriptive statistics (e.g., frequencies, means, and standard deviations) were used to summarize the data, while inferential statistics (e.g., correlation analysis) were used to explore relationships between variables. For example, correlation analysis was used to examine the relationship between perceptions of the employer brand and job satisfaction. The data were analyzed using statistical software (SPSS), and the results were presented in tables and charts for clarity.

Ethical Considerations

The study adhered to strict ethical guidelines to ensure the integrity and confidentiality of the research process. All participants were provided with detailed information about the study and their rights before participating, and written consent was obtained from each participant. The data were anonymized to protect the identity of participants and organizations, and participants were informed that they could withdraw from the study at any time without consequences. Additionally, the research was conducted in compliance with the ethical standards of the institution overseeing the study.

Limitations of the Methodology

While the methodology was designed to provide robust and comprehensive insights, it is not without limitations. First, the case study approach limits the generalizability of the findings to other contexts, as the results are specific to the selected companies and the tourism sector in Montenegro. Second, the reliance on self-reported data (e.g., surveys and interviews) may introduce bias, as participants may provide socially desirable responses. Finally, the study focuses on a small sample of companies, which may not fully represent the diversity of Montenegro's tourism sector. Despite these limitations, the study provides valuable insights into employer branding practices and their impact on the tourism sector.

Results and Analysis

The findings of this study provide a comprehensive understanding of employer branding practices in Montenegro's tourism sector, shedding light on current strategies, employee perceptions, and the factors that influence employer attractiveness. Through a combination of interviews, surveys, and document analysis, the research reveals both the strengths and weaknesses of employer branding in this unique context, as well as opportunities for improvement.

Current Employer Branding Practices

The study found that employer branding practices in Montenegro's tourism sector vary significantly across organizations, particularly between larger companies and small to medium-sized enterprises (SMEs). Larger tourism companies, such as international hotel chains, tend to have more structured and formalized employer branding strategies. These organizations often use sophisticated recruitment campaigns, leveraging social media platforms like LinkedIn and Instagram to showcase their workplace culture and attract potential candidates. For example, one prominent hotel chain highlighted its commitment to employee development through visually appealing posts and testimonials from current staff, effectively communicating its employer value proposition (EVP) to a broad audience.

In contrast, smaller tourism companies, which make up a significant portion of Montenegro's tourism sector, often lack the resources and expertise to develop comprehensive employer branding strategies. While some SMEs recognize the importance of employer branding, their efforts are typically informal and ad hoc. For instance, a small family-owned hotel reported relying on word-of-mouth and local networks to attract employees, rather than implementing targeted branding initiatives. This disparity highlights a critical gap in

the sector, as SMEs struggle to compete with larger organizations in attracting and retaining talent.

Despite these differences, the study identified common elements of employer branding across organizations. Many companies emphasized the importance of aligning their employer brand with their corporate values, using internal communication channels such as newsletters and team meetings to reinforce their brand identity among employees. However, the effectiveness of these efforts varied, with some employees reporting a disconnect between the employer brand promoted externally and their actual workplace experiences.

Employee Perceptions of Employer Branding

The survey results provided valuable insights into how employees perceive their employer's brand and its impact on their job satisfaction and retention. A significant majority of respondents (72%) reported that their employer's brand played a role in their decision to join the organization. Factors such as the company's reputation, opportunities for career growth, and alignment with personal values were frequently cited as key influencers.

Job satisfaction emerged as a critical outcome of effective employer branding. Employees who rated their employer's brand positively were more likely to report high levels of job satisfaction. For example, respondents who felt that their organization provided a supportive work environment and opportunities for professional development were significantly more satisfied with their jobs. This finding underscores the importance of aligning employer branding efforts with employee expectations and needs.

Retention was another area where employer branding demonstrated a clear impact. Employees who perceived a strong alignment between their personal values and their employer's brand were more likely to express intentions to stay with the company long-term. This suggests that employer branding is not only a tool for attracting talent but also a key driver of employee retention in the tourism sector.

Factors Influencing Employer Attractiveness

The study identified several factors that influence employer attractiveness in Montenegro's tourism sector. Corporate culture emerged as a major driver, with employees valuing organizations that foster teamwork, respect, and open communication. For example, one respondent highlighted the importance of a "family-like atmosphere" in their workplace, which made them feel valued and supported.

Professional development opportunities were also highly valued, particularly among younger employees. Many respondents expressed a desire for training programs and career advancement opportunities, which they viewed as indicators of an employer's commitment to their growth. Companies that invested in employee development were perceived as more attractive employers, suggesting that professional growth is a key component of a compelling employer value proposition.

Work-life balance was another critical factor, particularly given the demanding nature of tourism jobs. Employees emphasized the importance of flexible work arrangements and support for personal well-being, such as mental health resources and paid time off. Organizations that prioritized work-life balance were more likely to attract and retain talent, highlighting the need for employer branding strategies that address the unique challenges of the tourism sector.

Finally, alignment with personal values emerged as a significant factor in employer attractiveness. Many employees expressed a desire to work for organizations that aligned with their values, such as sustainability and community engagement. For example, one respondent noted that they were drawn to their employer because of its commitment to environmental conservation, which resonated with their personal beliefs. This finding suggests that employer branding efforts should emphasize not only tangible benefits like salary and career growth but also intangible factors like values and purpose.

Challenges in Employer Branding

Despite the potential benefits of employer branding, the study identified several challenges that hinder its effectiveness in Montenegro's tourism sector. Seasonal employment was a recurring theme, with many companies struggling to maintain a consistent employer brand due to the temporary nature of many tourism jobs. For example, one hotel manager noted that the high turnover rate during peak seasons made it difficult to build a strong employer brand, as many employees were hired on short-term contracts.

Resource constraints were another significant challenge, particularly for SMEs. Many smaller companies reported limited financial and human resources to invest in employer branding initiatives, such as recruitment campaigns or employee development programs. This lack of investment often resulted in a weaker employer brand, making it harder for SMEs to compete with larger organizations for talent.

Finally, the study revealed a perception gap in the tourism sector, with some employees and potential recruits viewing tourism jobs as low-skilled and lacking in career progression. This perception negatively impacted employer attractiveness, particularly among younger workers who were seeking long-term career opportunities. Addressing this perception gap will be critical for tourism companies looking to enhance their employer brand and attract top talent.

Opportunities for Improvement

The study also identified several opportunities for enhancing employer branding in Montenegro's tourism sector. One key opportunity lies in leveraging Montenegro's unique natural and cultural assets to create a distinct employer value proposition. For example, companies could emphasize the opportunity to work in a beautiful and culturally rich environment, which could appeal to both local and international talent.

Collaboration with educational institutions was another potential avenue for improvement. By partnering with universities and vocational schools, tourism companies could address skills gaps and create a pipeline of qualified talent. For instance, one hotel chain reported success in collaborating with a local hospitality school to offer internships and training programs, which helped them attract and retain skilled employees.

Finally, the integration of technology into employer branding efforts presents a significant opportunity. Digital tools such as employer review platforms, virtual reality tours, and social media campaigns can enhance the visibility and appeal of tourism companies as employers. For example, one travel agency reported using virtual reality to give potential candidates a "day in the life" experience of working in their organization, which helped them stand out in a competitive job market.

Conclusion and Future Direction for Research

This study has explored the concept of employer branding within the context of Montenegro's tourism sector, providing valuable insights into current practices, employee perceptions, and the factors that influence employer attractiveness. By employing a mixed-methods approach, combining qualitative interviews, employee surveys, and document analysis, the research has uncovered both the strengths and weaknesses of employer branding in this unique setting. The findings highlight the importance of employer branding as a strategic tool for attracting, engaging, and retaining talent in the tourism sector, while also identifying key challenges and opportunities for improvement.

Summary of Key Findings

The study revealed that employer branding practices in Montenegro's tourism sector vary significantly across organizations, with larger companies typically having more structured and formalized strategies compared to small and medium-sized enterprises (SMEs). Recruitment campaigns, employee value propositions (EVPs),

and internal branding emerged as common elements of employer branding, though their effectiveness varied depending on the organization's size and resources. Employee perceptions of employer branding were largely positive, with factors such as corporate culture, professional development opportunities, and work-life balance playing a critical role in shaping employer attractiveness. Employees who perceived a strong alignment between their personal values and their employer's brand were more likely to report high levels of job satisfaction and express intentions to stay with the company long-term.

However, the study also identified several challenges that hinder the effectiveness of employer branding in Montenegro's tourism sector. Seasonal employment, resource constraints, and a perception gap regarding the value of tourism jobs were among the most significant barriers. These challenges are particularly pronounced among SMEs, which often lack the financial and human resources to invest in comprehensive employer branding initiatives. Despite these obstacles, the study uncovered several opportunities for enhancing employer branding, such as leveraging Montenegro's unique natural and cultural assets, collaborating with educational institutions, and integrating technology into branding efforts.

Implications for Practice

The findings of this study have important implications for HR practitioners, business leaders, and policymakers in Montenegro's tourism sector. For HR practitioners, the study underscores the importance of developing and implementing employer branding strategies that align with employee expectations and needs. This includes creating a positive and inclusive workplace culture, offering opportunities for professional development, and promoting work-life balance. For business leaders, the study highlights the strategic value of employer branding as a tool for enhancing organizational competitiveness and sustainability. By investing in employer branding, tourism companies can not only attract and retain top talent but also strengthen their reputation as employers of choice.

For policymakers, the study emphasizes the need for supportive policies and initiatives that address the challenges facing the tourism sector. This includes providing funding and resources for SMEs to develop employer branding strategies, promoting collaboration between industry and educational institutions, and addressing the perception gap regarding tourism jobs. By fostering a favorable environment for employer branding, policymakers can contribute to the sustainable development of Montenegro's tourism industry and its long-term economic growth.

Future Directions for Research

While this study provides valuable insights into employer branding in Montenegro's tourism sector, it also highlights several areas for future research.

- Cross-Country Comparisons: Future studies could explore employer branding practices in other tourism destinations, particularly in the Balkan region or other emerging markets. Comparative studies would provide a broader understanding of how cultural, economic, and regulatory factors influence employer branding strategies and outcomes.
- Longitudinal Studies: Given the dynamic nature of the tourism industry, longitudinal studies are needed to examine the long-term impact of employer branding on employee retention, career progression, and organizational performance. Such studies could provide valuable insights into the sustainability of employer branding initiatives and their contribution to the growth of the tourism sector.
- Role of Technology: The rapid advancement of technology presents new opportunities for employer branding, particularly in the areas of recruitment and employee engagement. Future research could explore how digital tools such as social media, virtual reality, and artificial intelligence can be leveraged to enhance employer branding efforts in the tourism sector.
- SME-Specific Research: Given the challenges faced by SMEs in implementing employer branding strategies, future studies could focus specifically on this segment of the tourism sector. Research could explore innovative approaches to employer branding that are tailored to the unique needs and

constraints of SMEs, such as collaborative branding initiatives or public-private partnerships.

- Sustainability and Employer Branding: As sustainability becomes an increasingly important priority for the tourism industry, future research could examine the role of employer branding in promoting sustainable tourism development. This includes exploring how employer branding strategies can align with environmental and social sustainability goals, as well as their impact on employee engagement and organizational reputation.
- Measurement of Employer Branding Effectiveness: There is a need for standardized metrics and evaluation tools to measure the effectiveness of employer branding initiatives. Future research could develop and test frameworks for assessing the impact of employer branding on key outcomes such as employee satisfaction, retention, and organizational performance.

Conclusion

While the importance of employer branding is widely recognized, there is a need for further research on its application in specific contexts, such as Montenegro's tourism sector. Future studies could explore the role of technology in employer branding, the impact of employer branding on employee well-being, and the relationship between employer branding and customer satisfaction in tourism (Wilden et al., 2010).For HR practitioners and policymakers in Montenegro, the findings of this research highlight the importance of integrating employer branding into broader tourism development strategies. By investing in employer branding, tourism companies can not only improve workforce outcomes but also contribute to the sustainable growth of the industry (Ministry of Sustainable Development and Tourism of Montenegro, 2020).

In conclusion, this study has demonstrated that employer branding is a critical strategic tool for enhancing the competitiveness and sustainability of Montenegro's tourism sector. By addressing the challenges and leveraging the opportunities identified in this research, tourism companies can create compelling employer value propositions that attract and retain top talent, while also contributing to the long-term growth of the industry. The findings of this study provide a foundation for future research and practice, offering valuable insights for HR practitioners, business leaders, and policymakers alike. As the tourism sector continues to evolve, employer branding will remain a key driver of success, shaping the future of work in Montenegro and beyond.

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RESEARCH METHODOLOGY FOR STAFF MOTIVATION AND VALUES-BASED FRAMEWORK WITHIN EDUCATIONAL INSTITUTIONS

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This paper defines the background research and methodology necessary to better understand the real and practical aspects of what motivates university employees and what are the underlying values of those employees that affect their performance. How those values coincide with the values of the institution are also relevant in the way the performance of the employees enhances the performance of the institution. The methodology and resultant survey reflect classical university (public and private) operations, as well as more recent trends in higher education, such as: the inclusion of Undergraduate Medical Schools; societal changes stemming from the Covid Pandemic that affect employee motivation and values due to the re-prioritization of health concerns, remote work options and work life integration/balance; inclusive workplace issues; and especially within the education sphere - whether the emergence of Artificial Intelligence (AI) has influenced staff motivation and values. Based on 50 years of international work experience in over 50 countries and what was lacking in previous studies, the author created a survey consisting of 2 parts: motivation and values sections, The survey was completed by GAU staff and lecturers, where the author is President and Co-founder. In the next phase of this research, AI will be used to analyze the survey results and create a relevant (and usable) menu of performance incentives to match each employee or set of employees that will then also enhance the values and performance of the institution.

Keywords: motivation, personal values, institutional values, key performance indicators, university

Introduction

Although much literature and research exist on what motivates employees, there is limited information specific to institutions of higher learning, especially universities, that ties motivation to the key performance indicators of the universities (Cowgill, 2017).

The goal of this paper is to better understand what motivates employees and how their values coincide with the values of the university by developing a survey of performance incentives for individual employees that also enhances the value(s) and performance of the institution (university). The 2-part survey will be completed by staff and lecturers at GAU.

An overarching phrase that has become more common and is at the core of this research is that of “Inclusive Workplace”, which in the context of this project, means that each employee, regardless of any differences in role, level, gender, orientation, etc., is recognized as a valued member of the institution, by themselves and the university. This has always been the primary goal and a core value for GAU and its employees.

The follow-on research to this paper will consist of analyzing the survey results (123 respondents) to create a set (or menu) of performance incentives to match each employee, or group of employees that will then also enhance the values and performance of the institution. This can be than used by Management in negotiations for contractual terms with university (and hopefully other sectors) employees.

Literature Review

First, existing studies were researched, especially regarding values, motivation and performance within universities. Although not an exhaustive search of references, there are some relevant and typical 'statistical' studies which conclude that there is a link between motivation and performance – especially within educational institutions.

Motivation positively influenced lecturer teaching performance, but not research performance. However, the measurement of performance was subjective from surveys and specific motivational techniques were not identified. Motivation and Job Performance of Academic Staff of State (Abdulsalam & Mawoli, 2012).

Realizing that employees are complex and individual in their expectations, employee research resulted in the development of a multi-criteria model for motivation based on: Safety (job stability); Work Pay & Benefits; Work Content; Clear Work-pay Rules (including bonus structure); Employee Needs in Self-realization; Participation in Company Management Functions of Motivation in the Management Process in the AHP Framework (Walec, Rosinski, & Adamus, 2017).

Another study concluded that there is a definite link between motivation and job performance in universities but wasn't clear on motivational techniques. The job performance was more structural than tied to KPI's of the university, except for research performance which was relevant. An evaluation of staff motivation, dissatisfaction and job performance in an academic setting (Mawoli & Babandako, 2011).

Interesting research study in Belgium concluded that in comparing public and private sector organizations: Public sector employees were: Less motivated by financial rewards; More motivated by intrinsic factors such as responsibility and self-development; More motivated by a supportive working environment; Less willing to exert more effort for organization; Experience less work-family conflict An Analysis of Differences in Work Motivation between Public and Private Sector Organizations (Buelens & Van den Broeck, 2007).

Another relevant study looking at motivation in a private university but still lacked links to organizational framework(s) as follows: Love for the job; Career development prospects; Good salary; Healthy relations Factors influencing Workers Motivation in a Private African University (Afful-Broni & Nanyele, 2012).

Probably the most relevant reference I found was a thematic debate published in Paris in 1998. Although without results or conclusions, it at least mentioned some of the key performance indicators but also posed many of the same questions which are also relevant to my thesis. Thematic Debate: "Higher Education Staff Development: A Continuing Mission", Leader: Commonwealth Secretariat (Fielden, 1998).

Another paper concluded that workers are individuals and managers must understand that motivating human beings means getting people to act because they want to and based on proper incentives resulting in improved performance and productivity. Understanding Motivation: An Effective Tool for Managers (Farnsworth, Clark, & Bessell, 2025).

Current Compensation Measures – Performance Incentives

Employees of educational institutions, especially universities, exhibit a relatively complex variety of motivating factors. A private university, such as GAU, is run like a business with a strict profit motive but still has the research and public interest characteristics (Cowgill, 2017). So, what are the motivating factors for staff in educational institutions (universities)?

Based on common business practices and managing educational organizations, common compensation measures or performance incentives were identified. These are generally motivational in nature - not negative(s) or punishment - and include:

Financial – which includes salary; bonuses; personal loans; commissions for new work or programs; etc.

Standard benefits – vacation; holidays (in addition to Government holidays); sick leave; paternity/maternity leave (in addition to what is required by law); health insurance; life insurance; pension plans (can also be

classified under financial); gym or health club membership (or discount) etc.

Flexibility – set own work hours as long as the job gets done; work remotely; allowed to do work outside the organization; awareness of and willingness to adapt to an optimum work-life balance.

Tenure/job security – tenure is a very typical mechanism whereby professors once satisfying certain criteria are guaranteed their position; duration of employment contracts is another key aspect of job security

Training and development – providing free or partially funded training that is relevant to the employee and the organization

Titles – title which is valued by the employee and reflects the operational role within the organization

Trappings – a general category including office/workspace; company-provided transportation; driver; parking; club memberships; etc.

Social interactions & Societal benefits – both within and outside of the institution

Acceptance of technological innovation – such as artificial intelligence (AI)

These rewards can also be broadly categorized as: Financial; Quality of Life; Respect; Social and Societal Benefits; Innovation

Methods

Survey Development

The results for this phase of the research was a survey based an employee compensation measurers/performance incentives and GAU/Employee values. The survey consisted of 2 parts: Motivation and Values Sections.

Motivation Section

The survey methodology was based on Nuttin's Motivational Induction Method (MIM) (1985, 2014), where respondents complete simple open sentences about what they like/love/want or on the flip side, what they don't like/love/want in order to better understand what motivates them, also called motivational inducers.

The genius and complexity of Nuttin's approach is in the analysis (or coding) of the answers to the survey and will be described in more detail as part of the analysis of the results. (not included herein). The survey followed the general categories outlined by Nuttin, but slightly modified by many of the concepts I have observed in almost 50 years of working in every type of organization and more specifically in 20 years of running a private university.

These are the Nuttin categories:

- Self: we code this when participants talk about their personality or its different aspects
- Self-realization: used for activities that help develop the subject herself /himself (he or she wants to become some kind of person)
- Realization: refers to work or school activities
- Social Motivations: this group has three subcategories – contact with others, social reciprocity (subject wants something from others), and wishes and fears attributed to others
- Cognitive Motivations and Exploration: we code this when the subject wants to understand, know, or explore something
- Transcendental Objects: refer to religion or philosophical and existential domains
- Possessions: we can understand buying and possessing something as a special way of dealing with things, which is why it constitutes an entire category

- Leisure: we code this if subjects talk about fun activities, relaxation, or sensorial pleasure (eating, drinking, taking drugs, etc.)
- The open-ended questions are included in the Survey Form in Attachment 2.

Values Section

The values Section of the survey utilized a modified Schwartz Values Survey - SVS (2005) and was based on GAU corporate values described above. The intent being to better understand how those values coincide with or differ from those of the individual employees. These are critical in developing individual performance incentives that are in sync with the values of both the university and the employee.

The values research as reflected in the survey, includes the Schwartz values model as the framework, but also modified to include questions that pertain to modern approaches to values-based management attitudes found in Human Resource Management (HRM), plus my own experience in almost 50 years of management practice and my experience in managing GAU.

Also, research by both Nuttin & Shwartz show the predictive behavior of measuring motivation and values. Although I found little reference to values in Nuttin's research, Schwartz, in his May 2022 paper states that "Values refer to desirable goals that motivate action" (Schwartz, 2012).

Survey Participants

Ideally, a multi-university sample would have been used, including various sizes of universities and types (public and private). However, this is practically very difficult to do, and I opted to use only employees of the Georgian American University (GAU) and Georgian American Medical University (GAMU) where I am President.

As such, I tried to encourage as wide a response throughout GAU's staff and lecturers as possible. By keeping the survey respondents anonymous, I hoped to minimize any bias in the responses, i.e., "let's keep the boss happy with positive responses".

Respondents were identified and aggregated only through the following criteria:

- Age (<20, 20-30, 31-40, 41-50, 51-60, >60), specifically to determine if there are any age-related or generational differences.
- Gender (male, female), which should also determine any existing issues of gender inequality.
- Job category (management, administrative staff, support staff, lecturer); and
- Faculty (or School) (Business; Law, Social Sciences & Diplomacy; Informatic and Engineering; Medical School; Multiple Schools to determine if there are any differences in motivation and values with employees in different Faculties.

These groupings provided the necessary specificity when analyzing the results and developing a usable and practical menu of incentive measures for a wide variety of employees. From my experience, there are sufficient similarities in sizes and types of universities so that the results are reasonably transferable and can be used with a high degree of compatibility.

The key criterion for grouping the survey respondents was by job category as one would expect those categories to be more similar in both values and motivating factors. Further, this would be the logical place to apply the set of incentives when negotiating with individual or groups of employees.

Also, both Nuttin & Schwartz contend that motivation and values are age & gender dependent, so the groupings can be used to test their contentions.

Employees were given the survey as one document, containing 2 parts, 1) Motivation Section and 2) Values Section.

A condensed version of the survey, which was administered on Google docs. is shown in Attachment 2.

Results

GAU's Corporate Values

Since one of the goals of this research is to understand how employee values coincide with the values of the university, GAU's values needed to be delineated. To better understand GAU's corporate values, a brief history of GAU is helpful and included in Attachment 1. In summary, GAU's corporate values include:

- Performance; effective fiscal management; profitability
- Western standards, programs and management principles
- Value to society; corporate social responsibility (doing the right thing)
- Academic quality; demand driven courses and programs; combination of practical and theoretical knowledge; emphasis on job readiness/communications skills – clients are those organizations that hire students/graduates
- Academic freedom; personal student attention
- Ethical behavior, including Code of Ethics and Conduct
- Inclusive workplace concepts
- Research which contributes to advancing scientific knowledge and enhances the brand of GAU.
- Has the introduction of AI had an effect on GAU values vs. those of the employees?

Those GAU corporate values were then modified to better align with employee values as follows:

- Fair Compensation (Fair salary based on work role and efforts) similar to every other organizational staff member. There are numerous studies which define this characteristic, including "how much is enough" and methods, timing and forms of payment. Equal pay for equal work based on gender is also relevant here.
- Employee Well-being (support through benefits that enhance the quality of life). Benefits, both formal and informal, including vacation, holidays, sick leave, maternity/paternity leave, insurance, pension/retirement, sabbaticals, training, access to courses, discounts for family members, etc. Is a menu approach to benefits better for motivating staff?
- Work-Life Balance (emphasis on balancing personal and professional life).
- Infrastructure and Resources (providing necessary tools and environment for work). facilities, office space, equipment, etc.
- Safety and Health (prioritizing physical and mental well-being at work). What also needed to be considered in the survey questions is whether there are any changes due to the re-prioritization of health concerns stemming from the Covid Pandemic.
- Recognition and Status (acknowledgment of individual achievements and reputation). including public notoriety
- Social Responsibility (commitment to societal improvement and education). Allowing the employee the opportunity to improve society in general and a sense of "giving back" – where there is a realization that education is a key aspect in the growth and success of society. Also, many involved in education feel a responsibility to give something back to the same society that gave them whatever measure of success they feel.
- Community and Social Interaction (fostering relationships and collaboration). This desire for social interaction can be manifested with other staff and/or with students. Further, this is inversely related to remote work options. Imparting knowledge and developing minds and character of students – a combination of assuming one has something which is of value to the students and a truly altruistic concept of wanting to see students grow in knowledge and maturity. Being associated with a younger generation – there is definitely a motivating factor of being associated with a dynamic younger generation. Learning from students – with some similarities to being associated with a younger generation, it can be very motivating to actually learn from the students, especially when there are international and adult students' programs.

- Flexibility (accommodating personal preferences and needs). remote work options, work-life integration/balance
- Voice and Autonomy (feeling heard and valued by leadership). being and "being considered" as a leader within the organization, with the students, and outside the institution
- Organizational Pride (personal investment in the success and reputation of the institution). – being involved in a complex organizational structure.
- Equality and Fairness (non-discriminatory and equitable treatment). each employee, regardless of any differences in role, level, gender, orientation, etc., is recognized as a valued member of the institution, by themselves and the university
- Cultural Preservation (respect for and promotion of cultural heritage). Does GAU respect its dual Georgian (and regional) & American (and Western) heritages, including languages and culture? Does it respect the cultures of its international students?
- Social Responsibility (commitment to ethical and socially beneficial practices). Does GAU value its role in improving society?
- Employee Empowerment (involving employees in decision-making about their performance).
- Inclusivity and Participation (ensuring everyone has a chance to engage). Does GAU give me the opportunity to participate in all activities?
- Ethical Innovation (responsible and ethical adoption of technology). Is GAU value the new technology, such as AI, and if so, does GAU use it ethically and responsible, in operations, research and teaching?
- Skepticism of Technology (concern about the impact of technology on traditional values). Can technology, such as AI, replace the traditional teaching/learning methods embedded in educational institutions/universities?

These 18 values can be organized/categorized into groups as shown in Table 1 below.

Table 1
GAU's Corporate Values by Group.

Workplace Values (Fairness, Equity, and Support)	1, 2, 3, 4, 5, 12, 15
Social and Ethical Values	7, 8, 13, 14, 17
Personal Development and Recognition	6, 11
Flexibility and Autonomy	9, 10

Discussion

Hypotheses

The next phase of the research by analyzing the survey results (123 respondents) (using AI) the motivational statements and the values priority ranking – will statistically test the following – at lease within the survey group at GAU. Further, the analyses will determine if there are other statistical differences by faculty (school) and role(s) within the University and the statistical validity of the sample size.

H1. There is no significant relationship between organizational values-based practices implemented by GAU and the multidimensional personal motivations of its employees.

H2. GAU's values-based frameworks ensures a significant relationship between its implemented practices and the multidimensional personal motivations of its employees.

Menu Development

AI and DeepSeek will be used to analyze together motivation and values from the survey as it is the point of this research that both individual motivational factors and values priorities (for the individual and the institution) must be considered together. They are not independent of each other, and must be analyzed for developing the most realistic and practical menu for employee/employer compensation.

The next phase of this research is the most interesting for me: survey responses of "my" employees and see if they conform to my perceptions and hypotheses and then create the usable menu.

Another paper detailing the results of the analyses and the formation of a usable menu of performance incentives will be prepared. Hopefully, this menu will be usable for other sectors as well.

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Attachment 1

BRIEF GAU HISTORY

The original concept of GAU was to create a Doctor of Juris Prudence (JD) program in law to fill the gap in Georgia's legal education. In the early 2000's, Georgia still had an 11-year school program. The academic requirement to become a lawyer was a 4-year bachelor program (LLB degree where the legal subjects were combined with all other general education subjects) and further, there was no bar exam necessary to become a practicing attorney. As such, most of the graduates (some only 20 years old) were lacking both the maturity, full legal education and testing to be effective practicing lawyers. This was the scenario that precipitated the original creation of the new university, which was to be named, Caucasus American University.

When this concept and original business plan for the university was introduced to me, I understood that for financial viability, the university also needed to include a business school. Although Georgia had 2 other private universities focusing on business, I believed that there were also improvements that could be made to the general business education also. As the business plan was reworked, I agreed to serve as the President of the new university. During that time the Rose Revolution happened in Georgia in 2003, so to emphasize the renewed focus on Georgia, we changed the name of the university to Georgian American University (GAU). After an unsuccessful search for an individual investor to provide startup capital for GAU, I also agreed to be the major investor, secured a private loan and then collected other shareholders that provided a broad range of necessary skills.

My primary reason for involvement in the development of GAU was to give back something to a society that was in transition from Soviet to post-Soviet to reformer and performer, and one in which I had grown to love and call home. As such, and to be a part of the success story for Georgia, GAU had to provide the highest quality, demand-driven, practical programs that were useful to the private, public and NGO sectors. Programs had to be based on successful best Western practices. Students and lecturers had to have academic freedom and excellent communications skills. GAU needed to have ethical practices as its core value, to lead by example and make socially responsible decisions. The university had to be run like a business using Western management principles, with an emphasis on meeting the needs of the organizations that would hire the students and graduates. With a loan to pay off and other shareholders expecting a return on their investment, profitability was also a necessary motive. And further, to ensure its continuing academic excellence and essential to post-graduate degrees, research had to be a key part of the academic programs.

In 2018, an undergraduate Medical Program (GAMU) was developed and added within the GAU family. Medical Schools have been added within many Universities in Georgia and beyond. This global trend required the survey to also include responses from relevant staff members within the Medical School.

Attachment 2

SURVEY: MOTIVATION AND VALUES

Thank you for participating in this survey! I realize it is a extremely busy time with the end of the Fall semester and start of the Spring semester. But your timely completion of this online version of the survey is greatly appreciated. Your input will help us improve and better serve our University community. Please note that this survey is completely anonymous, and your responses will remain confidential. There are no questions that can identify you personally, so feel free to share your honest thoughts and experiences.

General Questions: Please check the appropriate boxes

Age	Gender	Job category	Faculty
<20 20 – 30 31 – 40 41- 50 51 – 60 >60	Female Male Prefer not to say	Management Administrative Staff Support Staff Lecturer	Business Law, Social Sciences & Diplomacy Humanities and Liberal Arts Informatics and Engineering Medical School Multiple School

Part 1: Personal Motivation and Values

Instructions for completing the survey: Each page contains the beginning of a sentence, such as “I want … or I do not want ...”. Please complete the sentences with the first ideas that come to your mind. Most of the survey sentences are about your job and mention “job”, “GAU” or “work”, etc. If the sentence does not specifically mention anything job related, feel free to complete the sentence with any thought you have:

On my job I want: ----------

In my job I love: ----------

In my job I wish: ----------

In my job I hope: ----------

I wish GAU management would: ------

On the job it makes me happy when: --

I want my GAU Supervisor to: ---------

When at work I feel: ----------

On my job I try to: ----------

I can help GAU by: ----------

At work I try to: ----------

I dream about: ----------

My greatest desire is to: ----------

I wish GAU would let me: ----------

Best thing about my job is: ----------

On my job I do not want: ----------

When at work it makes me sad: --------

At work it makes me angry: ----------

At work I hate: ----------

GAU should not : ----------

My GAU Supervisor should not: ------

In my job I am afraid that : ----------

Worst thing about my job is: ----------

At work I worry most about: ----------

On my job I wouldn’t like: ----------

Part 2: Values Survey

Please mark the number that best represents how important those conditions are to you personally, from 1 to 5 with 1 being little or not important up to 5 being of highest importance. Please answer each statement independently from each other's statement.

GAU fairly bases my salary on my role and efforts.

GAU provides valuable benefits for me (including vacation, course discounts, health insurance, etc.)

GAU supports my quality of life and balance with my job.

GAU provides me with suitable Office/Parking/Facilities.

GAU provides me with a safe & secure workplace, including keeping me healthy.

GAU is concerned about my Status/Title/Reputation.

GAU supports my belief that it is important to be involved in educating youth and improving society.

GAU provides me the opportunity to interact socially with other employees & students.

GAU allows me to work remotely.

GAU management listens to me.

GAU's financial and reputational success is important to me.

GAU treats me equally and fairly without discrimination.

GAU values culture and tradition.

GAU is socially responsible.

GAU provides me the opportunity to have input on my performance goals & rewards.

GAU provides me the opportunity to participate in all activities.

GAU supports the ethical use of AI as an educational tool.

GAU believes AI is a threat to classical education

Navigating Economic Growth in a Green and Sustainable Economy

CIRCULAR ECONOMY STRATEGIES FOR SUSTAINABLE LAND MANAGEMENT: PES APPLICATIONS IN BOVILLA WATERSHEDS

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Sustainable land use is increasingly recognized as essential for mitigating climate change, conserving biodiversity, and enhancing ecosystem resilience. Policy tools such as protected areas, land use payments, and circular economic principles aim to balance environmental conservation with socio-economic needs. In Albania, particularly in watershed areas like the Bovilla Watershed, sustainable land management remains underexplored despite its potential to enhance rural livelihoods and ecosystem services. This study presents a systematic literature review examining the incorporation of circular economy principles—resource efficiency, waste reduction, and system regeneration—into land use payment schemes, including Payments for Ecosystem Services (PES). PES provides financial incentives for landowners and users to implement sustainable practices safeguarding ecosystem services, such as water quality, carbon sequestration, and soil protection. These initiatives mitigate land degradation while delivering economic advantages to local populations by integrating circular economy principles with Payment for Ecosystem Services (PES) systems, which encourage regenerative activities such as agroforestry and conservation agriculture. Challenges including equitable benefit distribution and opportunity cost analyses are also addressed. The findings suggest that integrating circular economy principles into PES schemes can enhance rural development and ecosystem conservation in Albania.

Keywords: Circular Economy, socio-economic development, land management, Payments for Ecosystem Services

Introduction

The recent global environmental agenda increasingly recognizes the critical role of sustainable land use in mitigating climate change, biodiversity conservation, and ecosystem resilience to support human well-being (Ali, et al., 2018; Muradian et al., 2010). This shift has led to the conceptualization and development of various policy tools, such as protected areas, land use payments, and circular economy principles. These policies are aimed at achieving a balance between the conservation efforts and the socio-economic needs of the local and national communities. This balance is particularly critical in countries like Albania, where the economic benefits of sustainable land use in watershed areas are under-researched and underutilized. Farmers in these regions are closely connected to their land-use decisions, driven primarily by household income and sustainability expectations. Land use payments have been considered an innovative strategy (Lai et al., 2016) that provides financial rewards to landowners and land users who adopt and maintain practices that enhance ecosystem services.

Land use payments have emerged as a significant tool for promoting sustainable land management practices. These are financial incentives given to landowners and users to manage their land sustainably. It is considered

a practical tool for incentivizing the conservation and sustainable management of ecosystem services. As suggested by Loft et al. (2019) these mechanisms are increasingly being considered as an essential in mitigating environmental degradation, especially in watershed areas where ecosystem services like water quality maintenance, erosion prevention, and biodiversity support are critical (Gruau et al., 2023). Within agricultural land, these techniques are adopted to encourage environmentally friendly practices, including agroforestry, conservation agriculture, and reduced tillage.

The concept of circular economy emphasizes the importance of reducing waste, optimizing resource use, and creating regenerative systems (D'Amato, Korhonen, & Toppinen, 2019). It is considered a guiding framework in efforts towards resource scarcity and ecological degradation, which are prevalent in linear economic models. Liu (2024) suggests that the circular economy paradigm aligns with sustainable land use as it promotes long-term ecosystem viability, which is essential for both biodiversity conservation and human welfare. Therefore, it is considered a transformative land management approach because it encourages resource efficiency and reduces waste through practices that support continuous ecosystem service provision. Incorporating the principles of circular economy to effective land-use payment systems could enhance sustainability practices efforts and improve resultant environmental and socio-economic impacts. If well adopted and implemented, Bellver-Domingo and Hernández-Sancho (2022) argue that these practices could maximize resource efficiency, minimize waste, and promote regeneration. They could also help integrate regenerative agriculture practices, such as agroforestry and cover cropping, into eligible land use activities.

In developing countries, including Albania, little effort is documented regarding the adoption and application of land use payments, sustainability practices, and circular economy principles in shaping land use policies. Limited research has been reported regarding the associated economic implications (Pojani, 2019). At the same time, in Albania, the Payments for Ecosystem Services (PES), a concept of land use payments in watershed areas, has shown potential to benefit rural livelihoods and provide economic incentives for sustainable resource management. Research has demonstrated that PES has great potential for environmental issues by incentivizing practices that reduce water pollution and soil degradation, thereby maintaining ecosystem functions essential for both ecological health and human welfare (Wang, et al., 2020). These conservation efforts, on the other hand, must align with the economic needs of local and national communities to be effective. Additionally, the adoption and implementation of these initiatives involve complex challenges, such as defining appropriate compensation structures and achieving equitable distribution of benefits across stakeholders (Richards, et al., 2017). There should be a careful economic analysis to fully account for the benefits of conservation measures relative to the opportunity costs of land use alternatives.

Based on this premise, this study aims to conduct a comprehensive economic services analysis for land use payments in a circular economy under a case study of the Bovilla Watershed in Albania. Specifically, the study examines how the principles of a circular economy, such as resource efficiency, waste minimization, and system regeneration, could be integrated into land use payment schemes to enhance their effectiveness and promote sustainable land management. The findings of the study will contribute to a deeper understanding of the economic and environmental benefits of sustainable land management practices. It will provide recommendations for policymakers and practitioners seeking to transition towards a more circular and sustainable land use future.

Land Use Payments and Economic Implications

Alongside sustainable land use, the circular economy framework offers a complementary approach. The major emphasis of the circular economy principles as postulated by Breure et al. (2018) are to emphasize resource efficiency, minimizing waste, and recycling, which contribute to a regenerative model of production and consumption. When applied to land and ecosystem services, circular economy practices encourage land users to adopt practices that reduce environmental degradation while maintaining economic viability. The integration of the circular economic principles with land use payments such as the Payments for Ecosystem Services (PES) schemes goes a long way in enhancing the sustainability of these payments. This is achieved by promoting a closed-loop system that conserves resources, reduces waste, and ultimately benefits the

community.

These payment systems and schemes comprise financial mechanisms that provide incentives for land users to adopt sustainable practices in exchange for conserving ecosystem services. PES schemes align conservation efforts with economic benefits, offering a dual advantage of protecting natural resources while improving the livelihoods of local communities (Yu et al., 2023). Globally, these systems are being considered as significant tools in promoting sustainable practices and addressing the socio-economic challenges of land management. They accrue financial benefits to the landowners of the user thereof, in exchange to their commitment towards conserving or restoring ecosystem services such as water quality, carbon sequestration, soil fertility, and biodiversity (Phuong et al., 2012). By aligning economic benefits with ecological conservation, land payment systems encourage practices that ensure the sustainability of natural resources.

The major economic motivator for the landowners to participate in these systems is their increased income. Systems such as PES create financial benefit for farmers and landowners, supplementing their income while promoting sustainable practices. In rural areas where farming is the primary source of livelihood income, these payments can offset the opportunity costs of shifting from profit-maximizing unsustainable practices to long-term sustainable land use (Engel et al., 2008). These systems, as suggested by Çollaku (2014) introduce cost-effective conservation mechanisms. They are inexpensive ways to achieve environmental goals, as compared to the traditional regulatory approaches. By directly incentivizing landowners, governments and organizations reduce administrative and enforcement costs, ensuring better resource allocation. Additionally, there are reduced long-term economic losses. PES schemes, as argued by Blundo-Canto et al, (2018) help mitigate issues such as soil erosion, flooding, and water contamination. Preventing these problems reduces long-term economic losses for communities and governments. For instance, soil conservation measures can enhance agricultural productivity and reduce repair costs from flood damage.

PES and Land Use in Albania

Albania has a total land area of approximately 28,000 Km2, with a considerable proportion of this land occupied by forest approximately 29% of the total land area. Arable land comprises of 21%, which comprises a very significant sector in the country (Index Mundi, n.d). Additionally, the agricultural land in Albania comprises of 41% with the permanent cropland comprising of 4.5%. The country's forest area comprises 29%. The nationally protected areas comprise of 8% of the total land area (USAID, n.d). This is quite a significant proportion of protected areas, which indicates the country's commitment to proper use of and sustainability measures. Various approaches and systems have been adopted to protect and preserve watershed areas, among them being the land use payment systems. These systems, particularly the PES, have shown global interest as a cost-effective means improving ecosystem management by rewarding farmers or local residents for their efforts in providing Environmental services of value to societies (Zilberman, 2007).

In the same breath, the land use payment systems are not a new concept in Albania. This approach is considered as a management concept in Albania (Forest Europe, n.d). The land user in the watershed areas is expected to maximize profit through compliance with all involved stakeholders and observing their social responsibility. However, in situations where the benefit is not realized, the land managers may be hesitant to adopt and implement social responsibility initiatives to protect the habitat. As such, the Albania has adopted the payment for ecosystem services (PES) schemes as a means of achieving the land use balance (Pojani, 2019). It is a win-win approach, designed to address the pressing issues of land degradation, which has been considered as a major problem of natura resource management in Albania (Baloshi et al., 2019). These efforts are being significantly championed in Albania, in line with the global increased knowledge of ecosystem services. It is carried out as direct, contractual and conditional payments, which are made by the environmental services' beneficiaries, to farmers of local landowners and users. The payments are made as a reward for their efforts in adopting practices that ensure the ecosystem conservation and rehabilitation (Wunder, 2005).

Significance of the Study

This study is significant as it addresses critical gaps in understanding sustainable land-use practices' economic and environmental impacts, specifically through the lens of land-use payments systems such as PES schemes. It will make far-reaching contributions and offer benefits to multiple stakeholders by addressing the economic and environmental challenges of land use and sustainability practices.

The findings of this study will benefit the policymakers and government agencies on matters of economic implication of land use payment systems. The findings will provide policymakers with valuable insights into the economic and environmental impacts of PES schemes. These insights will enable them to design and implement more effective policies, particularly the environmental protection and sustainability strategies. This research will also inform the integration of circular economy principles into land-use strategies, ensuring resource efficiency and sustainable development. Through its implications, suggestions will be made on enhanced collaboration by various stakeholders to support national objectives and align global goals such as the Sustainable Development Goals (SDGs).

The study will also benefit farmers and land users. Farmers in the Bovilla watershed and similar regions will benefit from insights into the economic feasibility of transitioning to sustainable land-use practices. By understanding how the land use payment systems such as PES schemes can supplement their incomes, farmers will be better equipped to make informed decisions that balance immediate economic needs with long-term sustainability goals.

Additionally, the environmental organizations and conservationists gain actionable insights into how PES programs can effectively preserve critical ecosystem services like soil conservation, water quality, and biodiversity. This study will offer a framework for scaling such programs, ensuring their long-term success in regions facing similar environmental challenges. Lastly, to the academics and environmental researchers, the study will contribute to the academic discourse on sustainable land management and environmental management. It will serve as a valuable resource for future studies in Albania and other regions.

Conclusion

The reviewed literature highlights the growing significance of sustainable land management, emphasizing its role in addressing critical global challenges such as climate change, biodiversity loss, and ecosystem degradation. This topic focuses on the combination of circular economy concepts and Payments for Ecosystem Services (PES) schemes, which together provide creative methods to reconcile ecological conservation with socio-economic advantages.

Circular economy frameworks emphasize resource efficiency, waste reduction, and regenerative processes, harmonizing with sustainable land-use objectives. When implemented in PES projects, these principles augment their effectiveness by fostering closed-loop systems that preserve resources and bolster local livelihoods. The research illustrates the economic and environmental feasibility of these methods, especially in rural and watershed regions where ecological services such as water quality, soil protection, and biodiversity are essential.

Notwithstanding its potential, obstacles persist in the execution of PES and circular economic methodologies. These encompass guaranteeing equitable distribution of benefits, formulating suitable incentive frameworks, and resolving the opportunity costs for land users. These issues are particularly pronounced in emerging nations such as Albania, where sustainable land use regulations remain inadequately examined, particularly in areas like the Bovilla Watershed.

The literature indicates that incorporating circular economy principles into PES systems may facilitate significant advancements in sustainable land management. This combination may exemplify a framework for tackling environmental and socio-economic challenges, providing significant insights for policymakers, land users, and researchers. Future initiatives must concentrate on enhancing these systems to tackle current difficulties and optimize their capacity for global and local sustainability objectives.

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STRATEGIC DEVELOPMENT OF ORGANIC AGRICULTURE IN ALBANIA: ECONOMIC AND POLICY INSIGHTS FROM THE EUROPEAN GREEN DEAL

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The European Commission focuses on agriculture sustainability practices, by setting a target for 25% of all agricultural land in EU countries to be organically managed by 2030. This paper studies the potential of Albania in developing its organic agriculture strategy obtaining insights from the European Union's common agricultural policy (CAP). Although Albania possesses favourable condition, such as its Mediterranean climate, the organic agriculture encounters different obstacles such as land fragmentation, little consumer knowledge, and limited financial incentives. This paper will review the current policy framework of Albania, its limitations, and identify key policy framework through a management and economic perspectives for its adaptation toward alignment with the objectives set by the European Union. This shall all be achieved through the implementation of efficient legislative measures in promotion of market growth and long-term consumer education—all important in creating a strong and successful organic agriculture sector in Albania. It recommended that future studies should consider collecting primary data, such as surveys and interviews with Albanian farmers, government officials, and consumers, in order to obtain an in-depth understanding of the challenges and opportunities for organic farming in Albania.

Keywords: Green Deal, Organic Products, Albania, Financial incentives, Strategic Development

Introduction

Over the years, more environmentally friendly methods of production have been increasingly adopted through the so-called green reform process of CAP. The CAP reform process, which began in the early 1990s, was further advanced by the Fischler reform in 2003. This reform placed a greater focus on environmental protection and rural development (Lowe et al., 2002). European Green Deal, a key element of the broader strategy aimed at achieving carbon neutrality for the European Union by 2050, emphasizes the necessity of increasing organic farming development, with the European Commission targeting a 25% allocation of agricultural land exclusively for organic farming by 2030 (Sikora, 2020). In addition, the European Commission aims to reduce the utilization of detrimental pesticides, nutrient losses, and antimicrobial compounds by 50% by the same year (European Commission, 2020a). Between 2014 and 2022, farmers were granted approximately €12 billion in funding through the Common Agricultural Policy to support organic farming practices (European Court of Auditors, 2023). Despite generally lower yields, organic farming continues to be, on average, more profitable than conventional farming (Crowder & Reganold, 2015).

Table 1

Organic Agricultural Land in the EU, Western Balkans and Albania (2023)

Region	Total Agricultural Land (Million ha)	Organic Land (Million ha)	Organic Share (%)
EU-27	157.5	16.9	10.7%
Western Balkans (Average)	~12.0	0.5	~4.2%
Albania	1.2	0.002	~0.16%

Source: Elaborated by Authors

In line with Regulation (EU) 2018/848, organic farming is one of the agricultural practices that ensure the production of food and related products without inducing harm to either the environment or human health. This strategy is important to the attainment of the Green Deal objectives since it supports sustainable food systems, which are key to solving global environmental and climate issues (Cordella & Sala, 2022). The organic agriculture strategy promotes sustainable development in rural areas, enhances economic growth, and creates employment opportunities in these areas. Also, organic farming contributes also to the development of tourism. It promotes the development of a sustainable, circular economy, including environmentally sensitive agricultural practices. Agriculture is key to meeting a set of critical human needs: food security, generation of income, and rural development.

The European organic market has shown signs of both strength and weakness during the last decade. As noted by Willer et al (2025), retail sales of organic products in Europe were at €54.7 billion for 2023, primarily due to an increase in prices rather than an increase in sales volume. Younger consumers are willing to spend more but increase on prices and constrained household budgets, which have negatively impacted overall purchasing power, resulting in a number of organic retailers existing in the market. There is a clear differentiation in market dynamics with Belgium enjoying strong growth while France and Finland experienced stagnation or a decline in growth. Sustained economic efforts alongside better price and policy support to encourage supply and demand will likely be needed to reach the EU targets as emphasized by Willer et al. (2025), which set out a Farm to Fork Strategy of aiming for 25% organic farmland by 2030.

The primary goal of the Farm to Fork plan is to enhance public health, competitiveness, and the overall capabilities of the European Union while simultaneously addressing the significant environmental impacts of agriculture. The European Union's Farm to Fork plan aims to decrease reliance on pesticides, antimicrobials, and fertilizers by promoting organic farming (European Commission, 2020a). In general, agricultural greenhouse gas emissions continue to increase worldwide but at a slower rate compared to those from other human activities (Velasco et al. 2018). In the aftermath of the COVID-19 pandemic, the European Green Deal seeks to decrease greenhouse gas emissions by 50% in several sectors, including agriculture, and to review existing policies (Buckley et al., 2021).

After COVID-19, it is created an increasing demand by consumers for healthier food products (Śmiglak-Krajewska & Wojciechowska-Solis, 2021). Effectively managed, organic agriculture can meet food supply and potentially provide promoting earnings for farmers besides being an important aspect of a sustainable developing rural community (Singh et al. 2011). With the continued growth in online food shopping, which avoids traditional market barriers and allows access to a larger consumer audience it is reasonable to conclude that that organic agriculture may afford a sustainable future in Albania, conditional on increased access to technology and competency in digital applications.

Method

This paper analyzes how Albania can adapt its agricultural sector to comply with European requirements defined in the Green Deal through an integrated methodological approach. Firstly, it examines the most important European policy documents which include the Farm to Fork strategy, the biodiversity strategy for 2030 and the latest CAP reform. To elaborate further on the research, a literature review of sustainable farming practices and environmental impacts is conducted using sites such as Google Scholar, WoS, and other

relevant academic databases to examine publications from 2000 to 2024, with keywords including “organic agriculture Albania,” “European Green Deal Albania,” and “sustainable agriculture policies. After an initial evaluation of 50 studies, 25 studies were found relevant for inclusion. This study is based only on secondary data and recommends that future research include primary data collection, such as surveys and interviews with Albanian farmers, government officials, and consumers, to gain a more comprehensive understanding of the organic market in Albania.

The role of EU Policies in growing organic agriculture

Organic agricultural area share of the EU has consistently increased since 2014 (European Court of Auditors, 2023). Market forces, consumers preferences, as well as government subsidies have determined the changes in growth of organic farming. Furthermore, consumers knowledge also contributes to stimulate growth and progress in agriculture (Demirtaş, 2019). The consumer demand in high-income countries serves as the primary driver that promotes the organic sector. Increased consumer preference for the perceived benefits of organic production has led to the growth of this sector. The main markets for organic products are the United States and the countries of the EU (IFOAM, 2024). Organic consumers perceive organic products as offering a range of benefits, including increased health outcomes, environmental sustainability, superior food quality and flavor, increased freshness, and support for local economies and communities.

Many EU nations, including Croatia, Bulgaria, and Hungary, have experienced substantial increases in the amount of organic land (European Commission, 2023). The growing number of organic producers reflects increasing enthusiasm among farmers. Policy measures based on experiences from various national settings are crucial for fostering the expansion of organic agriculture. Subsidies in countries such as Montenegro have significantly increased the development of organic agriculture (Zejak et al., 2022), however a study in Eastern Macedonia and Thrace found that, subsidies play a minor role in the implementation of organic agriculture (Papadopoulos et al., 2018).

Table 2

Key Organic Farming Indicators in the EU, Western Balkans and Albania (2023)

Indicator	EU-27	Western Balkans (Average)	Albania
Size of the organic market (€ Billion)	54.5	~0.3	~0.01
Number of Certified Organic Farms	400,000+	~10,000	~150
Government Iniciatives for Organic Farming	High (CAP subsidies)	Moderate	Low
Consumer Awareness & Demand	High	Growing	Limited
Primary Organic Products	Dairy, Cereals, Vegetables	Fruits, Vegetables, Honey	Medicinal and Aromatic Plants, Olive Oil

Source: Elaborated by Authors through a synthesis of multiple sources

The organic market faces several challenges, such as consumers’ willingness to pay higher prices (Willer et al., 2019), the importance of improving consumer awareness (Anderson et al., 2016), and limited product availability (Buder et al., 2014). Research suggests that organic farming has the potential to improve the rural economy. However, further research is needed to provide a comprehensive understanding of the effects of policies on this matter.

The EU-27 organic market experienced significant increase from 2014 to 2023, with retail sales rising from 21.7 billion to €46.5 billion and per capita consumption doubling from €49 to €104 (Willer et al., 2025). Following a decrease in 2022 due to rising prices and shifting consumer preferences, the market fully recovered in 2023, showing a 2.9% increase due to strong market demand. The Western Balkans and Albania have limited data regarding domestic organic retail markets. Their sector is predominantly driven by exports,

particularly in medicine and aromatic plants (MAPs).

According to IFOAM—the International Federation of Organic Agriculture Movements—organic agriculture has been playing an important role in attaining most of the Sustainable Development Goals, all the way from food security and health to the sustainable management of water resources, responsible consumption, mitigation of climate change, and biodiversity conservation (IFOAM, 2020). The organic market relies heavily on consumer trust and behavior. While consumer knowledge and environmental concerns have the potential to decrease food waste, there is little evidence to support the claim that organic customers waste less food, as indicated by study conducted by Hamzaoğlu and Göktuna (2022). The FAO acknowledges the necessity of substantially increasing food production in order to satisfy the increasing global food demands of global population. However, there are apprehensions regarding the ability of organic agriculture to attain adequate yields in comparison to conventional production techniques (Seufert et al., 2012; Mäder et al., 2007; Ponisio et al., 2015).

Awareness campaigns, a competitive market environment, and informative advertisements emphasizing the benefits of organic food will encourage organic consumption (Septianto et al., 2019). If agricultural sector transit into more sustainable production, it is assumed that greenhouses gasses can be significantly reduced. Such a shift in agriculture, therefore, calls for changes in consumers' eating habits to create more market demand for sustainable food systems. European agricultural policies integrate eco-schemes that aim to incentivize certain practices in farming, such as precision agriculture, agroforestry, and carbon farming (European Commission, 2022). Sustainable agriculture will be a very important factor in this because it serves the three basic principles of sustainability.

Policy Framework and Challenges for Development of Organic Agriculture in Albania

According to Article 95 of the Stabilization and Association Agreement between Albania and the EU, the objective is to achieve the "modernization and restructuring of agriculture and the agro-industrial sector in Albania" (European Community & Republic of Albania, 2004). The Ministry of Agriculture's Sectoral Strategy for Agriculture and Food 2007-2013 placed organic agriculture as a top priority, with the objective of establishing a national strategy and framework for organic agriculture. However, progress has been slow due to limited resources and a lack of coordinated implementation.

Although the objectives for expanding organic farming are pretty similar between the European Union and Albania, the requirements for promotion are very different. Unlike the rest of Europe, Albania's economy is far more based on agriculture. However, Albania's development is dependent by several factors such as: high emigration, a lack of interest from young people on agriculture, and poor economic benefit. As such, to ensure continued growth in organic agriculture, the formulation of legislative policies is a very important aspect to be addressed in order to have incentives for environmentally sensitive and sustainable farming practices. The agricultural sector is dominated by small farms and land fragmentation, with an average farm size of only 1.3 hectares (INSTAT, 2024). Attempts to organize farmers into associations are hindered by an unsupportive marketing structure, lack of incentives, and remnants of the communist past.

During the 1990s, EU-funded projects in Albania were design to facilitate the export of organic olive oil and spices. In the early 2000s, the creation of the First Association of Organic Agriculture in Albania showed strong interest in the establishment of this sector. This was done to increase the earnings of people living in rural areas and also to create job opportunities. In 2007, the Ministry of Agriculture published a report that highlighted the necessity for targeted policies and laws to encourage organic farming. The report also emphasized the importance of providing financial assistance and creating a nationwide organic certification system.

For such reasons, Albanian Law on Organic Production provided the rules, requirements and established penalties for non-compliance. Compliance maintenance has remained challenging. Currently the production of sustainable agriculture is encouraged with emphasis on the need to increase organic output. The Albanian customers, especially the ones found in urban centers, are becoming more aware of, and demanding organic products despite being small in size.

Table 3
Comparison of Albania's Organic Law with EU & Western Balkans

Category	Albania's Law	EU & Western Balkans
Legal Framework	Aligns with EU Regulation 2018/848.	EU fully applies it; Western Balkans have partial alignment.
Scope	Covers organic farming, aquaculture, beekeeping, food processing.	EU has similar coverage; Western Balkans focus more on organic farming.
Objectives	Promotes sustainability, biodiversity, market growth.	EU targets 25% organic land by 2030; Western Balkans 4-7%. Albania is currently below 1%
Certification & Control	Requires official certification for organic products before market entry	EU has a unified system; Western Balkans have multiple certifiers.
Labeling & Marketing	Strict organic labeling rules.	EU mandates Euroleaf logo; Western Balkans have national logo and have weaker enforcement.
Government Support	Low subsidies, lacks a long-term plan.	EU: €12B CAP subsidies (2014-22); Serbia: €320/ha; Montenegro: €200/ha; North Macedonia: Covers 30% of costs.
Prohibited Practices	Bans synthetic fertilizers, pesticides, GMOs, radiation.	EU & Western Balkans have similar bans, but weaker monitoring in Balkans.
Consumer Awareness	Plans for national organic campaigns.	EU has strong awareness; Balkans face price sensitivity issues.
International Trade	Regulates organic imports/exports.	EU has trade deals; Albania & Balkans aim for easier EU access.

Source: Elaborate by authors through a synthesis of multiple sources.

Albania benefits from its natural advantages, including a Mediterranean climate, which enables a lengthy period for cultivation and a wide range of products. Nevertheless, the progress of organic farming is restricted by various problems including land fragmentation, insufficient knowledge, lower purchasing power, and lack of customer awareness. In Albania, these challenges are made even more difficult by low incomes and limited agricultural infrastructure.

The IPARD III Programme (2021–2027) offers significant economic incentives for organic agriculture in Albania, specifically via Measure 8.3.3 "Agri-environment–climate and organic farming." Organic farmers will receive direct payments up to €450 per hectare each year to promote sustainable land management and environmentally sustainable practices. The program has a budget of €3.2 million to develop organic farming and biodiversity-friendly agriculture. The measure will address the constraints to organic farmers, such as small financial subsidies and market access, while improving compliance with EU food safety and environmental regulation. It is expected that an increase in the area organic farming by at least 15% throughout the programming period. The program will increase climate resilience and soil fertility, positioning organic farming as an essential factor of sustainable rural development, in accordance with the EU Green Deal and the Green Agenda for the Western Balkans.

Recently, the growth of organic agriculture has been slow, with only a few certified organic farmers and a small demand for organic products. Price sensitivity continues to be among the major obstacles to the organic products market in Albania, as it is perceived similarities between "natural" and certified organic products that decrease the price differential for organic products. Promoting the use and distribution of organic products and capitalizing Albania's tourism sector can serve to stimulate demand and production of such products. Foreign tourists in Albania can create new demand which will contribute toward an increase in the market of organic products.

A bottom-up approach will be relevant, with all key national stakeholders and officials having to be harnessed in order to formulate policies that can be impactful. This approach allows for the identification of criteria that may be used for further development. The implementation of the Common Agricultural Policy (CAP) of the

European Union could transform Albanian agriculture by both opening opportunities for financial aid from the EU and requiring the country's contribution to the general budget. Uldedaj et al. (2024) argue that if Albania were to join the European Union, there would be a substantial increase in the funds allocated to its agricultural budget. Meanwhile, encouraging organic agriculture is viewed as a key step toward ensuring growth in rural Albania. For successful achieving this goal, it remains crucial to resolve issues faced in the process of control and monitoring, due particularly to the absence of IACS. The role of the CAP can represent a good opportunity for the agricultural development of the Albanian sector. This method does not account for the improvement of the agricultural system and practices but opens a pathway for them to be appreciated and rewarded for their role and contribution.

Conclusion

To promote the successful advancement of organic agriculture, it is essential to tackle the obstacles encountered by small-scale farmers, such land fragmentation and restricted availability of financial resources and markets. The expansion of the organic agricultural sector relies mostly on the raising awareness of consumer consciousness on organic products which would lead to an increase in demand for organic products. Diversification of agriculture will enhance export opportunities especially in niche markets such as medicinal and aromatic plants and stimulate employment in agribusinesses. However, these benefits require a supportive financial initiative, including targeted subsidies, and investment in infrastructure. Programs like IPARD III are essential first steps but must be complemented by domestic policy and stakeholder engagement This means that improvement in areas like regulatory support, promotion of the engagement of youth in organic farming, market development, and consumer awareness is therefore necessary. Managerially, successful implementation of organic agriculture depends on capacity building for farmers, improved coordination across the value chain, and strategic planning from governmental institutions. The adoption of business models that integrate traceability, digital platforms, and quality certification will increase consumer trust and market penetration. Encouraging entrepreneurship among youth and linking organic agriculture to tourism can also offer dual economic benefits. Albania has potential to build up a strong and competitive sector of organic agriculture that contributes to rural development, environmental sustainability, and health of citizens. This may be realized through taking advantage of local resources and following the law as set by the EU.

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Digital Transformation and Business Informatics: Strategies for Competitive Advantage

AGENTIC AI IN VIDEO MONITORING: AUTOMATING SECURITY WHILE MINIMIZING HUMAN COSTS

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The increasing reliance on video surveillance for security across industries presents a significant economic challenge: the cost of continuous human monitoring is prohibitively high. This paper explores the use of agentic artificial intelligence (AI) to optimize video monitoring by autonomously handling the majority of cases while escalating only high-risk or uncertain situations to human specialists. Traditional video monitoring systems employ either 24/7 human surveillance or motion-activated alerts that still require human review. These methods suffer from significant drawbacks, including high operational costs due to labor-intensive monitoring, increased false positives leading to unnecessary responses, fatigue and cognitive overload among human operators, reducing efficiency. Agentic AI can analyze motion-triggered video feeds, assess threats based on contextual indicators (e.g., human presence, weapons, facial masks), and decide whether to dismiss the event or escalate it to human intervention. By reducing human involvement, this approach significantly lowers operational costs while maintaining or even improving security effectiveness. We analyze the economic impact of this model, comparing traditional human-centric monitoring with AI-assisted surveillance. Our findings suggest that agentic AI can drastically reduce monitoring costs, improve response efficiency, and enable scalable security solutions. The paper concludes by addressing challenges such as bias, privacy considerations, and the need for continuous AI refinement to ensure accuracy and reliability.

Keywords: Artificial Intelligence, Video Surveillance, Security Systems, KPI, Cost Efficiency, Cognitive Load, Cloud Computing, Edge Computing, Agentic AI

Introduction

In an increasingly interconnected and technologically advanced world, the need for robust security measures has never been more critical. Both commercial and residential clients face a myriad of security challenges that necessitate the implementation of effective surveillance systems. In today's world, video security, in particular, has become an essential addition for protecting properties, assets, and individuals alike. While video security is extremely important for both commercial and residential clients, there are key differentiators between these environments.

When selecting a video security system, it is essential to consider several key performance indicators (KPIs) to ensure that the chosen solution meets the specific needs of the client. The three primary KPIs are price, customer satisfaction, and accuracy of detection.

As the number of security cameras continues to grow exponentially, the challenge of scaling monitoring centers to keep pace with this increase becomes a critical issue. An important topic of our research has been to explore whether it is feasible to match the expanding volume of video security footage with human surveillance, assuming that financial constraints are not a limiting factor and that we could employ an unlimited number of security specialists to monitor live streams. This paper aims to address the practicality and implications of such an approach.

The Importance of Video Security and KPIs

For commercial clients, the stakes are high when it comes to security. Businesses are often targets for theft, vandalism, and other criminal activities that can result in significant financial losses and operational disruptions. Video security systems provide a proactive solution to these challenges by offering continuous monitoring and recording of activities within and around commercial premises. The presence of surveillance cameras acts as a deterrent to potential criminals, reducing the likelihood of illicit activities. Additionally, in the event of an incident, video footage serves as crucial evidence for law enforcement and insurance claims, facilitating swift resolution and accountability.

Moreover, video security systems enhance operational efficiency and employee safety. By monitoring workplace activities, businesses can ensure compliance with safety protocols and identify areas for improvement. This not only helps in preventing accidents and injuries but also fosters a secure and productive work environment. In industries such as retail, video security aids in loss prevention by monitoring customer behavior and identifying shoplifting incidents. Overall, the implementation of video security systems is a strategic investment that protects assets, enhances safety, and supports business continuity.

For residential clients, the primary concern is the safety and security of their homes and loved ones. The increased risk of residential burglaries and home invasions has heightened the need for effective security measures, where in the US, 2023, residential burglaries represented 52.8% of all burglary offenses (Deep Sentinel, 2025). Video security systems provide homeowners with peace of mind by offering real-time monitoring and recording of activities around their property. The ability to remotely access live footage through smartphones and other devices allows homeowners to stay connected and informed, regardless of their location.

The presence of visible surveillance cameras serves as a powerful deterrent to potential intruders, significantly reducing the risk of break-ins. In the unfortunate event of a security breach, video footage provides valuable evidence that can aid in the identification and apprehension of perpetrators. Additionally, video security systems can be integrated with other smart home technologies, such as motion sensors and alarm systems, to create a comprehensive security solution that enhances overall home protection.

According to the FBI's crime data for 2023, burglaries were down by 7.6% compared to the previous year, and a full 18.3% since 2020. This decline can be partially attributed to more effective security measures and neighborhood watch programs, in which video security systems play a crucial role in these programs by empowering residents to collaborate with each other and local law enforcement through shared footage and information, ultimately helping create safer communities (Deep Sentinel, 2025).

Despite the advances in technology and the increased popularity of smart surveillance systems, residential households stray away from the implementation of such systems where only 32% of U.S. homeowners — roughly 39 million households — were using smart home security systems in 2023, while households lacking a security system were 300% more likely to be broken into than those with one. This stat alone highlights the pivotal nature of having a smart surveillance system as a security measure in case of a security breach (Deep Sentinel, 2025).

When selecting a video security system, it is essential to consider several key performance indicators (KPIs) to ensure that the chosen solution meets the specific needs of the client. The three primary KPIs are price, customer satisfaction, and accuracy of detection (Controls, 2021).

- Price: The cost of a video security system is a critical factor for both commercial and residential clients. It is important to evaluate the total cost of ownership, which includes the initial purchase price, installation fees, and ongoing subscription or maintenance costs. Clients should seek a balance between affordability and the quality of features offered. While lower-priced options may be attractive, they should not compromise on essential functionalities and reliability.
- Customer Satisfaction: Customer satisfaction is a vital KPI that reflects the overall experience of users with the video security system. It encompasses factors such as ease of installation, user-friendliness, customer support, and the effectiveness of the system in meeting security needs. High customer

satisfaction indicates that the system is reliable, well-supported, and capable of delivering the promised security benefits. Prospective buyers should review customer feedback and ratings to gauge the satisfaction levels of existing users.

- Accuracy of Detection: The accuracy of detection is perhaps the most crucial KPI for a video security system. It determines the system's ability to accurately identify and respond to security threats, such as unauthorized access, suspicious activities, and potential intrusions. Advanced features like motion detection, facial recognition, and AI-driven analytics enhance the accuracy of detection. A system with high accuracy minimizes false alarms and ensures that genuine threats are promptly addressed, thereby providing a higher level of security.

Video Monitoring Ever Increasing Demand

We shift our focus to the growing demand for video surveillance. Let's delve into the trends over the past decade to understand the increasing reliance on video monitoring systems. The research done by Optics Mag, Grand View Research and vpnAlert studying the trends over the last decade gives us a great perspective in the market of video monitoring:

- The adoption of surveillance cameras has seen a substantial increase over the past decade. For instance, in 2021, there were approximately 24 million households in the US with video surveillance systems, which is about a fifth of all US households (OpticsMag, 2024).
- The market for smart home security cameras alone was estimated at USD 9.98 billion in 2024 and is expected to grow at a CAGR of 20.7% from 2025 to 2030 (Grand View Research).
- In 2022, 93% of US campuses had surveillance cameras installed, and 90% of campus security cameras were used to cover entrances and exits (vpnAlert, 2024).
- The IP video surveillance market reached a $32.41 billion valuation in 2022, reflecting the growing investment in surveillance technology (vpnAlert, 2024).

While the exact number of video surveillance cameras in the United States in 2025 is not explicitly stated in the available data, given the big market size and ongoing growth trends, we can confidently expect an increase of number of cameras in operation.

According to information provided by Security Info Watch, there were 47 million cameras in 2015, 70 million in 2018, and 85 million in 2021. Based on these data points, a linear projection estimates that the number of video surveillance cameras in the US will reach approximately 110 million by 2024 (Security Info Watch, 2019).

It would be naive to assume that all 110 million surveillance cameras projected for 2025 will require continuous human monitoring. As a first step in addressing this challenge, we examined the potential reduction in monitoring requirements by leveraging motion-triggered alerts. This approach significantly decreases the need for constant human oversight by ensuring that cameras only capture and alert on relevant activity, thereby optimizing the efficiency of surveillance operations.

The average number of times a motion camera will trigger can vary widely depending on several factors, including the environment in which the camera is installed, the sensitivity settings of the camera, and the level of activity in the monitored area. Here are some key considerations (Eufy, 2023):

- Environment: Cameras installed in high-traffic areas, such as busy streets or commercial spaces, will trigger more frequently than those in low-traffic areas, such as private backyards or quiet residential streets.
- Sensitivity Settings: Most motion cameras let the users change to their preferences and needs how sensitive the motion detection is. Higher sensitivity settings will result in more frequent triggers, while lower sensitivity settings will reduce the number of triggers.
- Type of Motion: The type of motion that triggers the camera can also affect the frequency. For example, cameras that are set to detect only significant movements (like a person walking) will trigger less often than those set to detect any movement (like leaves blowing in the wind).
- Time of Day: The time of day can also impact the frequency of triggers. For instance, cameras may trigger

more often during the day when there is more activity compared to nighttime.

While it is difficult to provide a precise average without specific context, some general estimates can be made based on typical usage scenarios:

- Residential Areas: In a typical residential setting, a motion camera might trigger anywhere from 10 to 50 times per day, depending on the factors mentioned above.
- Commercial Areas: In a busy commercial area, the number of triggers could be significantly higher, potentially ranging from 50 to 200 times per day.
- High-Traffic Public Spaces: In very high-traffic public spaces, such as city centers or transportation hubs, the number of triggers could exceed 200 times per day.

Assuming an average of 50 motion triggers per camera per day, with each incident requiring approximately one minute of operator attention, this results in 50 minutes of operator time per camera per day. Given that a day has 1,440 minutes, this translates to a reduction factor of 50 / 1,440, or approximately 3.5%. Applying this reduction factor, the total number of cameras requiring continuous monitoring would decrease significantly. From an estimated 110 million cameras, this approach would reduce the number to approximately 3.85 million cameras that need active human oversight. This substantial reduction highlights the efficiency gains achievable through the strategic use of motion-triggered alerts in surveillance systems. Will this be enough to solve the video surveillance via humans?

Is Human Video Surveillance Feasible?

In our research, we posed fundamental questions such as, "How many screens can a human effectively monitor?" and "Is it possible for humans to manage video surveillance given the ever-increasing number of cameras that require monitoring?" These inquiries are crucial in understanding the limitations and potential of human surveillance in the context of modern security demands.

The proliferation of security cameras in both commercial and residential settings has led to an unprecedented volume of video data that needs to be monitored and analyzed. This growth is driven by advancements in technology, increased affordability of surveillance equipment, and heightened security concerns. As a result, monitoring centers are faced with the daunting task of managing and interpreting vast amounts of real-time video footage.

The number of screens a human can effectively monitor simultaneously is influenced by several factors, including cognitive load, the complexity of the information being displayed, and the individual's experience and training. Research in the fields of human factors and ergonomics provides some insights into this topic.

Cognitive Load and Attention:

- Cognitive Load Theory: Cognitive load theory suggests that humans have a limited capacity for processing information. When monitoring multiple screens, the cognitive load increases, which can lead to decreased performance and increased error rates. The complexity and type of information displayed on the screens also play a significant role in determining how many screens can be effectively monitored (Wickens & Hollands, 2000).
- Attention and Multitasking: Studies on attention and multitasking indicate that humans are not particularly good at handling multiple tasks simultaneously. When it comes to monitoring screens, the ability to effectively switch attention between different sources of information is crucial. However, frequent switching can lead to cognitive fatigue and reduced situational awareness (Van Cauwenberge, Schaap, & Van Roy, 2014).

Practical Insights from Research:

- Control Room Studies: Research conducted in control room environments, such as air traffic control, security monitoring, and industrial process control, provides practical insights. These studies often find that operators can effectively monitor between 4 to 6 screens simultaneously, depending on the complexity of the tasks and the level of automation support available (Endsley & Garland, 2000).

- Ergonomics and Interface Design: The design of the monitoring interface can significantly impact the number of screens that can be effectively monitored. Well-designed interfaces that integrate information and provide clear visual cues can help reduce cognitive load and improve monitoring efficiency (Joshi & Daum, 2017).
- Training and Experience: Experienced operators who are well-trained in monitoring tasks can handle more screens than novices. Training programs that focus on improving situational awareness and efficient information processing can enhance an individual's ability to monitor multiple screens.

Now, let's synthesize our findings. We have established a demand for monitoring approximately 3.85 million cameras. Given that each operator can effectively manage up to six active cameras, simple arithmetic reveals that we would need around 642,000 monitoring agents actively working at any given time.

It is a well-known business practice that for every seat in a monitoring station, you need five operators to cover three shifts per day, weekends, and holidays. Therefore, multiplying the number of concurrent agents by five results in a requirement of about 3.2 million video operators in the US alone.

These numbers are entirely unrealistic today and will only become more impractical over time as the number of surveillance cameras continues to grow. Consequently, we conclude that it is not feasible to meet the video monitoring demand with human operators alone. This underscores the necessity of integrating advanced technologies, such as AI and machine learning, to augment human capabilities and ensure effective surveillance coverage.

As a teaser note, in 2022, 71% of surveillance camera installers chose vendors with a broader camera range, and there was a notable increase in the adoption of AI-based surveillance cameras (vpnAlert, 2024).

AI Video Monitoring

Video AI leverages advanced algorithms and machine learning to transform traditional video surveillance into intelligent, automated systems. By detecting, analyzing, and responding to various activities and objects within video footage, video AI enhances security, operational efficiency, and decision-making across multiple sectors.

According to different studies, we can see that integrating AI into video surveillance technology can vastly improve the operations, according to a study done for the Dubai Police, we can show how introducing AI technologies has significantly improved Dubai Police operations. The technology has significantly reduced response times by 50%, improving crime monitoring and enabling quick action. In a similar way, AI-powered traffic control has cut response times and eased traffic congestion by nearly 33%. These results demonstrate AI's potential to enhance both safety and efficiency, as evidenced by the 20% decrease in crime response times, allowing law enforcement to operate in a more agile and efficient manner (Abdulrahim, 2024). Similarly in 2022, New York City implemented AI surveillance in its infamous subway system to help reduce crime rates. The implementation of the technology was greeted with great results as the system’s ability to flag unusual activities contributed to a 27% decrease in reported incidents within its first six months of implementation. Moreover, AI-driven systems are highly adaptable where 75% of businesses adopting AI surveillance reported improved scalability in a survey conducted by McKinsey (oyelabs, 2025).

Video AI systems can be set up and deployed in different ways, using both edge computing and cloud computing or even both, which is known as the hybrid approach to get the best performance, scalability, and efficiency. We are going to cover each of these methods, starting with edge computing.

Edge Computing: Edge computing involves processing data locally on devices or near the source of data generation, such as cameras or local servers, rather than sending it to a centralized cloud server (Shi, Cao, Zhang, Li, & Xu, 2016).

- Real-Time Processing: Edge devices can perform real-time video analytics, such as object detection, motion detection, and initial filtering of events. This reduces latency and allows for immediate responses to critical events.
- Bandwidth Optimization: By processing data locally, edge computing reduces the amount of data that

needs to be transmitted to the cloud, saving bandwidth and reducing costs.
- Privacy and Security: Sensitive data can be processed and stored locally, enhancing privacy and security by minimizing the exposure of data to external networks.
- Resilience: Edge devices can continue to operate and process data even if the connection to the cloud is temporarily lost, ensuring continuous surveillance and monitoring.

Cloud Computing: Cloud computing involves processing and storing data on remote servers hosted on the internet, providing scalable and centralized resources for complex computations and data management (Sultan, 2010).

- Advanced Analytics: The cloud can handle more complex and resource-intensive analytics, such as deep learning model training, large-scale pattern recognition, and long-term trend analysis.
- Data Storage: The cloud provides scalable storage solutions for large volumes of video data, enabling long-term retention and easy access for historical analysis.
- Integration and Management: Cloud platforms can integrate data from multiple edge devices, providing a unified view and centralized management of the entire video surveillance system.
- Continuous Learning: Machine learning models can be continuously updated and improved in the cloud, leveraging vast amounts of data and computational power.

Hybrid Approach: Combining Edge and Cloud. Many modern video AI systems adopt a hybrid approach, combining the strengths of both edge and cloud computing to achieve optimal performance and flexibility. Benefits of a Hybrid Approach (IBM, 2023):

- Scalability: The cloud provides the ability to scale resources up or down based on demand, while edge devices handle real-time processing.
- Efficiency: By offloading initial processing to the edge, the system reduces the load on cloud resources and minimizes latency.
- Cost-Effectiveness: Reducing data transmission to the cloud lowers bandwidth costs, while the cloud's pay-as-you-go model ensures cost-effective scalability.
- Enhanced Functionality: The combination allows for real-time responses at the edge and advanced analytics in the cloud, providing a comprehensive and robust surveillance solution.

The Winning Strategy, Combining AI with Humans

So far, we have demonstrated that it is impossible for humans alone to meet the growing demands of video monitoring without the assistance of AI technology. However, this introduces several ethical and practical issues, especially in the context of security, which is a highly sensitive area.

Ethical and Practical Concerns (Mittelstadt, Allo, Taddeo, Wachter, & Floridi, 2016):

- Trust in AI: Can we trust AI to make the final decision in security matters? There is always the possibility that AI could make errors.
- Consequences of Mistakes: What happens if AI makes a mistake and a crime occurs? The legal and economic implications of such errors are significant.

Legal Perspective - from a legal standpoint, it is essential to have a human make the final decision (Enarsson, Enqvist, & Naarttijärvi, 2021). Therefore, a combined approach of AI and human oversight is currently employed in video monitoring. This multi-phase approach works as follows:

- Edge AI Processing: Initially, AI on the edge devices makes preliminary decisions and sends the most probable incidents to the cloud.
- Cloud AI Analysis: The AI software in the cloud further analyzes these incidents, filtering out those that are deemed safe.
- Human Oversight: To make sure everything is legal and to minimize the possibility of AI errors, the most complex and difficult cases are passed to a human operator to make the final decision.

This combined approach, while legally sound, increases the cost of monitoring. Currently, a US-based

operator costs around five dollars per minute (based on a $60,000 yearly salary) (Glassdoor, 2025). In contrast, the cost of AI processing is about two cents per minute which can vary depending on the service needed. This stark cost discrepancy underscores the importance of continuously improving video detection algorithms to minimize human involvement. During our previous study we went over different methods of implementations, with models producing different performances and at different computational needs and costs, making the integration of AI a possible solution for every scale of business depending on their needs and budget. Business can either invest in high accuracy or in faster models which lack the accuracy compared to more complex Deep Learning models but offer an impressive speed for their cost and computational power needed.

Below we can see the table including a variety of these models and their pros and cons along with the cost comparisons:

Table 1

Pros and Cons of AI models

Technology	Cost (Relative)	Performance/Accuracy	Computational Needs	Use Case Scope
Perceptron	Low	Minimal	Very Low	Experimental
SIFT	Medium	Good	Medium	Object Detection
Viola-Jones	Low	Moderate	Low	Real-Time Detection
Eigenfaces	Medium	Moderate	Medium	Face Recognition
SVM	High	Good	High	Classification
CNN (YOLO)	High	Very Good	Medium	Real-Time Applications
CNN (R-CNN)	Very High	Excellent	Very High	Accuracy-Critical

Source: Tirana & Bejleri (2024).

Now let's delve deeper into the AI capabilities in Video Monitoring. There are two approaches:

- Generic AI: Such systems can handle basic tasks such as simple object detection, motion detection, and rather simple pattern recognition using pre-trained models but it may find difficulty in performing or completing more complex tasks.
- Agentic AI: Capable of advanced tasks like predictive analytics, anomaly detection, and autonomous decision-making. It adapts to changing conditions, learns from new data, and optimizes performance over time.

While generic AI provides a broad and adaptable solution for basic video monitoring tasks, agentic AI offers a more specialized and autonomous approach, capable of handling complex scenarios with higher accuracy and efficiency. Given the high human costs and the ever-increasing need for video monitoring, agentic AI is poised to be the future of the industry. The integration of advanced AI technologies will be crucial in meeting the growing demands while ensuring legal and ethical compliance.

Conclusions

The integration of agentic AI in video monitoring represents a transformative shift in the security landscape, addressing the critical challenges of scalability, cost, and efficiency. Traditional human-centric monitoring systems are increasingly impractical due to the sheer volume of video data generated by the growing number of surveillance cameras. The economic burden of employing human operators for continuous monitoring is unsustainable, and the cognitive limitations of humans further exacerbate the issue.

Agentic AI offers a compelling solution by autonomously handling the majority of video monitoring tasks, including advanced analytics, anomaly detection, and real-time decision-making. This technology not only reduces operational costs but also enhances the accuracy and reliability of security systems. By leveraging both edge and cloud computing, agentic AI ensures real-time processing and advanced analytics, providing a robust and scalable surveillance solution.

However, the deployment of agentic AI is not without its challenges. Ethical considerations, such as trust in

AI decision-making and the consequences of potential errors, must be carefully managed. Legal frameworks necessitate human oversight for final decision-making to ensure accountability and compliance. The combined approach mitigates the risks associated with AI errors and maintains a balance between automation and human judgment.

Looking ahead, with the rapid developments in technology and the global demand for video surveillance on the rise, agentic AI stands out as a forward-looking solution, capable of transforming modern security practices while maintaining a careful balance between automation, human oversight, and societal expectations. There are so many interesting avenues for further developments in video monitoring powered by agentic AI solutions. Future research in these areas will improve agentic AI's capabilities in video monitoring, ensuring that it remains a reliable, efficient, and ethically sound solution for modern security challenges.

Our future work will focus on enhancing algorithmic sophistication to better manage complex scenarios and minimize false positives and negatives while integrating contextual awareness into models, enabling them to not only make decisions based on visual cues, but to extend their decision-making capabilities to consider different environmental and situational factors that may come into play. To further increase the resilience of agentic AI solutions, its equally important to develop adaptive learning systems that continuously learn and evolve in response to new data and threats, while including feedback mechanisms where human operators can provide input to improve AI performance over time. Alongside technological innovation, as we mentioned earlier, economic evaluations will be essential. We will go deeper into understanding the real-world value of these systems and conduct research into sustainable business models will help drive their widespread adoption.

Overall, agentic AI is destined to revolutionize video monitoring by significantly reducing human involvement and associated costs while improving security effectiveness. Continuous refinement of AI algorithms and addressing ethical and legal concerns will be crucial in realizing the full potential of this technology. As the demand for video surveillance continues to grow, agentic AI stands out as the future of the industry, offering a scalable, efficient, and reliable solution to modern security challenges.

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THE EFFECT OF DIGITALIZATION ON THE ACCOUNTING SYSTEM OF AZERBAIJAN

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Adapting fast to the digital era is crucial for all countries today. Applying digital technologies effectively to all accounting systems helps the role of accountants. This article helps to understand the meaning of digitalization and its key role in the accounting system of Azerbaijan. As well as the article discusses main state projects provided in this regard and their effects on the digital economy. By evaluating the main roles of digital tools, we try to show how they can impress the accounting system efficiently and effectively and be beneficial to being competitive in the global market. Accounting systems designed with innovative tools solve many problems in ongoing processes. The purpose of this article is to analyze the impacts of digital developments and innovative tools in accounting systems of the motherland, Azerbaijan. We concluded that the main effects of digital tools used in accounting: easiness in data validation and reliability, accuracy, and speeding up the tasks implemented.

Keywords: accounting, digitalization, state projects

"The Stone Age doesn't end because of finished stones, but because modern technologies appeared!"

Introduction

Over the years the digital technologies changed rapidly, and all people had to adapt to them to keep pace with their speed. Adapting to recent developments in the digital era is not just an opportunity but a necessity right now (Meraghni et al., 2021). In the digital economy, the complexity of economic processes has necessitated the strengthening of the role of financial information as well. For this reason, it is extremely important to create an information system that meets the current requirements of digitalization. Accounting systems are considered the carrier of such information.

The Covid-19 pandemic affected a lot to convert all systems into digital format in accounting, like other departments of organizations. That process accelerated the transformation of all systems, and new definitions penetrated into the accounting system more than before, such as cloud data storage, smart invoices, smart contracts, etc. The digital transformation converted the traditional accounting to the digital accounting (Bogasiu & Ardeleanu, 2021). Thus, impossibility in conducting any business (such as signing documents) under normal situations led to the need to perceive the vital role of digitalization (Coman et al., 2022).

Literature review

Many researchers investigated the effects of digitalization on accounting previously with various perspectives. We can show their conclusions and main concepts according to their research papers. Büyükarıkan (2021) has researched the effects of artificial intelligence, cloud computing, and big data system on the accounting profession. He concluded that those developments in the digital era collapse traditional accounting, and an accountant with high knowledge in IT can survive in this situation. The research by

Socoliuc et al. (2024) points out that the digitalization affects the accounting positively by ensuring a high level of service to management and, implicitly, business sustainability.

Burmistrova et al. (2020) researched the problems in the accounting system and finance in the digital economy. They concluded that paramount structural and methodical adjustments should be implemented for those spheres that consist of new conceptual models of accounting and finance as well. The research by Kupenova et al. (2020) points out the role of accounting in the digital economy. They discuss Kazakhstan and its state projects in the context of digitalization of accounting. They show how digitalization tools, such as artificial intelligence, robots, etc., change the tasks of an accountant.

Gonçalves et al. (2022) have researched the future of accounting in the digital transformation period. Their study indicates that resistance to change, organizational culture, and price are considered problems for the digitalization of the system. Yoon (2020) also defines the effect of IT systems in accounting. He concludes that future accountants are those who easily adapt to technological changes. Yüksel (2020) supports the idea that automation of accounting system will provide real-time data and security. He also points out that after digitalization, all accounting tasks will be implemented fast and in a very transparent way.

Sevim and Yılmaz (2024) also researched the effect of digital tools on the accounting system. They preferred face-to-face and online surveys to get useful data on their study. The authors concluded that technological advancements cause increasing concern about security, work efficiency, and the tasks implemented. Additionally, they defined the other aspects of technological improvements, such as saving time, less error and cheating, and a decrease in unethical proposals.

Asikpo (2024) investigated the impact of digital transformation on financial reporting by using digital technologies such as big data, artificial intelligence, blockchain, and cloud computing systems. He showed that transparency and efficiency in the accounting profession will improve thanks to those digital tools. Bose et al. (2023) determine the key roles of big data, data analytics, and artificial intelligence in the accounting profession in their research study. They stated that the skills of accounting professionals have improved with the use of these technological tools in the accounting profession. Erişen and Erer (2023) examined the impact of digitalization on accounting practices in a study conducted on CPAs in Istanbul. According to the research results, it is shown that professional members use digital technologies significantly in their professions.

Holmes and Douglass (2022) examined the impact of the application of artificial intelligence on accounting. The survey results indicate that artificial intelligence will lead to developments in business performance. Abdennadher et al. (2022) examined the impact of blockchain technology on the accounting in the United Arab Emirates. Blockchain affects the accounting profession in areas such as recording transactions and preserving evidence. Kamau (2021) examined the effects of technology on the future of accounting. The study revealed that there is a need for a radical change in the accounting profession to keep pace with technological developments. As a result, accountants have to adapt to the available situations. Otherwise, they may lose their competitiveness and have difficulty maintaining their profession. El-Dalahmeh (2021) also determined the effects of big data analysis on the accounting profession in the Jordanian business environment. According to his study, he defines that big data generally improves the quality of accounting practices in Jordan.

Conceptual Framework

Digitalization is considered as transforming all business processes and the total organizational environment fundamentally into a digital format. It also affects how organizations provide service and create value (Alonge et al., 2024).

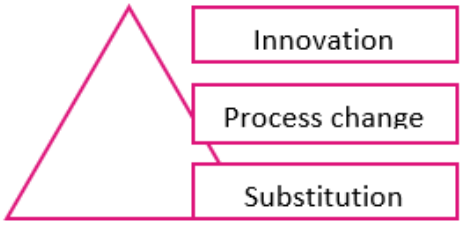
I-SCOOP (2016) states that digitalization is a different term and has a broader meaning than digitization and is used for turning interactions, communications, business functions, and business models into digital ones. According to the 2014 Gartner CIO Agenda Report, the main role of the digitalization process is making digital business models with digital leadership skills, and it results in digital business innovation and creates new types of value.

Digitalization has impacted the accounting system considerably, and as a result, it is now a system where

many tasks are implemented automatically and it works with new innovative tools (Lee & Tajudeen, 2020).

The accounting system is of crucial role in all industries because important documents are prepared by the accountants, such as financial statements and tax reports that affect the decisions of investors and other stakeholders. Accountants, as common beings, should renew their skills according to the recent changes and improve themselves permanently in parallel with new inventions in the digital era (Andreassen, 2020).

Figure 1
Stages of digitalization in accounting



Source*:* Pargmann et al. (2023).

There are 3 stages of digitalization in accounting that define how the main tasks implemented by an accountant converted into digital ones. In the substitution stage, simple analog data or activities are converted into digital data or activities. Fewer bookkeeping tasks and using digital papers are characteristics of this stage. Main routine processes an accountant implements, such as preparing price agreement protocols, are in this stage. In the process change stage of the digitalization, accounting systems partially converted into automated ones. Invoicing for outputs and inputs is an example for this stage. The innovation stage of digitalization serves to completely digitalize or automate bookkeeping tasks. Accounting systems are formulated by using innovative tools, such as AI and machine learning, to get the best results.

Key technologies of digitalization used in accounting system

These main technologies help to manage the information system efficiently and effectively. Cloud computing, machine learning, blockchain, and artificial intelligence (AI) are among those technologies that drive the digitalization of accounting.

Cloud data storage: Users nowadays tend to prefer more flexible systems that provide services on a wide scale. Cloud data storage provides that flexible system by storing and processing big data (Büyükarıkan, 2021). Many organizations now are able to access all financial data from anywhere at any time by using cloud-based accounting systems, like QuickBooks Online and Xero (Deshpande & Parivara, 2024).

Big data: It refers to such huge and complex data that previous versions of software systems can not store, process, and distribute. In the digital era , the amount of big data and its various forms exceeded the scope of traditional data management (Gao, 2023). Data in accounting is utilized for various purposes, including a better knowledge of debtors and creditors, clients, workers, partners, and the detection of fraud, disclosing any anomalies. By evolving new technological advancements, accountants now use more innovative tools to analyze financial data than before (Deshpande & Parivara, 2024).

Machine learning: It allows the users to analyze any discrepancies that may have occurred and immediately solve the problem.

Blockchain: Blockchain is a system where data are collected in a chain that no users can change or delete (Ünal & Uluyol, 2020). This invention helps to get reliable financial information in a glimpse and moves double-entry bookkeeping into triple-entry bookkeeping as well (Faccia, 2019).

The application of blockchain technology in accounting will reduce the task of keeping records, and there will be a transition to higher-level tasks. With blockchain technology, accounting professionals will have time and energy to work on more valuable tasks for the entities (Stratopoulos & Calderon, 2020).

Artificial intelligence (AI): With the development of AI technology, it may be inevitable for the human being to be replaced by machines that think like humans. People should renew and improve themselves permanently to keep pace with the speed of digital developments. AI tools can process boundless amounts of data fast and accurately and detect any discrepancies that are not easily detectable by a person or traditional software systems (Alonge et al., 2024). Most entities are widely adopting AI-powered accounting software as a digital tool for purposes of storing documents, verifying and tracking information, managing risks, and monitoring activities. The AI-based accounting software increases the productivity and efficiency of the accounting system, supports flexible working models, and optimizes process management with a reduction of cost. With the integration of AI-based accounting software in operational tasks, accounts payable and receivable become much easier and more efficient. Good debt management will support a strong alliance between the company and its suppliers (Lee & Tajudeen, 2020, p. 215).

The Internet of Things (IoT) is considered the system of interconnected objects such as automated scanners. They provide the accountants real-time data that is open to access without human involvement (Deshpande & Parivara, 2024).

Digitalization in Azerbaijan

Recently, many countries tried to build their economies according to the digital era. Some countries are at the end of this innovative path, and some are at the beginning. Azerbaijan, as a key oil producer, tries to formulate a strategy that promotes digitalization of all systems in various aspects. Digitalization of the economy has been a priority issue for the Republic of Azerbaijan over the years. Many state programs and orders adopted serve to be competitive across the world during the Fourth Industrial Revolution.

State projects

President of the Republic of Azerbaijan Mr. Ilham Aliyev (2024) once said:

“Now we will be known all over the world not only as a country with oil and gas reserves but also as a country with high-level scientific potential and application of information and communication technologies.”

This statement by the president of the country of Azerbaijan shows that we determined the importance of digitalization and try to convert all systems into a digital format.

A recent main state project for the Republic of Azerbaijan is *the “Concept of Digital Development in the Republic of Azerbaijan*.” This concept is approved by the decree dated 16 January 2025. The main goals for this state project are considered improving the quality of life of Azerbaijani citizens, speeding up the state economy, and upgrading public administration. This state project targets meeting the triple interests and expectations: citizens, businesses, and the state itself.

The concept supports the role of digitalization by achieving easy access to ICT resources for improving businesses work in the most efficient, economic, and effective way. The project also takes into account the application of cloud technologies and artificial intelligence solutions, as well as data security issues in the digitalization of processes and services.

“The Socio-economic Development Strategy of the Republic of Azerbaijan 2022-2026” program consists of the main strategic plan for the motherland in the digital era. The mentioned state project confidently supports the idea about the vital role of the education system to gain the best results to win in the digital battle. The first strategic line is considered as forming new concepts in the education system that serve the modern economy. The second strategic line is trying to develop a lifelong learning mechanism. The implementation of both strategic lines is beneficial for the economic development plan and adapting to the digitalization process rapidly.

Another strategic goal in the digital economy, according to that state project, is organizing new funds and institutions that provide internet service, which is targeted at 95% accessibility to high-speed mobile internet.

Remote working penetrated profoundly into our lives after the pandemic. All accounting systems were

formulated according to the systems that are available to access from anywhere in a more flexible way.

According to legislation of the Republic of Azerbaijan, the law on "Accounting" of the Azerbaijan Republic, dated 22 January 2024, some enterprises must form their accounting system just in digital form. It forces those groups to go with digitalization. They are:

- Large-sized enterprises, middle-sized enterprises
- Taxpayers who carry out production-sharing agreements, main pipeline agreements, and other similar agreements or laws approved by law, and oil and gas activities for export purposes.
- Public organizations that prepare yearly financial statements or consolidated statements

The e-accounting information system was formulated according to the Accounting Law of the Republic of Azerbaijan by the relevant executive authority ordered to ensure submission of financial statements to the Ministry of Finance of the Republic of Azerbaijan. Additionally, in this digital base, the entities have a chance to become acquainted with educational materials and main laws according to accounting systems. This system will serve to make the processes transparent and efficient. The implementation of this information system stimulates digitalization of the accounting systems of Azerbaijan considerably.

The current tasks an accountant implements generally in Azerbaijan:

- Executing payments (salary, tax, other debts)
- Preparing monthly cash/bank reconciliation
- Preparing financial statements and statistical reports
- Controlling any documents given to the accounting department by workers (sick leave, maternity leave, etc.)
- 1C system (data entry, reconciliation, closing)
- Preparing invoices, price agreement protocols, and delivery and acceptance acts

By using the aforementioned digital tools effectively, accountants will be better positioned to thrive in a complex environment. We should accept that the key resource in the digital era is information, and it entails creating new tools that enable changing it rapidly on specific requests. Payrolling, submitting tax and other financial declarations, and data entry tasks are considered the most affected processes accountants implement after digitalization.

Effects of digitalization in the accounting system

As the modern economy evolves rapidly, the effect of digitalization on the accounting system becomes enormous. Besides, the digitalization of accounting will serve to convert all accounting systems into different and innovative situations than before (Tekbaş, 2018). The main effect of digitalization in accounting systems of Azerbaijan is *data accuracy and reliability*. In past years we have prepared many sale invoices manually; on the contrary, we use e-invoices nowadays. Manual data entry caused many human errors as a result, and it led to an unreliable source of financial information. Innovative tools and digital systems created by official government bodies such as the State Tax Service under the Ministry of Economy of the Republic of Azerbaijan enabled us to automate those processes, resulting in a reliable source of financial information.

Additionally, digitalization in accounting systems caused *easiness in data validation.* By creating "Asan Imza," "Sima Imza," "Sima Token," all entrepreneurs can access the digital platforms to sign important contracts and invoices created by accountants.

Automation of the accounting systems *eliminated many manual tasks* accountants bothered to implement repetitively. By providing smart contracts, accountants just fill the gaps for creating a contract in a glimpse; on the contrary, they lose energy and valuable time. E-invoice is such a type of invoice prepared online in contrast to manual invoices. Accountants prepare e-invoices in the Internet tax administration system, which *accelerates the speed* of regular tasks of the accounting department.

Smart contracts contact the customer and consumer in such a great way that they just give what they have, and it eases all processes and executes specific actions stated beforehand in contracts. The benefits of applications of smart contracts, according to the Corporate Finance Institute, are:

- Speed: Smart contracts accelerate the execution because of the automation of processes and digitalization .
- Reliability: Smart contracts do not need any intermediary, and it results in the contract being free from any manipulation risk.
- Safety: Smart contracts are encrypted, and it saves the contract information from any hack.
- Savings: Smart contracts serve the elimination of any useless expenses.
- Accuracy: Smart contracts are free from substantial manual errors.

Conclusion

This article aimed to shed light on the effects of the new environment of economy on accounting by assessing main improvements in this sector. Additionally, it is analyzed which state projects are available and implemented for this purpose. The literature review in Motherland shows the lack of articles and research papers on the digitalization, digital economy, and effects of those processes on the accounting systems as well.

The effects of digitalization in accounting system are still not completely clear. The access to many digital tools automates the tasks implemented manually and repetitively. On the other hand, an abundance of financial information leads to complexity of all systems, which causes the threatening of accountants (Gonçalves et al., 2022).

From the perspective of accountants, most research shows that accounting as a profession will not die as a result of digitalization, but the role of accountants will change to accountant analytics and accounting engineering. They mostly have more time than before and will analyze the statements given by robots. Future accountants should be specialists in specialist knowledge to be competitive in the global sector and in terms of digital skills to handle gigantic amounts of accounting information (Rosi & Mahyuni, 2021; Sytnik et al., 2022).

As we show the main effects of digitalization on the accounting systems of Azerbaijan, it is abundantly clear that the future of accounting is digital, and digitalization will serve for growth for the economy of Azerbaijan as a result.

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RAZISKAVA UPORABE STORITEV E-UPRAVE V REPUBLIKI SLOVENIJI

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Digitalizacija storitev se je izkazala kot ključni proces sodobne družbe, ki prinaša pomembne spremembe na področju gospodarstva in javne uprave. Za doseganje enotnega cilja digitalizacije storitev so predstavljeni agenda Evropske unije za Digitalno desetletje do leta 2030 in nekateri podporni akti, ki pokrivajo področja digitalizacije družbe in varstva podatkov, varstva osebnih podatkov in kibernetske varnosti. Direktiva Evropske unije usmerja razvoj digitalne preobrazbe v državah članicah ter spodbuja njihov nadaljni razvoj. Cilj raziskave je preveriti poznavanje in uporabo storitev med uporabniki e-uprave, ter odvisnost v zaupanje glede na stopnjo avtentifikacije. Raziskava uporabe e-uprave v Sloveniji kaže, da velika večina anketirancev uporablja e-storitve, pri čemer je njihova izkušnja večinoma pozitivna in varna. Ugotovili smo, da je zaupanje v varnost e-storitev večje pri storitvah, kjer je potrebna avtentikacija s storitvijo SI-PASS ali kvalificiranim digitalnim potrdilom. Za uspešen prehod v digitalno desetletje mora država zagotoviti dostopnost ključnih storitev, državljani pa sprejeti digitalno identiteto.

Ključne besede: Digitalizacija, elektronsko poslovanje, digitalna identiteta, e-storitve, e-uprava.

REASEARCH ON THE USE OF E-GOVERMENT IN THE REPUBLIC OF SLOVENIA

Digitalization of services has proven to be a key process in modern society, bringing significant changes in the fields of economy and public administration. To achieve the unified goal of service digitalization, the European Union's Digital Decade agenda up to the year of 2030 is presented, along with several supporting acts covering areas of digital society, data protection, personal data protection, and cybersecurity. The EU directive guides the development of digital transformation in member states and promotes the advancement of e-government. The aim of the research is to examine the awareness and use of services among e-government users and the dependence of trust on the level of authentication. A study on the use of e-government in Slovenia shows that the vast majority of respondents use e-services, with their experience being mostly positive and secure. It was found that trust in the security of e-services is higher for services requiring authentication via SI-PASS or a qualified digital certificate. For a successful transition into the Digital Decade, the state must ensure access to key services, while citizens must embrace digital identity.

Keywords: Digitalization, digital services, digital identity, e-services, e-government.

Uvod

V zadnjih letih smo lahko opazili velik porast digitalizacije storitev in tako tudi nekatere državne institucije v Sloveniji ponujajo svoje storitve uporabnikom v elektronski obliki za oddajo vlog, obrazcev ali pregled podatkov, pri tem pa uporabljajo različne metode za identifikacijo in avtentikacijo uporabnika. Digitalizacija storitev uvaja tehnološke rešitve za izboljševanje delovanja javnega sektorja in zagotavlja boljše storitve za uporabnike.

Elektronsko poslovanje in javni sektor sta pojma, ki opredeljujeta koncept elektronske uprave – e-uprave,

katere glavni cilj je zagotoviti, da so storitve javnega sektorja dostopne ljudem 24 ur na dan, 7 dni v tednu, 365 dni v letu. Med storitve e-uprave tako spadajo vse e-storitve, ki jih javne inštitucije ponujajo tako pravnim kot fizičnim osebam.

Za mnoge je pandemija covid-19 izpostavila velik problem pri uporabi javnih storitev zaradi izdanih omejitev. Tako je bila tudi javna uprava primorana prioritetizirati svojo digitalno preobrazbo z vpeljavo elektronskih rešitev svojih storitev.

Vendar pa se je digitalizacija storitev začela že mnogo prej. Za uresničitev ciljev digitalizacije držav članic Evropske Unije (EU) je Evropska komisija (EK) izdala strategije, akte in načrte, ki sledijo agendi digitalizacije že drugo desetletje in zastavljenim ciljem do leta 2030. Za uresničitev ciljev so opredelili 4 strateška področja razvoja, ki zajemajo infrastrukturo, digitalizacijo javnih storitev, digitalno preobrazbo podjetij in znanje oz. spretnosti razvoja in uporabe digitalnih rešitev.

Vedeti moramo, da so prav uporabniki tisti pokazatelj, ki z uporabo storitev e-uprave potrdijo, ali je digitalizacija javne uprave uspešna in zaupanja vredna. Čeprav je namen e-uprave izboljšati kakovost življenja državljanov in ne poglobiti vrzeli med različnimi skupinami, lahko še vedno nastane razkol med zagovorniki napredka in tistimi, ki nočejo ali pa ne zmorejo slediti novostim.

Digitalizacija storitev

Evropska komisija, kot izvršilni organ Evropske Unije, je do sedaj izdala več strategij, politik, dokumentov in aktov, ki bi pripomogli k pripravljenosti na digitalno dobo in uresničitvi digitalizacije članic.

Z začrtano vizijo o zagotovitvi koristnosti tehnologije družbi in sprejemom inovacij, ki povečujejo konkurenčnost, hkrati pa zmanjšanju tveganja za državljane so bile začrtane smernice, ki spodbujajo uresničevanje ciljev digitalnega desetletja z zagotovitvijo delovanja inovacij in tehnologije v korist ljudi.

Okvir vključuje program politike za digitalno desetletje (Evropska komisija, 2025), imenovan Digitalni kompas in usmerjen na štiri področja za zagotovitev zastavljenih ciljev s področij:

- znanja in spretnosti, kjer bi se povečalo število strokovnjakov s področja IKT in se hkrati tudi uravnovesila razlika med spoloma ter povečalo osnovno digitalno znanje prebivalstva;
- digitalne preobrazbe podjetij, kjer bi se povečalo število podjetij v EU, ki uporabljajo računalništvo v oblaku, umetno inteligenco in velike podatke, kjer bi se povečalo število inovatorjev in financiranje »startup« podjetij, ki bodo dosegla visoko tržno vrednost, in uvajanje osnovne stopnje digitalizacije v mala in srednje velika podjetja, ki sicer predstavljajo večino podjetij v Evropski uniji;
- digitalizacije javnih storitev, kjer naj bi bile vse ključne javne storitve dostopne prek spleta, kjer naj bi vsi državljani imeli dostop do zdravstvene dokumentacije in do digitalne identitete;
- varne in trajnostne digitalne infrastrukture, kjer bi bila zagotovljena povezljivost povsod (tako z gigabitnim fiksnim omrežjem ali brezžičnim 5G omrežjem), kjer bi se podvojilo število deleža polprevodnikov, materiala, iz katerega so izdelani čipi, kjer bi se povečalo število podnebno nevtralnih in varnih robnih vozliščih, kjer bi se obdelovali podatki, saj bi to omogočajo hitrejše odzivne čase analiz in obdelav, in razvoj prvega kvantnega računalnika.

Za doseganje skupnih ciljev je EK predstavila predvidene začrtane poti za doseganje digitalnih ciljev, določenih po programu politike Digitalno desetletje 2030, ki je podlaga za nacionalne strateške časovne načrte. Države članice so tako primorane opredeliti svoje nacionalne časovne načrte, ki pomagajo doseči ustrezne zastavljene digitalne cilje.

Vlada republike Slovenije je marca 2023 objavila strategijo digitalne preobrazbe Slovenije do leta 2030 z naslovom »Digitalna Slovenija 2030 – Krovna strategija digitalne preobrazbe Slovenije do leta 2030« (Portal GOV.si, 2025), kjer so objavljena ključna področja digitalne preobrazbe Slovenije do leta 2030.

Vendar to ni bil prvi dokument o digitalizaciji Slovenije, saj so že marca leta 2016 izdali strategijo »Digitalna Slovenija 2020 – strategija razvoja informacijske družbe do leta 2020« (Portal GOV.si, 2025), katere glavni cilj je bil, da Slovenija postane napredna digitalna družba s pomočjo začrtanih načel.

Omenjeni dokument se nanaša na strategijo EU z naslovom »Evropa 2020«, katere cilj je bil, da s pomočjo

digitalnega napredka preoblikuje gospodarsko področje v pametno, trajnostno in vključujoče okolje.

Strategija v ospredje postavlja spodbujanje digitalne preobrazbe Slovenije na področjih družbe, države, lokalnih skupnosti in gospodarstva. Z digitalno preobrazbo področja družbe se fokus prenaša na vključevanje državljana v sistem in s tem na povečanje kakovosti njegovega življenja na trajnosten in zaupanja vreden način.

Za doseganje ciljev digitalnih javnih storitev je Ministrstvo za javno upravo izdalo Strategijo digitalnih javnih storitev 2030 (Medresorska delovna skupina za oblikovanje, spremljanje in vrednotenje Strategije digitalnih javnih storitev, 2023) z opredeljenimi stebri prioritet in cilji, tako strateškimi kot specifični. Ministrstvo za digitalno preobrazbo je v sodelovanju z vsebinsko pristojnimi institucijami izdelalo akcijski načrt digitalizacije javnih storitev (Ministrstvo za digitalno preobrazbo, 2025), ki natančno opredeljuje ukrepe za doseganje ciljev iz Strategije digitalnih javnih storitev do leta 2030. Njegov namen je zagotoviti preglednost, odgovornost ter možnost merjenja napredka pri izvajanju strategije in se obnavlja vsaki dve leti, kar omogoča vključitev različnih resorjev v različnih fazah implementacije strategije.

Pri digitalizaciji javne uprave, ki naslavlja enega izmed področij Digitalnega kompasa in je skladna z navodili Evropske unije, so v krovnem dokumentu Strategije digitalnih javnih storitev 2030 naslovili vse ponudnike javnih storitev in opredelili tri glavne strateške prioritete, in sicer:

- vključevanje in zagotavljanje dostopnosti do vseh ključnih javnih storitev vsem uporabnikom prek spleta;
- da bo vsaj 80 % ključnih javnih storitev, ki so dostopne digitalno, tudi opravljene digitalno;
- da bo vsaj 80 % uporabnikov javnih storitev uporabljalo digitalno identiteto.

Za dosego ciljev digitalizacije javne uprave so opredelili pet strateških ciljev, ki se osredotočajo tako na uporabnika kot na ponudnike storitev, in sicer:

- zagotovitev učinkovitega in varnega okolja za opravljanje digitalnih storitev, s poenotenim dostopom do digitalnih storitev, možnostjo vpogleda v podatke in uporabo ne glede na ponudnika storitev;
- usmerjenost digitalizacije v pozitivno uporabniško izkušnjo in vključevanje uporabnikov v soustvarjanje, kjer je poudarek na enostavnosti in intuitivni uporabi, izobraževanju uporabe, zagotavljanju tehnične podpore in pomoči pri uporabi ter promociji pri vključevanju vseh v uporabo e-uprave;
- uporabnost digitalne identifikacije, ki ponuja uporabnikom prijazne rešitve za identifikacijo, z uporabo enotne storitve za identifikacijo, ki omogoča čezmejno interoperabilnosti na uporabniku prijazen način in je hkrati varna, kar pripomore k večjemu zaupanju v storitev;
- zagotovitev sodobne informacijske tehnologije za upravljanje zaupanja vrednih podatkov z vzpostavitvijo interoperabilnosti, tako med domačimi kot tujimi ponudniki, in vpeljavo standardov za obdelavo podatkov in vzpostavitev podatkovnih prostorov;
- digitalna opolnomočenost države, ki se osredotoča tako na ponudnike kot zaposlene, da so ustrezno opremljeni, usposobljeni in suvereni pri uporabi naprednih digitalnih tehnologij za učinkovito in kakovostno delo, ki je z novimi procesi optimizirano in v skladu z zakonodajo.

Uspeh digitalnih rešitev ni odvisen samo od tehnološke naprednosti in sposobnosti izvajanja storitev, temveč tudi od tega, kako dobro te rešitve služijo uporabnikom. Usmerjenost digitalizacije in prehoda na nove tehnologije je za uporabnika izrednega pomena, saj so prav oni pokazatelj uspešnosti pri uvajanju novih tehnologij. Oni so tisti dejavnik, ki odloča, ali bo tehnologija sprejeta in učinkovita. Z zavedanjem, da je digitalizacija odvisna od pozitivne uporabniške izkušnje, ki je prilagojena potrebam in izpolnjuje pričakovanja, so definirani strateški cilji tako na ravni krovnega dokumenta kot tudi v strategiji digitalnih javnih storitev.

Tu je treba izpostaviti vejo Digitalnega kompasa, ki se nanaša na uporabnika, in sicer področje digitalnih kompetenc. Na tej isti osi izpostavlja tudi digitalno izobraženo prebivalstvo, kjer bi se z znanjem in spretnostmi povečalo število strokovnjakov s področja IKT in uravnovesila razlika med spoloma ter povečalo osnovno digitalno znanje prebivalstva.

Prelomna točka v sprejemanju digitalizacije storitev e-uprave se je pokazala ravno v času pandemije, ko je bila zaradi omejitev izredno otežena in omejena interakcija med državljani in javno upravo.

Za zagotovitev cilja, da bo do leta 2030 vsaj 80 % ljudi imelo osnovne digitalne kompetence, so v nacionalnem načrtu opredelili ukrepe s projekti, ki bi pripomogli k njegovemu dosegu. Obstoječe ukrepe, kot so digitalno

opismenjevanje otrok, mladih, odraslih in starejših, krepitev digitalnih kompetenc in spretnosti zaposlenih tako v malih in srednje velikih podjetjih kot v javni upravi, so dopolnili in razširili s konceptom izobraževanja "train the trainer", kjer se različnim organizacijam omogoči digitalna preobrazba in se hkrati člani usposobijo za poučevanje drugih. S tem želijo širiti vsaj osnovna digitalna znanja in spretnosti, izobraziti strokovne in vodstvene delavce na vseh ravneh vzgoje in izobraževanja v pedagoškem procesu v javnih in zasebnih ustanovah, dvigniti digitalne kompetence in temeljna znanja s področja računalništva in informatike ter hkrati zagotoviti ustrezne informacijske in komunikacijske infrastrukture ter ustrezne e-storitve in aplikacije za razvoj digitalnih kompetenc (Ministrstvo za digitalno preobrazbo, 2025).

Pri uvajanju e-uprave, ki je namenjena vsem, se pojavlja problem digitalnega razkoraka, ki lahko negativno vpliva na sprejetje, uporabo in zaupanje. Do digitalnega razkoraka lahko pride zaradi več dejavnikov, kot so ekonomski, saj si ljudje z nižjimi dohodki težje privoščijo računalnike, pametne telefone, internetne storitve in imajo zato manj možnosti za digitalno povezljivost. Dostopnost do infrastrukture s hitrim in zanesljivim internetom omejuje ljudi na odročnih območjih v primerjavi s tistimi, ki živijo v mestih, prav tako lahko ta odročnost povzroča zmanjšanje možnosti za računalniško izobraževanje in usposabljanje. Tudi starost in izobrazba vplivata na digitalno vrzel, saj imajo starejše generacije in ljudje z nižjo izobrazbo pogosto manj izkušenj z digitalnimi orodji, kar jih postavi v manj ugoden položaj pri uporabi digitalnih storitev.

Leta 2022 je v Italiji potekala raziskava, v kateri je sodelovalo 3002 anketirancev, starih med 18 in 64 let, da bi raziskali, kako stopnja izobrazbe vpliva na odnos uporabe e-uprave in zaupanje v javne storitve ter razloge za nastanek digitalne vrzeli (Mesa, 2023). Poleg izobrazbe so v svoji raziskavi preučili vpliv regijskih območij in podeželja ter tudi starost in vpliv spola.

Raziskava temelji na rezultatih ukrepa italijanske vlade, ki je namenila finančna sredstva načrta za okrevanje po pandemiji, med katerimi je bil del namenjen tudi digitalnemu prehodu in digitalizaciji javne uprave. Kljub temu pa so leta 2022 še vedno zasedali zgolj 18. mesto po lestvici indeksa digitalnega gospodarstva in družbe znotraj EU. DESI indeks je sestavljen iz komponent merjenja digitalnih veščin, povezljivosti, integracije digitalnih storitev in digitalizacije javnih storitev in se uporablja za spremljanje napredka držav članic EU na digitalnem področju.

Z zavedanjem, da je nizka stopnja uporabe digitalnih javnih storitev lahko povezana tudi s pomanjkanjem zaupanja v javno upravo in javne institucije, so izvedli raziskavo, ki preučuje odnos med državljani in javnimi storitvami v kontekstu, kako dejavniki kulture, stopnje izobrazbe, dostopnosti infrastrukture in lokacija vplivajo na zaupanje in uporabnost digitalnih javnih storitev.

V raziskavi so zajeli javne storitve, ki so jih anketiranci uporabljali v zadnjih 2 letih, in sicer s področja zdravstva, socialne varnosti in dela, davkov, lokalne samouprave, gospodarstva ter izobraževanja. Indikatorji, s katerimi so ocenjevali odnos anketirancev do javne uprave, so temeljili na trenutnem zaupanju, zaznani potrebi po spremembah, zaupanju pri digitalnem prehodu, pričakovanjih, ki jih prinaša digitalizacija, in izzivih.

Glede na pridobljene podatke in analizo so potrdili, da ima izobrazba glavni vpliv pri odločanju o uporabi digitalnih storitev, medtem ko starost in spol nista imela vpliva. Najnižje stopnje uporabe digitalnih javnih storitev so bile med tistimi anketiranci, ki so zaključili nižje stopnje izobraževanja.

Ugotavljajo tudi, da so trije od štirih državljanov med letoma 2020 in 2022 vsaj enkrat uporabljali e-storitve javne uprave, in se zavedajo, da je to še daleč od cilja EU, da bo do leta 2030 imelo 100 % državljanov dostop do ključnih javnih storitev v digitalni obliki.

Prav tako so z analizo podatkov potrdili, da izobrazba in izkušnje z uporabo digitalnih storitev pozitivno vplivajo na zaupanje v e-storitve javne uprave. Ugotovili so tudi, da je med anketiranci, ki uporabljajo digitalne rešitve javne uprave, večja stopnja zaupanja v javno upravo.

Glavni razlog odpora uporabe digitalnih javnih storitev pa je kulturne narave, saj anketiranci zagovarjajo tradicionalno uporabo javnih storitev.

Za razliko od omenjene raziskave, ki se je osredotočila zgolj na eno državo znotraj EU, pa so v raziskavi o zaupanju v e-upravo, ki je potekala za celotno območje EU in države Zahodnega Balkana, želeli preučiti povezavo med zaupanjem v vlado in uporabo storitev e-uprave (Paneva in Kaharevic, 2023). Kot dodatne kontrolne spremenljivke vplivanja na zaupanje o e-upravi so dodali komponente digitalnih veščin, mobilnega

širokopasovnega dostopa do interneta in BDP na prebivalca. Za namen analize so uporabili podatke sekundarnih zanesljivih virov. Raziskava izhaja iz predhodnih ugotovitev, da je zaupanje v vlado eden ključnih napovedovalcev večje uporabe storitev e-uprave in digitalne vključenosti.

Preglednica 2

Nabor podatkov za analizo povezave med različnimi faktorji glede uporabe e-uprave

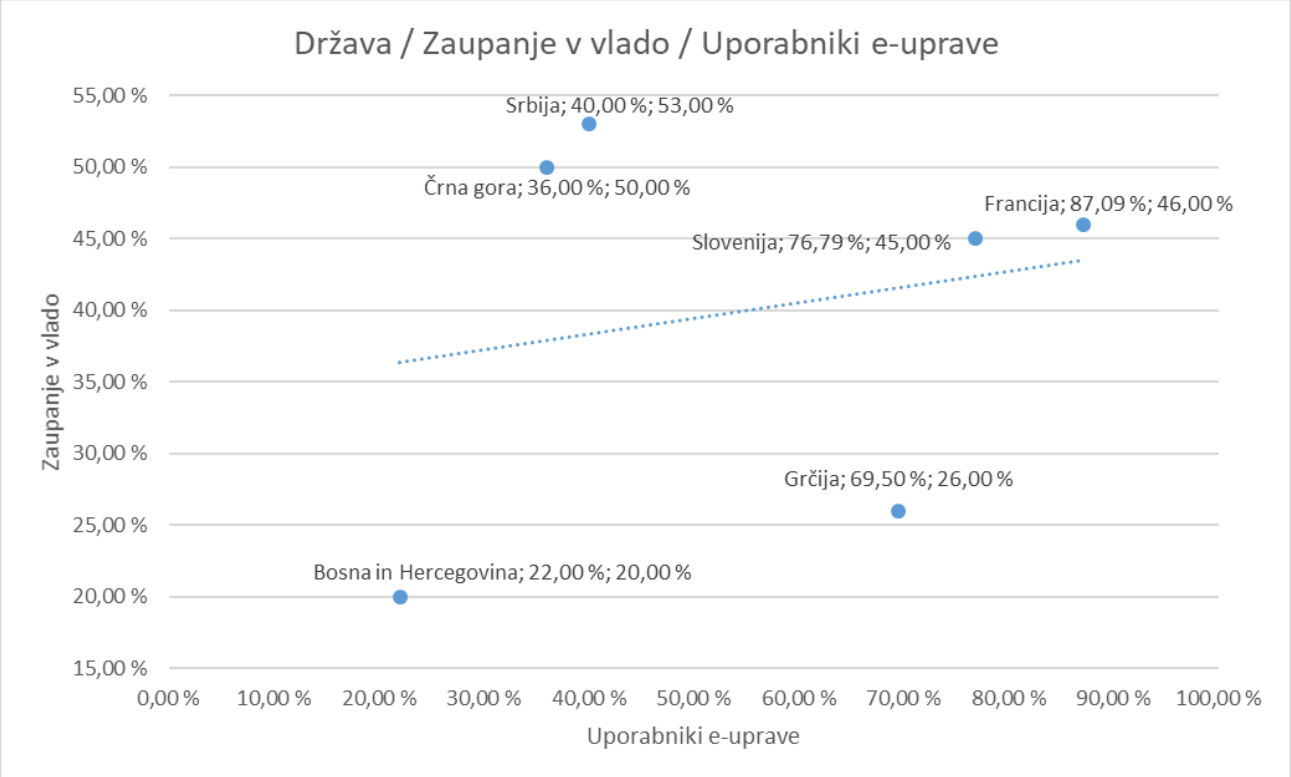
	Uporabniki e-uprave	Zaupanje v vlado	Digitalne kompetence	Mobilno omrežje	BDP na prebivalca (USD)
Francija	0,8709	0,4600	0,6196	0,8761	40.963
Slovenija	0,7679	0,4500	0,4967	0,8727	29.457
Grčija	0,6950	0,2600	0,5248	0,7646	20.732
Srbija	0,4000	0,5300	0,4100	0,9600	9.393
Bosna in Hercegovina	0,2200	0,2000	0,3500	0,6300	7.585
Črna gora	0,3600	0,5000	0,4700	0,9100	9.893

Vir: Paneva in Kaharevic (2023).

Kljub večkratni linearni regresiji, kjer so merili odvisnost dveh slučajnih spremenljivk in vpliv, ki ga imata ena na drugo, so za raziskavo povezave zaupanja v vlado z dodajanjem kontrolnih spremenljivk ugotovili, da koeficient ni bil statistično značilen in zato ni bilo možno podpreti predpostavljene trditve, da je višja raven zaupanja v vlado pozitivno povezana z večjim deležem uporabnikov e-uprave ob upoštevanju kontrolnih spremenljivk.

Slika 1

Grafični prikaz razpršenosti primerjave zaupanja v vlado in uporabo e-uprave glede na države

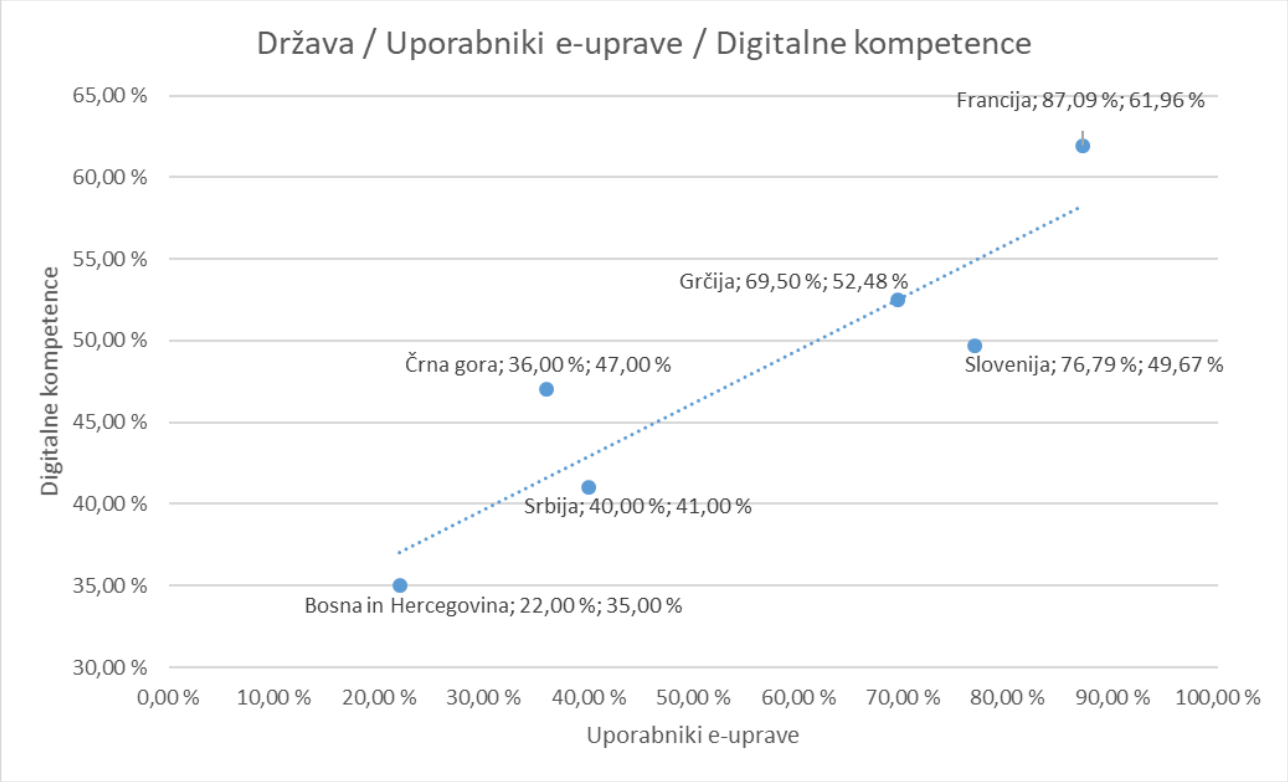


Vir: Paneva in Kaharevic (2023).

Z rezultati regresije pa so pokazali povezavo, da se delež uporabnikov e-uprave povečuje z večjim deležem prebivalstva, ki ima digitalne veščine.

Graf 2

Grafični prikaz nizke razpršenosti odvisnosti uporabe e-uprave in digitalnih kompetence glede na države



Vir: Paneva in Kaharevic (2023).

Tako lahko vidimo, kako pomembna je strategija digitalnega kompasa EU, ki poudarja digitalne kompetence, saj prav uporabniki s svojim znanjem uporabljajo e-storitve bolj pogosto in predvsem bolj suvereno.

Slovenija se je po indeksu DESI – indeks digitalnega gospodarstva in družbe (Evropska komisija, 2025) v letu 2022 uvrstila na 11. mesto med 27 državami članicami EU, po indeksi EGDI – indeks razvoja e-uprave, ki ga izdajajo Združeni narodi (UN e-Government Knowledgebase, 2025) v letu 2022 pa na 21. mesto med 193 državami članicami ZN (33. mesto po EGDI v letu 2024). Po postavki DESI, ki meri digitalizacijo javnih storitev, se Slovenija uvršča na 13. mesto med 27 državami članicami EU za leto 2022 z vrednostjo 69,5, kar je malo nad povprečjem EU. Vrednost predstavlja razmerje oz. meri % uporabnikov e-uprave glede na uporabnike interneta.

EK je izdala poročilo o stanju digitalnega desetletja za leto 2024 (Evropska komisija, 2025), ki države članice obvešča o napredku pri doseganju splošnih in posamičnih ciljev ter razlike med državami članicami. Izpostavljeni sta bili dve prednosti oz. področji največjega napredka kjer ugotavljajo, da je Slovenija dosegla opazen napredek na področju e-uprave, vključno z izvajanjem nacionalne sheme e-identifikacije in doseganjem visoke splošne zrelosti e-zdravja, ter infrastrukture povezljivosti. Opozorili pa so na področja, kjer je potrebno občutno izboljšati stanje in sicer na področjih digitalizacije malih in srednje velikih podjetij, uporabi umetne inteligence, računalništva v oblaku in podatkovne analitike ter znatno pomanjkanje strokovnjakov za IKT.

Ker smo konkretno že zakorakali v digitalno dobo in z vsemi novimi rešitvami in tehnologijami, ki nam izboljšujejo kvaliteto življenja, je človek oz. uporabniška izkušnja pomemben subjektivni kazatelj uporabe tako e-storitev kot e-uprave. Ocena, kako dobro so izdelane rešitve, ki bi vsem omogočale varno in enostavno uporabo e-uprave, in v kakšnem obsegu so državljani pripravljeni sprejeti te novosti in jih uporabljati, je področje, ki odpira mnoga vprašanja.

Raziskava preučuje poznavanje, uporabo in zadovoljstvo uporabnikov digitalnih storitev slovenske javne uprave, saj so prav uporabniki odličen pokazatelj uporabnosti e-uprave, ki z uporabo e-storitev potrdijo doprinos digitalizacije k izboljšanju kakovosti življenja. Namen dela je raziskati področje poznavanja in uporabe digitalnih storitev slovenske javne uprave fizičnih oseb – državljanov v primerih oddaje vlog v

elektronski obliki za poizvedbo, pregled in/ali spremembo podatkov z uporabo kvalificiranih digitalnih potrdil ali drugih načinov digitalne identifikacije in avtentikacije posameznika.

Raziskovalna vprašanja:

- R1: Kolikšna je prepoznavnost e-storitev javnega sektorja?
- R2: Ali uporabniki zaupajo v e-storitev? Predvsem z vidika varovanja osebnih podatkov, shranjevanja in distribuiranja po različnih kanalih.

Hipoteze:

- H1: Med anketiranci je vsaj 70 % anketirancev v zadnjih dveh letih uporabilo vsaj eno od e-storitev javnega sektorja.
- H2: Zaupanje v varnost uporabe e-storitve uporabnikov je večje pri storitvah, kjer je potrebna avtentikacija s storitvijo SI-PASS ali kvalificiranim digitalnim potrdilom, kot pri storitvah, kjer to ni potrebno.

Metodologija

Kljub možnosti analize podatkov in poročil iz zanesljivih sekundarnih virov ter indeksov EGDI in DESI je bila za namen raziskave poznavanja in uporabe e-uprave, namenjene fizičnim osebam v Sloveniji, izdelana samostojna kvantitativna raziskava v obliki anonimnega anketnega vprašalnika.

Prek aplikacije 1KA je bila sestavljena anketa, ki je obsegala 19 vprašanj zaprtega tipa in je bila združena v 10 sklopov, ločenih glede na vsebinsko tematiko, ki se nanašajo na poznavanje, uporabo in zadovoljstvo uporabe storitev e-uprave, digitalno identiteto ter demografske podatke. S pomočjo vprašanj je bilo pridobljenih 43 različnih spremenljivk, ki so ključne za obdelavo podatkov s programskim orodjem IBM SPSS za izvajanje opisne in sklepne statistike.

Z namenom pridobitve reprezentativnega vzorca je bila anketa objavljena na več socialnih platformah. Anketa se je izvajala v obdobju od 1. 6. 2024 do 30. 8. 2024. Ob zaključku zbiranja podatkov je bilo ustreznih 110 rešenih anket.

Vzorec in populacija

Sklop demografskih vprašanj je zajemal 4 vprašanja, in sicer glede spola, starosti, regije stalnega prebivališča in zaključene stopnje izobrazbe, tako je v raziskavi sodelovalo:

- glede na spol: 67 žensk (60,9 %) in 43 moških (39,1 %);
- glede na starost: do 20 let 1 oseba (0,9 %), od 21 do 30 let 23 oseb (20,9 %), od 31 do 40 let 31 oseb (28,2 %), od 41 do 50 let 36 oseb (32,7 %), od 51 do 60 let 13 oseb (11,8 %) in 61 let in več 6 oseb (5,5 %);
- glede na regijo stalnega prebivališča: iz Gorenjske 35 oseb (31,8 %), Osrednjeslovenske regije 29 oseb (26,4 %), Notranjske 9 oseb (8,2 %), Dolenjske 11 oseb (10,0 %), Primorske 6 oseb (5,5 %), Koroške 5 oseb (4,5 %), Štajerske 13 oseb (11,8 %) in iz Prekmurja 2 osebi (1,8 %);
- glede na zaključeno stopnjo izobrazbe: z zaključeno osnovno šolo ali manj 4 osebe (3,6 %), srednjo poklicno izobrazbo ali srednjo strokovno ali splošno izobrazbo (gimnazijo) 26 oseb (23,6 %), višješolsko ali visokošolsko izobrazbo 43 oseb (39,1 %), univerzitetno izobrazbo ali magisterijem bolonjskega študija 29 oseb (26,4 %), magisterijem znanosti ali specializacijo 4 osebe in doktoratom znanosti 4 osebe (3,6 %).

Rezultati

H_1: Med anketiranci je vsaj 70 % anketirancev v zadnjih dveh letih uporabilo vsaj eno od e-storitev javnega sektorja.

Preglednica 3
Prikaz frekvenc anketirancev o uporabi e-uprave v zadnjih 2 letih

	Frekvenca	Delež v procentih
Da	96	87,30
Ne	14	12,70
Skupaj	110	100,00

Iz preglednice 2 je razvidno, da je od skupno 110 anketirancev kar 96 oseb (87,3 %) v zadnjih dveh letih uporabilo vsaj eno od storitev e-uprave in 14 oseb (12,7 %) storitve e-uprave v tem obdobju ni uporabilo.

Glede na delež pritrdilnih odgovorov, ki znaša 87,3 %, lahko H_1 potrdimo.

H2: Zaupanje v varnost uporabe e-storitve uporabnikov je večje pri storitvah, kjer je potrebna avtentikacija s storitvijo SI-PASS ali kvalificiranim digitalnim potrdilom, kot pri storitvah, kjer to ni potrebno.

Preglednica 4
Opisne statistike pri t-testu za spremenljivki o načinu avtentikacije in občutka varnosti uporabe e-uprave

	Ali je bila potrebna avtentifikacija z digitalnim kvalificiranim potrdilom ali pa storitvijo SI-PASS/smsPASS?	Število anketirancev	Povprečje	Standardni odklon	Standardna napaka povprečja
Uporaba storitev e-uprave je bila varna	Da	81	4,30	0,766	0,085
	Ne	15	3,80	1,014	0,262

Preglednica 5
Rezultati t-testa za spremenljivki o načinu avtentikacije in občutka varnosti uporabe e-uprave

		Levenov test enakosti varianc		t-test enakosti aritmetične sredine						
		F	p-vrednost	t	Stopnje prostosti	Dvostranska p-vrednost	Povprečna razlika	Standardna napaka razlike	95% interval zaupanja za razliko	
									Spodnja meja	Zgornja meja
Uporaba storitev e-uprave je bila varna	Predpostavljamo enakosti varianc	1,811	0,182	2,187	94	0,031	0,496	0,227	0,046	0,947
	Predpostavljamo različne variance			1,803	17,077	0,089	0,496	0,275	−0,084	1,077

T-test za enakost povprečij z dobljeno p-vrednostjo 0,031, manjšo od 0,05, pomeni, da obstajajo statistično pomembne razlike med skupinama glede zaznane varnosti uporabe storitev e-uprave. Hipoteza H_2, da je zaupanje v varnost e-storitev večje pri storitvah, kjer je potrebna avtentikacija s storitvijo SI-PASS ali kvalificiranim digitalnim potrdilom, je *potrjena*. Rezultati t-testa kažejo, da je statistično pomembna razlika v zaznani varnosti med obema skupinama, pri čemer je zaupanje v varnost večje pri storitvah z avtentikacijo.

Kljub manjšemu številu veljavnih odgovorov je možno glede na rezultate ankete sprejeti določene trditve. Prav tako so rezultati pokazali določena bolj specifična področja, ki vplivajo na pozitivno uporabniško izkušnjo.

Ne samo 70 % ampak celo 87,3 % anketirancev je v zadnjih 2 letih uporabilo vsaj eno od storitev e-uprave in

iz tega lahko sklepamo, da imajo ti anketiranci vsaj osnovne digitalne kompetence. Prav tako se ti uporabniki zavedajo pogojev varne uporabe storitev in posledično zaupajo storitvam bolj, kjer je bila potrebna avtentikacija s storitvijo SI-PASS ali kvalificiranim digitalnim potrdilom.

Slabše ocene zadovoljstva uporabe e-uprave se nanašajo prav na uporabniško izkušnjo enostavnosti uporabe, navodil in tehnične podpore. Anketiranci so kot najpomembnejši prednosti e-uprave ocenili dostopnost 24 ur na dan, vse dni v tednu ter prihranek časa, zmanjšanje papirne dokumentacije je bila ocenjena kot najmanj pomembna prednost, hkrati pa ima ta postavka tudi najvišji standardni odklon med vsemi ocenjenimi dejavniki, kar kaže, da so bila mnenja o bolj zelenem oz. brezpapirnem poslovanju med anketiranci najbolj raznolika.

Glede nadaljnjih priporočil uporabe med uporabniki in potencialnimi uporabniki je zaradi pozitivnega odnosa velika večina pripravljena deliti svoja mnenja in izkušnje o prednostih uporabe e-uprave, kot sta dostopnost in prihranek časa.

Raziskava je pokazala le majhen del odnosa anketirancev do pripravljenosti na digitalno dobo in z nadaljnjimi raziskavami, kjer bi se raziskovalo specifična področja uporabe, bi lahko ponudniki storitev s povratnimi informacijami naredili izboljšave in se tako še bolj približali potrebam uporabnikov.

Zaključek

V raziskavi smo preučili trenutno stanje in načrte za prihodnost digitalizacije družbe glede na agendo EK digitalnega desetletja, namen raziskave pa je bil raziskati uporabniško izkušnjo in stopnjo opravljanja storitev e-uprave v Sloveniji. Z analizo in interpretacijo pridobljenih podatkov lahko ugotovimo, da je Slovenija na dokaj dobri poti določenih zastavljenih ciljev digitalnega desetletja na področju digitalizacije javnih storitev.

Cilji EK so zastavljeni dolgoročno in z rednimi letnimi poročili napredka in dvoletnimi prilagajanji nacionalnih strateških načrtov lahko vsaka država članica EU, glede na svoje trenutno stanje in možnosti razvoja, napreduje čim bolj optimalno. Tu sta v pomoč državam indeksa DESI (Evropska komisija, 2025) in EGDI (UN e-Government Knowledgebase, 2025), ki merita stopnjo uporabe e-uprave.

Za nadaljevanje implementacije agende digitalizacije je treba izboljšati vsaj osnovne digitalne veščine prebivalstva in minimizirati digitalno vrzel, do katere prihaja vse pogosteje. Zavedati se je treba, da uporabniki z boljšimi digitalnimi veščinami pogosteje uporabljajo e-storitve in so tudi bolj zadovoljni z njimi. Ker višje izobraženi prebivalci uporabljajo e-upravo bolj pogosto, kar je bilo dokazano tudi v raziskavi, ki je potekala v Italiji (Mesa, 2023) bi moral biti poudarek na neformalnem izobraževanju celotnega prebivalstva Zato je poleg tehničnega razvoja treba vlagati v digitalno pismenost, da bi omogočili enak dostop in uporabo vsem državljanom, ne glede na starost, izobrazbo ali družbeni status.

Priporočljivo je nadaljevanje izobraževanja v vseh starostnih obdobjih, da uporabniki postanejo suvereni pri uporabi digitalnih storitev. S promocijo spodbujanja uporabe storitev e-uprave prek kampanj in izvedb brezplačnih izobraževanj se lahko prispeva k še večjem sprejemanju in uporabi digitaliziranih storitev.

Kljub majhnemu in omejenemu naboru števila anketriancev, so v raziskavi sodelovale različne starostne skupine iz različnih območij Republike Slovenije z raznoliko stopnjo izobrazbe. Vseeno so rezultati raziskave osvetlili odnos anketirancev do pripravljenosti na digitalno dobo, zavedanju o varstvu osebnih podatkov in varni uporabi storitev e-uprave.. Večina anketirancev je v zadnjih dveh letih uporabila vsaj eno storitev e-uprave, kar nakazuje na njihove osnovne digitalne kompetence. Uporabniki bolj zaupajo storitvam, kjer je potrebna avtentikacija s storitvijo SI-PASS ali s kvalificiranim digitalnim potrdilom. Manjše zadovoljstvo so anketiranci izrazili glede enostavnosti uporabe in tehnične podpore, vendar pa kljub temu večina uporabnikov izraža pripravljenost priporočiti uporabo e-uprave znancem.

Raziskava odpira prostor za dodatne študije, ki bi še bolj poglobljeno raziskale individualne potrebe uporabnikov, njihovo stopnjo in odvisnost zaupanja v e-upravo, poznavanje možnih nevarnosti pri uporabi digitalnih storitev, povezavo med nezaupanjem in nepoznavanjem storitev, razloge za uporabo oz. neuporabo digitalnih storitev, katere bi privedle do povečanja števila uporabnikov in hkrati izboljšav storitev e-uprave

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Globalization and Internationalization: Building Resilient Economies in a Dynamic World

GLOBALIZATION RECONFIGURED: DIGITAL SHIFTS AMIDST GEOPOLITICAL RIFTS

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Abstract: This article examines the evolving dynamics of globalization and the emerging risks of deglobalization in the post-pandemic era. Focusing on shifts in global alternate, capital flows, and delivery chains, the review assesses whether or not globalization is stagnating or reworking because of geopolitical tensions, protectionist guidelines, and technological disruptions. The purpose of article is to become aware of key drivers of fragmentation, compare financial and political results, and explore destiny trajectories of global integration. Methodologically, the evaluation employs quantitative information from international companies, globalization indices, and case studies of regional trade styles. The article combines literature review of academic and institutional reports, quantitative data analysis, financial models, and empirical evidence from current crises, together with COVID-19 and the Russia-Ukraine war. Findings propose that even as conventional globalization metrics have slowed, digitalization and intangible flows are reshaping international interdependence. The article concludes that multilateral cooperation and structural reforms are needed to support inclusive growth.

Keywords: Deglobalization, Geopolitical Fragmentation, Digital Transformation, Supply Chain Restructuring, Trade Policy

Introduction

Globalisation is a profound process involving the entire world, based on the development of the world economy. It is a long and complex historical process, the defining dimension of which is global integration. Integration has developed positively over the past 70 years since the Second World War and has become the dominant trend of the second half of the 20th century. The main features of globalisation are as follows:

- a constantly increasing share of international trade in gross domestic product;
- an acceleration in the speed of international monetary and capital flows;
- a constantly increasing proportion of foreign capital; outsourcing, the development of global value chains; migration;
- the global flow of information, intangibles and knowledge;
- the breaking down of political and administrative barriers to trade and investment;
- the development of international organisations and international regulations; the need for global governance;
- the influence and interplay of political, cultural and environmental factors, which have increased interdependence in the world economy.

Globalisation is a comprehensive process. It integrates national and regional economies, societies and cultures through global networks of trade, finance, communications, migration and transportation. Its defining elements provide an opportunity to measure and assess the status and progress of globalization.

Internationalisation indicators, such as international trade, capital investment, migration, the formation of international organisations or the development of international communications (satellite broadcasting, submarine cables, intercontinental mobile phone connections, etc.) also provide a measurable indication of

the development of these processes. They provide an opportunity to identify and assess new developments.

The World Wide Web and the opportunities it offers have become a symbol of globalisation. The situation is similar to that of liberalisation: the development and impact of trade liberalisation, privatisation or deregulation. At the same time, there is a lively debate surrounding the concept of so-called neo-liberal globalisation. The perceived or real consequences of this process largely determine the opinion of each participant or observer, whether they accept or reject it.

Global integration has become a decisive new phenomenon in the world economy in recent decades (Palánkai et al. 2011) In today's world economy, integration processes take place at both the regional and global levels. In general terms, integration means unification and consolidation. However, the constituent parts do not lose their identity in the process of consolidation.

The concept of globalization is closely linked to the processes of integration and transformation. Globalization as a process unites previously dispersed markets into a wider system of relationships. Geographical and political boundaries become less important in the process of distribution. The movement of capital is driven by returns, and the movement of people is driven by employment and financial progress. All of this is facilitated by the rapid flow of knowledge and information.

The world-renowned economist Jagdish N. Bhagwati defines globalization as integration: the integration of national economies into the international economy through trade, foreign direct capital investment, short-term capital flows, the widespread international mobility of people and the flow of technology (Couture**,** 2024).

Global integration is essentially market integration. At the same time, the integration process is consciously promoted by governments, international organisations and the business community. The effects and connections of this integration process affect almost all areas of social life.

The key moment of globalisation is the breaking down of the barriers that divide the world. People are becoming more and more capable of acting, legally, linguistically, culturally or psychologically, to connect with each other wherever they are.

In the process of regional integration, countries come together in supranational, territory-based organisations to improve cooperation and alleviate existing tensions. These collaborations, in different ways and to varying degrees, aim to achieve the free movement of people, labour, goods, products and capital.

It is linked to, but not identical with, globalisation through the regional thread. Global and regional integration overlap are closely linked and interact with each other. (In some respects, they can complement each other or even be contrary to each other.) Global and regional integration between some countries is international integration. (Acemoglu, 2024).

Methodology

This study employs a descriptive and analytical research methodology based on a comprehensive review of secondary data and literature. The approach is qualitative, synthesizing information from a wide array of sources to construct a coherent narrative and analysis of the recent evolution of globalization. No primary data was collected; instead, the research relies on the collation and interpretation of existing quantitative and qualitative evidence.

The selection of sources was guided by the need to capture a multi-faceted view of globalization, encompassing economic, political, and technological dimensions. The core data sources include:

- Macroeconomic Databases and Indices: Quantitative data on global trade, capital flows, and migration were drawn from official publications by institutions such as the European Commission (EC), the World Bank, and the World Trade Organization (WTO). The KOF Globalisation Index from ETH Zurich was used as a key aggregate measure to track the historical trajectory of globalization.
- Institutional Reports and Forecasts: In-depth analysis and forward-looking statements were sourced

from reports by the International Monetary Fund (IMF), UNCTAD, the European Central Bank, and consulting firms like McKinsey. These provided insights into policy trends, supply chain dynamics, and the economic impact of geopolitical events.

- Academic and Expert Literature: The conceptual framework and critical analysis are grounded in the work of leading economists and scholars in the field, as evidenced by citations throughout the text. This body of literature was used to define key terms, understand causal mechanisms, and frame the debate between the stagnation and transformation of globalization.
- Policy and Business Analyses: To capture contemporary developments, the study incorporates information from specialized sources like the Global Trade Alert platform, business council surveys (e.g., US-China Business Council), and reputable financial journalism (e.g., The Economist).

The method of analysis involved a thematic synthesis of the collected information. First, trend analysis was applied to the quantitative data to identify key inflection points and establish the central thesis of a slowdown in traditional metrics of globalization since the 2008 financial crisis. Subsequently, a qualitative analysis of reports and scholarly articles was conducted to identify and elaborate on the primary drivers of this trend, including geopolitical fragmentation, policy shifts, and technological change. Finally, the study contrasts the trends in physical trade with the growth in intangible flows (services, data, intellectual property) to build the argument that globalization is not reversing but is undergoing a fundamental structural transformation.

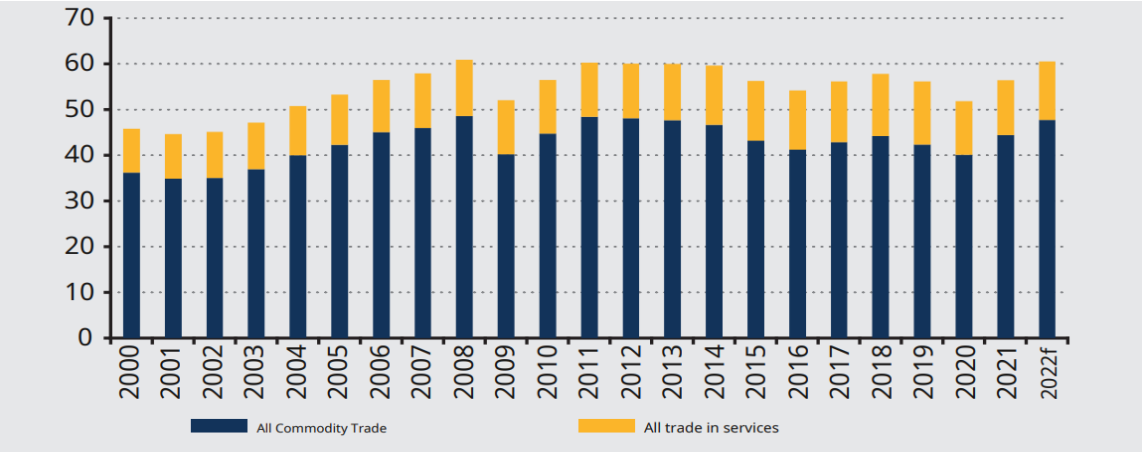
Stagnation of Globalization

In the emerging process of globalisation, there has been a marked stagnation over the past fifteen years. The financial and economic crisis of 2008–2009 led to a temporary decline in world trade of more than 10%. Although trade largely returned to its previous level after 2010, its share relative to world GDP no longer increased (EC 2023; see Figure 1).

International migration – despite its central importance and having become a political topic – is very insignificant: since 1990, the proportion of the global migrant population has increased from 2.9% to 3.4%, an increase of only half a percentage point (Lund, 2023).

Figure 1

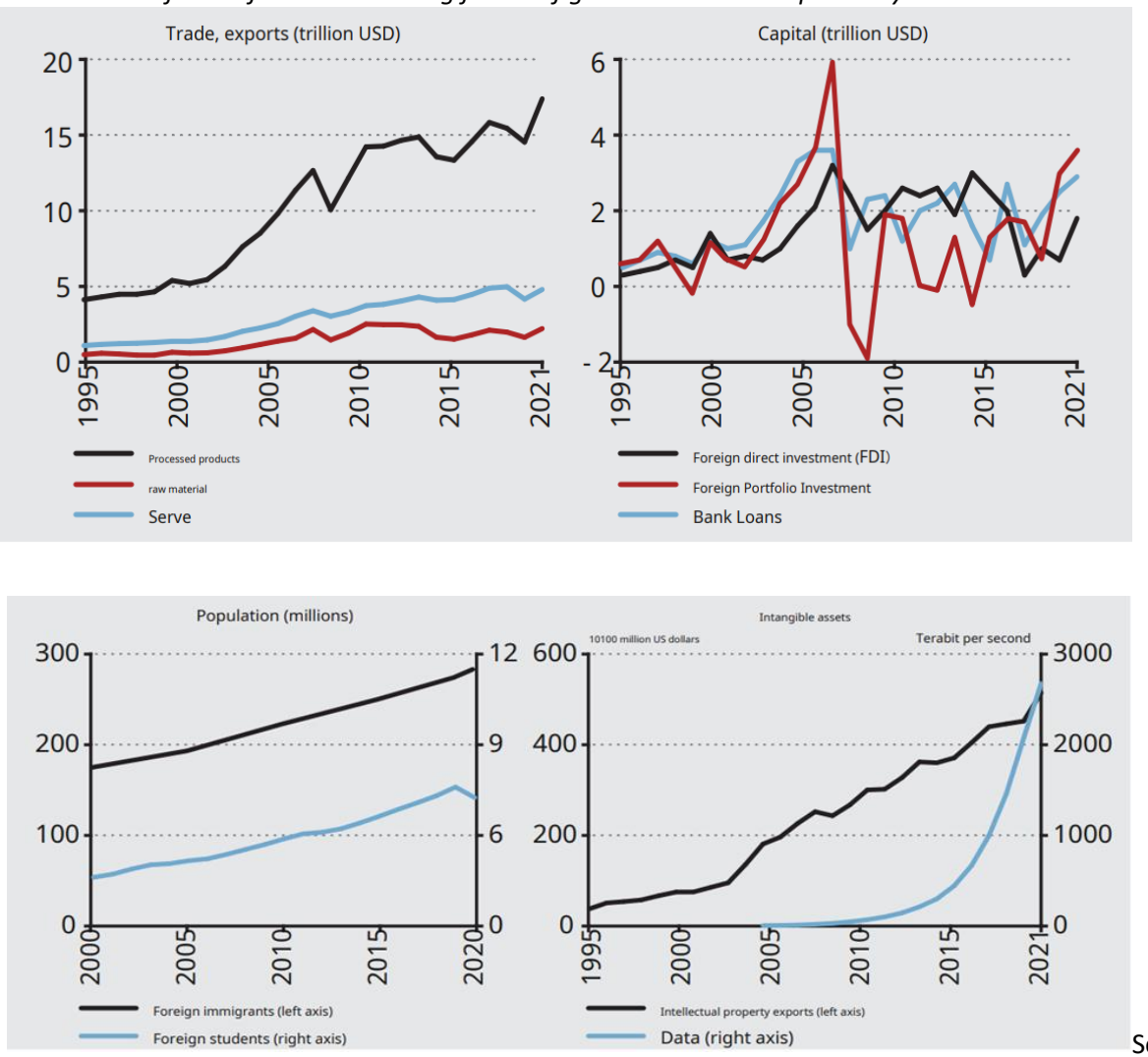
Development of world trade as a share of world GDPAs a percentage of GDP



Source: EC (2023).

Figure 2

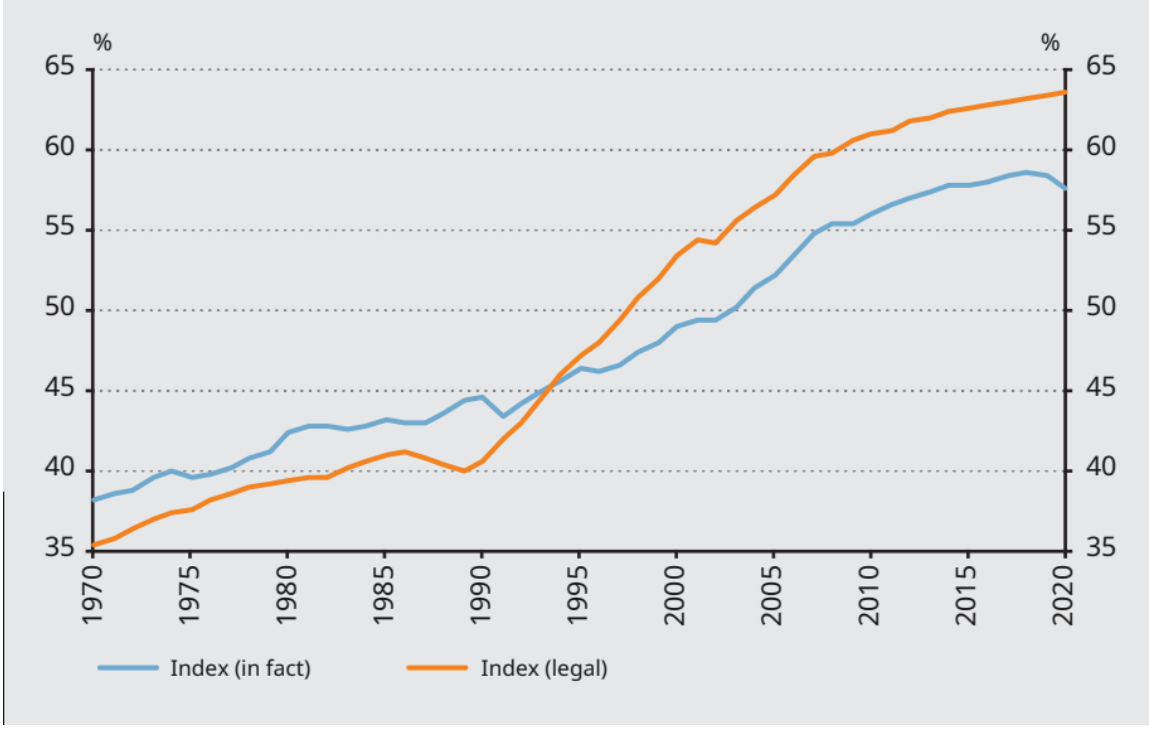
International flows of the main driving forces of globalization in the past 25 years



Source: Seong et al. (2022).

Using the most widely used indicator of globalisation, the economic globalisation (aggregate) index of the ETH Zurich's Institute of Economics, there has been almost no growth since 2007, and it has basically stagnated (Figure 3). Before the financial and economic crisis, partly due to the growth of international capital flows, but over the past fifteen years, cross-border financial speculation and European international bank lending have declined sharply. This is not a negative trend: the situation before 2007 was unhealthy in many ways. The financial world is now more balanced and more crisis-resistant, albeit less globalised. (Milanović, 2023).

Figure 3
Evolution of the Globalization Index between 1970 and 2020



Source: KOF Swiss Economic Institute (2025).

There is a case for the liberalisation of international trade. Some governments are turning to traditional, or rather non-traditional, non-tariff protectionist instruments. All this threatens the integration of world trade, which is one of the fundamental dimensions of globalisation.

The fact that global trade has lost its former dynamism over the past decade also points in this direction. The question is whether its growth will return to its former rate. Before the financial crisis, global trade grew rapidly as a proportion of GDP. It rose from 41% in 1986 to over 61% in 2008. Since then, the ratio has largely stagnated (see Figure 1, Wozniak – Galar 2018).

Considering the more complex and sometimes hostile environment of global trade relations and changing economic drivers, the expansion of world trade since the date shown has generally paralleled the dynamics of output, or lagged slightly behind (WTO, 2022). In light of these trends, an overview of the factors contributing to the slowdown in global trade is needed.

The Risk of Global Trade Fragmentation

To illustrate the above, it is worth reviewing the trends in international trade in the EU. Since the financial and economic crisis, the growth of the EU's foreign trade, and in particular its trade in services, has exceeded global trends. Moreover, with the development of integration, the EU's trade in goods as a proportion of GDP increased by 10 percentage points between 2000 and 2021: from 57% to 67%. (This growth was supported by the EU's internal and external trade policies.)

The share of the EU's services trade increased faster than that of goods turnover, from 14% of GDP in 2000 to 26% in 2021. (Lee, 2024). Similarly, the EU economy's participation in global value chains rose rapidly before 2008 and has remained relatively stable since then.

Foreign value added in exports of EU partner countries (‘backward participation’) rose from 12.7% in 2000 to 17.3% in 2012, before falling to 15.8% in 2018. The value added within the EU in the exports of partner countries (‘forward participation’) increased from 14.9% in 2000 to 16.5% in 2008, and then to 14.9% in 2018 [such in-depth data can only be traced back a few years (EC, 2023)].

There are several economic and political factors that explain the slowdown in global trade dynamics over the past decade. On the one hand, the incentives to promote trade appear to be running out. At the same time, tariff barriers to international trade have been reduced. The weighted average burden of customs entry for industrial products in foreign trade at the world level fell from 13.6% in 1986 to 7.5% in 2008 and 3.9% in 2019. This has led to a geographical fragmentation of production processes, which exhibit diminishing returns (Antràs, 2020).

Due to the stabilisation of the division of labour in manufacturing, the rate of further offshoring in high-income countries has declined. For emerging countries, the share of intermediate goods in imports has declined, as the latter increasingly rely on their own industrial base for the procurement of inputs (Baldwin, 2022). Finally, structural changes in some important emerging economies (notably China) may also have contributed to lower trade openness and global trade dynamism (e.g., more moderate integration into GVCs).

Meanwhile, trade in services has remained dynamic compared to trade in goods (except for tourism during the COVID-19 shock), and the development of digital technologies has increased trade in intermediate services (Baldwin, 2022).

Geopolitical tensions and the COVID-19 pandemic have put pressure on cross-border trade and global value chains. During the Covid-19 crisis, the vulnerability of the capacity of some remote suppliers, due to closures and other restrictive measures, in particular, has led to serious and lasting supply-side problems (Brynjolfsson, 2023).

The decline in the supply of certain intermediates (parts, components, materials) and logistics problems (insufficient transport capacity, rising transport costs) have led to serious disruptions in the supply chain. The lack of microchips in several industries (e.g. automotive manufacturing) has led to forced restrictions and even production stoppages at certain times. Due to the decline in production and work stoppages, there have been price increases and unprecedented queues, especially in the period following the low point of the corona crisis (Rodrik, 2023).

The current confrontation between the US and China has led to restrictive measures and supportive industrial policies in technology-intensive industries (semiconductors, ‘green technologies’, etc.). (Gros, 2024). The initial shortage of health products during the coronavirus pandemic may have reinforced the need for ‘nearshore outsourcing’ and the rationalisation of some parts of the supply chain.

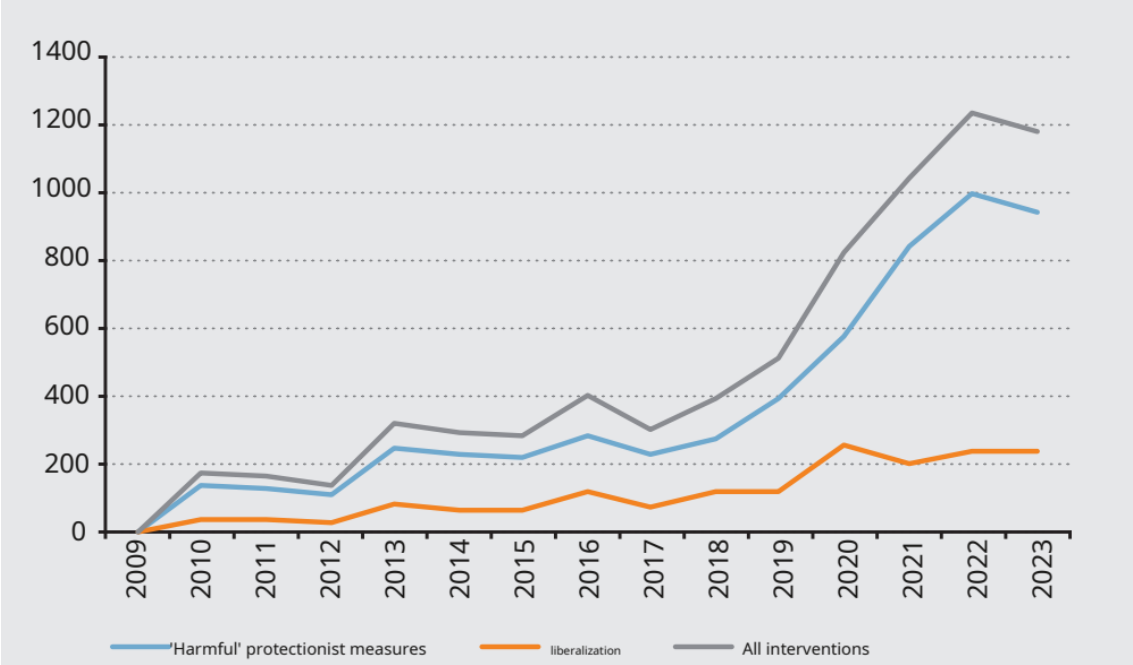
The Russia-Ukraine conflict has further increased geopolitical tensions and risks. Geopolitical factors have gained in importance in trade dynamics. Economic aspects are sometimes relegated to second place. Overall, efforts to improve the reliability of supply sources, improve responsiveness to demand, or prioritise national security may lead to some supply chain restructuring and shortening (IMF, 2022; Capital Economics, 2022).

Indeed, trade relations may be affected by regulatory challenges, such as the US terminating the Trans-Pacific Partnership Agreement in 2017 or the failure to establish a WTO dispute settlement forum. In this regard, the ability of multilateral institutions to facilitate global trade flows has diminished (Dadush 2022).

Recent developments in trade policy illustrate the increasing complexity of the cross-border trading environment and the processes of global value chains. While tariffs have remained generally low, non-tariff trade restrictions have increased significantly since 2020. First came the coronavirus pandemic, then the Russia-Ukraine conflict, and finally the food and energy crises. As a result, the annual average of harmful restrictive measures implemented between 2010 and 2019 was 71, and this will increase to 530 by 2022 (see Figure 4).

In 2021, import restrictive measures affected 9.3% of world imports (WTO, 2023), and this figure will increase further in 2022 due to the EU sanctions against Russia following the Russia-Ukraine conflict. (Goldfarb, A. 2024).

Figure 4
Trade policy intervention



Source: Global Trade Alert (2025).

Supply Chain: Deglobalization and Restructuring

Many underlying factors, including obvious geopolitical connections, the need to manage pandemics or commitments related to climate change, may lead to political demands to rearrange value chains. Subsidies are being introduced in many countries to strengthen the 'repatriation' of strategic sectors and reduce dependence on foreign technology and inputs.

For example, in the field of semiconductor production, the United States, the European Union, Japan and China have all used measures and subsidies to build and strengthen domestic industrial capacity. [In the United States, for example, subsidies in this direction could double over the next decade (The Economist 2023).

A recent example is the US Inflation Reduction Act (IRA). Many subsidies depend on meeting domestic production and sourcing requirements, distorting market competition. For some supply chains (e.g. the production of electric vehicles and their components), measures taken in the green technology sector may lead to backflows. While other economies are planning or implementing similar support systems, the recently adopted European Green Suppliers Industry Plan emphasises the role of an open, rules-based trading system and trade in the green transition (European Commission, 2023).

Firms may adapt their strategies to respond to these challenges. According to a June 2022 overview by the US-China Business Council, 87% of respondents (US multinationals operating in China) said that US-China tensions have had an impact on operational and investment decisions, 26% have exited Chinese industries, 29% have left the US and used value chains specific to China, and 24% have stopped investing in China (EC, 2023).

According to a similar overview compiled by the European Union Chamber of Commerce in China in April 2022, geopolitical tensions have had a negative impact on European investment in China. 7% of the surveyed companies considered terminating their Chinese investments after the outbreak of the Russia-Ukraine conflict, and 39% of them believe that geopolitical tensions have reduced China's investment attractiveness.

Political pressure to restructure the industrial chain has not immediately led to significant changes in the standard gross trade indicators. Rearranging the value chain is necessary. Implementation is a complex task

due to high costs and technical challenges (IMF, 2022), but political efforts can change trade patterns. (In the case of automated workplaces, it is even impossible to return to certain links in the production chain in the most developed countries.)

The share of US exports to China has declined, while the share of ASEAN countries has increased. India's tradition is a potential new engine for the development of global value chains (Zuboff, 2023). So far, political changes have been quite diverse and have not disrupted trade relations.

An important element of the new trade model is the reshaping of Asian supply chains in response to deteriorating trade and geopolitical relations between the US and China. Similar reforms are expected in other regions. Central and Eastern Europe could increase their participation in European value chains. Some Latin American countries (e.g. Mexico) could increase their participation in US value chains (The Economist, 2023).

In the new organisation of value chains, the question of technological sovereignty arises. The latter is not an objective but a means in the 21st century. The ability of a country or integrated society (such as the EU) to develop or acquire various aspects of economic competitiveness, as well as the ability of a country to act from other countries, to adopt appropriate technology without falling into unilateral structural dependence on other economic areas (Edler, Blind, Kroll, Schubert 2023).

Technology sovereignty based on economic well-being enables its companies to compete freely and successfully in the global technology system and solve long-term problems that provide people with a high level of well-being (Inzelt, 2023).

Given the potential for restructuring of global value chains, the potential for deglobalisation also arises. However, shorter and more vulnerable value chains have been constructed than before, and restructuring is hardly used as deglobalisation (World Bank, 2023).

The Danger of Business Fragmentation

Changes in trade patterns do not necessarily have a negative impact on overall trade indicators, but they can have significant economic costs. The rearrangement of value chains is necessary and involves high costs and technical challenges (IMF, 2022).

International barriers that at least restrict international trade, a decline in foreign direct investment, and technological change could reduce resource efficiency and have a detrimental effect on productivity growth and productivity spillovers.

Increased trade restrictions and/or increased trade policy uncertainty lead to global fragmentation. According to IMF analysis, severe fragmentation of the global economy – depending on its extent – leads to permanent losses in global output, which according to model calculations range from 0.2% to 7% of world GDP. Scenarios combining commercial fragmentation techniques with separation show output losses for some countries of 8% to 12% of GDP (IMF, 2023).

Overall, many factors could limit the outlook for global trade, with risks having a negative impact on economic growth. Some of the structural factors that have impeded trade growth over the past decade, such as the limited impact of major technological breakthroughs in transportation and information technology, are expected to remain largely unchanged. In addition to the former, recent external shocks and developments in national and multilateral trade policies also suggest that the negative impact on global trade may intensify.

Taking all factors into account, it is determined that there may be a causal relationship between trade and potential growth (Rodrik, 2024), and fragmentation itself is a major potential economic cost (IMF, 2023).

Changing Globalisation

The main driving force behind globalisation is the increasing connection between people, economies and cultures. In the phase of global trends, the focus is on the flow of digital services, information and knowledge.

As a result, the process of globalisation is advancing in different forms. A communications and technology revolution is taking place in global trade. The spread of new technological achievements (blockchain, 5G, electric vehicles) has a wide range of implications.

At the same time, the world's middle class is likely to expand with this development. Living standards, especially in emerging markets, are rising. All of this could have a significant impact on global trade in the coming decades.

According to McKinsey's forecasts (European Central Bank, 2023), global consumption will double by 2030 compared to 2017. Up to 60% of this growth is likely to come from emerging economies. By 2030, the latter could account for two-thirds of global consumption of finished goods.

Also related to consumption in emerging economies, the share of cross-border trade in goods in total output has declined over the past decade. Many countries are increasingly able to meet consumer demand through domestic supply chains.

The trend towards globalisation has not stopped, it has simply shifted (Wolf, 2022). Up until now, globalisation has been primarily about the movement of goods, capital and people, but today it is more about the movement of services, information and data. For globalisation to happen, neither people nor goods need to cross borders or set up factories.

People can, for example, work for multinational companies while sitting at their computers. Most of the world's largest companies do not produce anything physically (Microsoft, Amazon, Alphabet, Facebook, Tencent, Alibaba).

With the spread and growing importance of the smartest and intelligent (AI) robots, they may pose more complex socio-political and economic challenges than the previous globalization based on physical products. Around the world, manual and office workers who have benefited more from globalization so far may be affected at the same time in all parts of the world. (Bown, 2023)

The process of globalisation is undergoing fundamental changes. While politics may hinder the transfer of trade in goods and physical work (from developed to emerging countries), the globalisation of service provision can replace them. Since the industrial revolution, world trade has experienced three waves of expansion (Baldwin, 2022). The first wave was the transport of goods associated with industrialisation, followed in recent decades by the relocation of production units to regions offering cheap labour. The third level is trade in services, such as Office ‘travel’ via information and communication technologies (Internet, etc.). Intellectual workers can now work anywhere in the world.

The fundamental difference between the first two waves and the third is that the objects in the former had to be moved, whereas in the latter it is only information that flows between the various regions and countries of the world. Restricting the latter is much more difficult and much more costly than the former.

Dynamic growth is a typical trend in trade in services. The position of the service nation (USA, UK, France or Sweden) is constantly evolving in changing conditions. Countries that focus on production face new challenges. The search for low labour costs is becoming increasingly limited in itself. The development of research and knowledge-intensive sectors is of decisive importance.

The share of tangible assets in business investments is declining. At the same time, expenditure on intangible assets4 (software, brand building, planning) is trending upwards as a proportion of total GDP. The latter is often not accurately reflected in trade statistics. According to McKinsey estimates, since the early 2000s, private companies in developed markets have been investing more in intangible assets than in tangible assets, and the gap between the two factors has been widening (UNCTAD, 2023).

Every year, US companies generate $770 billion in intangible asset turnover, including IT companies. IT service exports are also common in many other economies. In South Korea, for example, almost all exports of intangible goods are produced by IT companies. The growth in international data traffic is also an interesting phenomenon. For example, from 2007 to 2019, international annual data traffic increased 148 times, which means that it takes an average of about one and a half years (Tang, 2023).

The Internet/technology/communications revolution has reduced the cost of trading production, changed

processes, and can facilitate access to new markets (Van Assche, 2024). Major new technological changes can be expected:

- Digital platforms (e.g. e-commerce) and new technologies open up new markets, improve logistics and reduce coordination costs.
- Fascinating smart and 3D printing can change production processes and reduce the trade in parts.
- In some areas, digital innovations are services that can replace physical data with the decline of physical data, video, and game data carriers and the breakthrough of cloud services.
- New services may emerge in international trade (e.g. telemedicine, virtual reality and other 5G-related phenomena). Technologies that reduce transaction costs (e-commerce, blockchain) will increase trade in goods, while technologies that change production processes (artificial intelligence, robotics) and logistics (e-vehicles, renewable energy) will reduce it.

A fundamental challenge is to develop the skills needed to adopt new technologies. Countries that are at the forefront of the latter and the development of the service sector will be the winners in global value chains.

Trade in services regulation mainly concerns final services, not intermediate services.5 An example of the latter could be the work of accountants, analysts, managers, online help desk staff, graphic designers, publications editors and those working in the most diverse IT sector. Trade in services has a bright future, but it can also be disruptive: employing experts from around the world could threaten the jobs of large parts of the middle classes in developed countries.

Results

The defining moment of globalisation is the flows and networks that connect the various components of the global economy. Following the financial and economic crisis, the dynamics of commercial flows of goods and international capital flows have slowed compared to previous decades. On the other hand: the dynamics of flows of services and intangible goods (including intellectual property, data and information) have stabilised at a higher level and become the new drivers of the globalisation process.

Trade remains the fundamental area of globalisation. Ensuring stricter trade restrictions and/or higher global fragmentation of trade policies. A high degree of fragmentation of the global economy – depending on its extent – can lead to permanent global emissions losses.

Some fundamental factors, geopolitical connections, the need to respond to pandemics or commitments relating to climate change can lead to policies that go so far as to revitalise value chains. Globalisation is only not counted as such if shorter and more vulnerable value chains are built than before. In the organisation of value chains, new questions of technological sovereignty arise: the ability of a country (or integration) to enable its enterprises to compete freely and successfully in the global technological system and to establish a sufficiently high level of good technology (Acemoglu, D., 2024).

In the long run, it is about the people. The position of the service state, which is based on research and development and develops knowledge-intensive industries, may develop favourably under changing conditions. At the same time, production-based economies face new challenges. Low labour costs are becoming less and less decisive in themselves.

The main driving force behind globalisation is the increasing interconnection of people, economies and cultures. In the phase of global trends, the focus is on digital services, the flow of information and knowledge. The process of globalisation continues to advance in different forms. As a result, there has in fact been no reversal of globalisation. While the dynamism of its main players has slowed to date, new dimensions offering barely visible prospects are emerging at the same time.

The greatest danger may be the anti-globalisation economic policies that exacerbate divisions. Global political measures are also needed to counter the wild driving force of technology-driven globalisation. The construction and strengthening of multilateral rules and institutions is a prerequisite for the further deepening of global integration.

Nation states and the regional integration that brings them together have many tools at their disposal to

influence processes and reduce risks. Improving competitiveness should be the focus of economic policy. Deep structural reforms need to be designed and implemented to advance this goal. They are important to support market competition and free trade, as well as measures to reduce unnecessary administrative burdens. The results of trade and investment reforms can benefit society at large through sustainable and inclusive growth.

Discussion

A fundamental question in the course of the discussion is whether the assumed or real consequences of globalisation are in focus. The generalisation of phenomena such as 'global' cigarettes, drinks, etc. or 'westernisation' (Hollywood films, consumerism, etc.) is mostly assessed negatively (Subramanian, 2023). They are sometimes seen as a threat to local traditions and cultures. For decades, only the cost advantages achieved through outsourcing and international value chains have had a significant deflationary effect. Standardised high-quality products are already available at favourable prices for a large part of the world's population.

The process of trade integration and liberalisation and its underlying system have come under criticism. Developed countries question the need for high environmental and labour protection standards, which they see as attempts to undermine their competitiveness (McKinsey 2023).

The distributional struggle associated with globalisation is particularly prominent. The following narrative is widespread: the rich benefited from the global crisis: many Western workers lost their jobs due to outsourcing. The decline in Western industrial employment and the stagnation of real wages in general have led to legitimate discontent among the lower and middle classes with regard to globalisation.

But the reality is fundamentally different from the scenario described above. It is true that the largest economies (the G7 countries) saw a significant increase in their share of world income in the early 19th century and in the second half of the 20th century. Until the middle of the second half of the 20th century, innovation was trapped in a narrow field, which exacerbated income inequality.

However, the information and communication revolution (Internet, telephone, computer technology) has enabled companies to export knowledge to all parts of the world at low cost. Wealthy countries have already moved some industrial production to poorer emerging countries. (Evenett, 2023) This change has resulted in a huge growth boom, with hundreds of millions of people escaping extreme poverty.

Some studies show that free economic policies have had a far smaller impact on the disappearance of industrial jobs in the West than technology. Globally, more jobs have been created than destroyed. The catch is that the new jobs require more education. (World Bank, 2023)

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PROTECTION AND RIGHTS OF SHAREHOLDERS AND MINORITY PARTNERS IN ALBANIA

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The primary objective of this paper is to examine the legal framework and mechanisms that protect the rights of minority shareholders and partners in commercial companies in Albania. By analyzing Law No. 9901/2008, "On Traders and Commercial Companies," and comparing it with European legal practices, this study explores key instruments such as the right to information, voting rights, dividend distribution, and the ability to call general meetings. The research emphasizes the significance of these rights in fostering a trustworthy corporate environment, both internally among shareholders and externally with investors and creditors. Key findings reveal that despite the existence of legal provisions aimed at safeguarding minority shareholders, there are significant challenges, including ambiguities in dividend distribution and limited mechanisms for minority influence in corporate governance. The study highlights the need for clearer legal definitions and stronger enforcement to minimize misinterpretation and abuse. Comparative insights from European countries underscore the benefits of incorporating more robust protections, such as the right to appoint board members and improved dividend policies. These enhancements are recommended to align Albania's legal framework more closely with EU standards, promoting better corporate governance and increased foreign investment.

Keywords: Minority Shareholders, Right to Information, Commercial and Company Law, Dividend, Corporate Governance

Introduction

The rights of minority shareholders play a crucial role in the legal framework governing traders and commercial companies. While specific legal provisions may not always explicitly reference "minority shareholders," the overarching principle remains that what is not expressly prohibited is generally permitted. As a result, minority shareholders are entitled to significant legal protections. Ensuring these rights within a commercial company strengthens its credibility among potential investors and fosters a climate of trust both internally and externally, including relations with business partners such as suppliers and representatives.

In the context of corporate restructuring, safeguarding the rights of minority shareholders is particularly important. Internally, it upholds their entitlements arising from share or quota ownership, while externally, it enhances the company's appeal to prospective investors and creditors. The protection of minority shareholders is essential to fostering investor confidence and encouraging external investment in a company. Empirical evidence from transitioning economies, such as Russia, illustrates that companies lacking adequate shareholder protections often experience lower stock valuations (Muravyev, 2009). This, in turn, increases their cost of capital, as investors demand higher returns to offset the associated risks. The protection of minority shareholders is especially critical in publicly traded joint-stock companies, where shares are available to the general public. Corporate reorganization frequently impacts the interests of minority shareholders, particularly during mergers, where issues may arise regarding share exchange ratios, share value depreciation, and dividend entitlements.

Unlike political assemblies or state parliaments, where majority and minority faction's alternate roles through electoral cycles enabling former minorities to implement their own policies when they assume majority status the roles within corporate assemblies tend to remain static over time. In corporate governance, the distinction between majority and minority shareholders is inherently fixed, with limited potential for role reversal. The majority is not formed during the assembly's proceedings but rather pre-exists its convening, reflecting the company's ownership structure. This classification remains unchanged over time and is not influenced by the nature of decisions being made, establishing a permanent framework that defines the shareholders' respective positions beyond individual resolutions. (Llanaj, 2018) The entitlements of minority shareholders encompass: The right to access information, the right to participate in voting, the right to receive dividends, the right to initiate the convening of the assembly.

The Rights of Minority Shareholders in the Literature and Albanian Laws

Mechanisms for Protecting Minority Shareholders

Law No. 9901, dated 14.04.2008, *"On Traders and Commercial Companies"* establishes a 5% threshold as a minimum legal safeguard, enabling minority shareholders to collectively exercise specific rights that the company is legally obliged to uphold. Notably, a company's statute cannot impose restrictions on the rights of minority shareholders associated with this 5% threshold. Furthermore, while the statute may allow for a lower percentage to facilitate the formation of minority shareholder groups, it cannot set a higher threshold than the one prescribed by law. Shareholders representing at least 5% of the company's shares may, if provided for in the statute, request the appointment of an administrator. This right is particularly relevant in corporate reorganization processes, as administrators frequently play a crucial role in negotiations concerning mergers and acquisitions. In the event that administrators do not engage in the negotiations or the drafting of the preliminary agreement, minority shareholders have the right to propose their own representative, referred to as a "negotiator," to participate in the reorganization talks (KRAUSS, 2025). It should be noted that Article 155/3 of Law No. 9901 does not mandate the appointment of an administrator by the National Business Center (NBC) upon request from minority shareholders.

However, it is advisable for the company's statute to include provisions that ensure the protection of the rights of minority shareholders. Law No. 9901 does not provide a similar provision for Limited Liability Companies (LLCs), meaning that minority partners holding 5% of the shares are not entitled to propose a representative. In many cases, decisions made by majority shareholders in an organization may in some cases result in decisions that bring profits to an unforeseen level. Further development and regulation of legal constraints on majority rule promises little in the way of efficiency, and a re-examination of alternative rules of the decision-making process, particularly in groups, is required (Carney, 2018). In their paper, William A Reese Jr and Michael S Weisbach state that there are forecasts with a high margin of probability regarding issues of net capital, protection of common shareholders and cross-listings in corporations (Jr., 2022).

The Right to Information

The right to information is a legal entitlement that is protected through various various legal provisions. This right is specifically addressed in Chapter IV of the Law on Traders and Commercial Companies, titled "Principles." The inclusion of this right in such a significant section of the law underscores its importance. Those responsible for managing the company are obligated to inform all shareholders or partners about the company's performance and, upon request, provide access to the annual financial statements, including consolidated accounts, reports on the company's financial condition and activities, reports from governing bodies or authorized accountants, and any other internal company documents, except those specified in Article 18 of the Law No. 9901, "On Traders and Commercial Companies" (Law No. 9901, "On Traders and Commercial Companies", The Assembly of the Republic of Albania, 2008).

This provision ensures that the right to information applies equally to all shareholders, regardless of whether they are majority or minority shareholders. Minority shareholders, in particular, are entitled to request

information about the annual accounts, reports on the company's status, and other relevant details concerning the company's operations. As per Article 15, the administrators fulfill their obligation by making this information available on the company's website and informing shareholders who request it. Any provision that restricts or prohibits this right is deemed invalid, meaning this right is not subject to limitations by the company's statute. If the responsible parties fail to provide the requested information within seven days, it is considered a refusal of the right. If shareholders are not informed by the responsible parties, they are entitled to approach the court within 30 days of the refusal and request the court to instruct the bailiff to enforce this Law No. 9901, "On Traders and Commercial Companies" (Law No. 9901, "On Traders and Commercial Companies", The Assembly of the Republic of Albania, 2008). Although Article 15 implies that this right is also valid for minority shareholders, the law explicitly defines it in Article 91, where it appears as a form of control that these shareholders are entitled to exercise over the company.

The article states that shareholders representing at least 5% of the total votes in the company's assembly, or a smaller percentage as stipulated in the statute, and/or any creditor of the company, may request the general assembly to appoint an independent expert when there are well-founded doubts regarding a violation of the law or the statute. Shareholders or creditors, as described above, may, within 30 days following a refusal by the assembly to appoint the expert, seek a court order for the appointment of the expert. If the general assembly fails to make a decision within 60 days of the request, the shareholder's request is considered rejected.

The Right to Vote

Minority shareholders, like other shareholders, have the right to vote in the general assembly, even if their vote does not significantly influence the decision-making process. However, this right is still granted by the law. Although the law does not explicitly mention this in specific articles, it implies that this right extends to minority shareholders as well. They are entitled to exercise their voting rights through a third-party representative, as long as the representative is not an administrator. This method of voting must be submitted in writing, applicable only to one assembly meeting, and remains valid for subsequent meetings with the same agenda. The exclusion of administrators as representatives aims to prevent conflicts of interest.

According to the law, voting can also be done via electronic means, provided that the security of shareholder identification and communication is guaranteed. Other methods, such as voting by mail or during the assembly meeting itself, are also allowed (Law No. 9901, "On Traders and Commercial Companies", The Assembly of the Republic of Albania, 2008) The introduction of such options is especially significant for protecting the rights of foreign shareholders, who, in the absence of physical presence, rely heavily on remote voting methods. This is an indisputable right, which is safeguarded both by the law and the company's statute.

The Right to Dividend

A dividend refers to the portion of profits that each partner receives from the company's earnings. Both minority and majority shareholders are entitled to dividends based on the proportion of shares they hold in the company, after allocating amounts for reserves and fulfilling the required legal conditions. This right is granted to shareholders annually, although the law allows the statute or the general assembly to impose certain restrictions on the distribution of dividends. While withholding dividends may be intended to strengthen the company through new investments, it is often used as a strategy to exclude minority shareholders who seek to receive a consistent, albeit small, profit (Malltezi, 2011).

The distribution of dividends can only occur if the following legal conditions are satisfied: The company's assets completely cover its liabilities. The company possesses sufficient liquid assets to settle obligations that become due within the next 12 months. This financial status is validated through a solvency certificate issued by the administrator.

The right to call a meeting

Shareholders representing at least 5 percent of the total vote in the general assembly of the company, or a smaller percentage as specified in the statute, have the right to submit a written request, including via email, to the administrators to convene a general assembly and/or include specific matters on the agenda. This right for minority shareholders to act is contingent upon the prior refusal by the administrators to call the assembly. This legal provision for minority shareholders serves as an exception, as the general assembly is generally called by the administrators. Consequently, while this right is not a primary one, it is nonetheless essential for safeguarding the position of minority shareholders within the company. The legal provision aims to avoid conflicts between administrators and minority shareholders, as well as the denial of their participation in the general assembly. When these shareholders call for a general assembly, the procedures for the meeting remain the same, even if it is not convened by the administrators.

It is not uncommon for the rights of these shareholders to be disregarded; thus, in the event that no shareholder attends the assembly despite all procedural steps being followed, the law ensures several protective rights for this right, including: a) The right to file a lawsuit in court to declare a breach of the duty of loyalty, if the administrators fail to fulfill the shareholders' requests within 15 days; b) The right to request the company to repurchase the shares they hold (Law No. 9901, "On Commercial Entities and Commercial Companies", The Assembly of the Republic of Albania, 2008).

Methodology

This study employs a combined methodology that integrates legal analysis, international comparison, and case review. Initially, a theoretical approach was used to examine the Albanian legal framework, specifically Law No. 9901/2008 "On Traders and Commercial Companies," and compare it with European Union regulations and best practices concerning the rights and protection of minority shareholders. The Albanian legislation was analyzed in the context of EU laws and practices, focusing on legal instruments designed to protect minority shareholders, such as the right to information, voting rights, the right to dividends, and the right to call general meetings.

A comparative methodology was employed to assess the different regulatory approaches in the EU and identify mechanisms used to safeguard minority shareholders from abuses by majority shareholders. Furthermore, the study analyzed relevant case law and decisions from courts and institutions like the Competition Authority to explore practical challenges in law enforcement. Based on the findings, potential legislative improvements were proposed, drawing from best practices in European countries to enhance the protection of minority shareholders in Albania.

A Comparison with European Legislative and Literature

The right to appoint members to the supervisory board

In the EU, the right to appoint members to the supervisory board refers to the ability of minority shareholders to vote on the election of board members and to define their specific roles. National experts were consulted to determine whether existing legal frameworks, judicial practices, or other regulations enable minority shareholders to appoint members to the supervisory board. This expert-level study divides the EU Member States into three groups based on their national laws regarding the right of minority shareholders to appoint members to the supervisory board: (i) Member States where national legislation does not grant any rights for minority shareholders to appoint supervisory board members.(ii) Member States where legislation does not provide a direct right for minority shareholders, but a special regulation or mechanism exists to empower them to influence the election of board members. (iii) Member States where national legislation grants minority shareholders the right to appoint members to the supervisory board (Study on minority shareholders protection, Union, Publications Office of the European, 2018-07-27). The majority of EU Member States belong to Group I, where national legislation does not grant minority shareholders the right

to appoint members to the supervisory board.

In most countries, the process involves the President appointing members, with shareholder meetings requiring a simple majority vote for board member appointments. However, certain Member States, like Malta, require transparent director appointment processes. Group II countries' legislation does not grant the right to appoint members but allows minority shareholders to influence the selection process. Certain provisions regarding the right of minority shareholders to appoint members to the supervisory board can be outlined in a company's articles of association. In Ireland, such provisions may be included, though experts note that this would be uncommon in practice. In the Netherlands, company statutes allow shareholders of specific classes, such as a 10% minority shareholder, to appoint one out of three directors to the board. (iii) In certain EU Member States, national legislation guarantees minority shareholders the right to appoint members to the supervisory board.

Most EU Member States belong to Group I, where the national legal framework does not provide such a right to minority shareholders. In these countries, the appointment of supervisory board members is typically determined by the president or, in the case of executive boards, by the supervisory board or the General Assembly of shareholders. However, some countries, such as Malta, specify that the appointment process must be transparent, with minority shareholders' views considered. (Publications Office of the European Union, 2018). Albania's model aligns most closely with Group I, where national legislation does not grant minority shareholders the right to appoint members to the supervisory board. In Albania, the appointment of board members is typically determined by the president or, in the case of executive boards, by the supervisory board or the General Assembly of shareholders. However, certain provisions regarding the rights of minority shareholders to influence the appointment process may be outlined in a company's articles of association.

The right to dismiss members of the supervisory management board

The right to dismiss members of the supervisory board refers to the minority shareholders' right to participate in the General Assembly with voting rights to remove board members. In two-tier systems, supervisory board members can be dismissed by a General Assembly decision with a simple majority. Executive board members are dismissed through a decision by the supervisory board, also approved by a simple majority. The EU Member States have been categorized into two groups based on their provisions regarding minority shareholders' rights (first classification): (i) Member States where minority shareholders are not granted the right to dismiss members from the management or supervisory board, (ii) Member States where such shareholders are granted the right to dismiss board members. Additionally, these States are also classified according to their national legislation concerning the term lengths for management board members. Supervisory boards (Group 2): (i) EU Member States where the duration of the mandate for members of the management/supervisory board is established through legal instruments; (ii) EU Member States where the duration of the mandate for members of the management/supervisory board is not regulated by legal frameworks. EU Member States are classified into two groups. In the context of the first group, the majority of Member States do not provide a clear right for minority shareholders to dismiss members of the management/supervisory board (Publications Office of the European Union, 2018-07-27).

National experts typically stated that members of these corporate bodies are dismissed by the bodies that appointed them, such as the president, the shareholders' meeting, or, where applicable, the supervisory board. Nevertheless, in some Member States, the legal framework contains provisions that grant minority shareholders the right to influence the dismissal of board members. For example, in Austria, shareholders holding at least 10% of the nominal capital can request the court to dismiss a supervisory board member in cases of material causes. Similar provisions are found in Croatia. In Portugal, shareholders with at least 10% of the capital can seek a judicial removal of a director, pending a general meeting to address the issue. In certain EU Member States (France, Greece, Slovenia), minority shareholders possess the right to convene a general meeting, where the agenda may include the removal of board members. In Spain, although minority shareholders can appoint members through "cumulative voting," only the General Assembly has the authority to dismiss them, requiring a simple majority vote. In the Czech Republic, a member appointed by cumulative voting can only be removed if a majority of the shareholders who supported their appointment

agree (Study on Minority Shareholders Final Report, Publications Office of the European Union, 2018). Greece and Denmark have legal frameworks explicitly granting minority shareholders the right to dismiss board members.

In some Member States (e.g., Portugal), minority shareholders (holding at least 20% of the shares) have the right to block any decision by the General Assembly to dismiss board members without cause. The second grouping categorizes EU Member States based on the duration of mandates for board members. In most Member States, the national legal frameworks include specific regulations on the duration of these mandates. Typically, a maximum term is defined, although in certain countries (e.g., the Czech Republic), only a minimum duration for board member terms is set. Notably, three EU Member States (Cyprus, Finland, and Ireland) do not impose a maximum duration for board members' mandates in their legal frameworks. In Cyprus, there is no prescribed minimum or maximum term, and the appointment process is determined by the association itself. In Finland, the Finnish Corporate Governance Code, which applies exclusively to listed companies, mandates that board members are elected annually at the Annual General Meeting (Securities Market Association c/o Finland Chamber of Commerce).

Additionally, it imposes a maximum tenure of ten (10) consecutive years for any board member. In Ireland, the company's constitution has the flexibility to determine the duration of directors' terms. According to Irish law's standard provisions for public enterprises, one-third of the directors (those with the longest tenure) are required to retire at each Annual General Meeting. In some Member States (e.g., Ireland), the national legal framework permits lifetime appointments for board members, although national experts acknowledge that such appointments are uncommon in practice (Irish Statute Book, 2014).

In Albania, the rights of minority shareholders in corporate governance are limited, particularly in the appointment and dismissal of board members. The selection of board members is carried out through voting in the Shareholders' Assembly, but cumulative voting is not commonly practiced, limiting minority shareholders' influence in directly appointing members. Similarly, while minority shareholders can participate in decisions to dismiss board members through voting, they lack the legal right to initiate judicial action for their dismissal. Additionally, the duration of board members' mandates is regulated by the company’s statutes, with no legal provisions setting a minimum or maximum term. As a result, judicial protections for minority shareholders remain weak, leaving their role largely dependent on collective decision-making within the assembly (The Law No. 9901, dated April 14, 2008, "On Traders and Commercial Companies",Chapter VIII, Chapter IX, April 14, 2008).

Legal Protection of Shareholding Companies in Sweden

Sweden operates under the civil law tradition, with the Swedish Supreme Court serving as the highest authority in civil matters. However, judicial practice concerning corporate law is somewhat limited. The Swedish Companies Act, (ABL), governs both private and public companies, establishing shared provisions for both types, with only minor distinctions (Swedish Companies Registration Office, n.d.). For private companies, the minimum capital requirement is set at 50,000 Swedish kronor, while public companies are required to have a minimum of 500,000 Swedish kronor. The relationship between the board of directors and the general meeting follows a hierarchical structure, where the general meeting holds superior authority. Both private and public companies operate within a single-tier system, and the regulation of corporate groups is addressed through several specialized laws, including those related to accounting and taxation (Government Offices of Sweden, 2024).

The Swedish Companies Act safeguards minority shareholders by ensuring equal rights for all shares and preventing unfair advantages for one shareholder that could disadvantage others. It includes provisions that guarantee the right to participate in general meetings and a preemptive right in the event of a capital increase. The voting rights between different classes of shares are restricted to a maximum ratio of 1:10. Additionally, controlling shareholders often possess shares with disproportionately strong voting power, without holding a corresponding share of the company’s capital (Global Restructuring and Insolvency Guide, n.d.). Sweden offers a favorable investment environment, with no restrictions placed on foreign investors.

Foreign companies are required to register with both the Swedish Companies Registration Office

(*Bolagsverket*) and the Swedish Tax Agency (*Skatteverket*). The registration fee is 1,900 Swedish kronor (approximately 200 EUR), and the corporate income tax rate stands at 22%. This regulatory framework ensures a transparent and attractive climate for businesses operating in Sweden. In Sweden, the economic rights of shareholders are governed by the Companies Act, which covers key aspects such as profit distribution, share transfers, and control rights. Profit distribution is a fundamental entitlement for shareholders. Only accumulated profits, as recorded in the annual financial statements, are eligible for distribution among shareholders. The decision to allocate profits is made by a simple majority vote at the general meeting. Shareholders may issue preferential shares, granting them special rights in terms of profit distribution, as well as separate voting rights.

In this regard, the economic rights related to profit distribution are uniform for all shareholders, regardless of whether the company is publicly listed or privately held. Non-resident or foreign shareholders face no specific barriers in exercising their economic rights within these companies, meaning there is no discrimination against those registered outside of Sweden (Tax Agency , n.d.). In terms of exiting the company, shareholders owning more than 90% of the shares have the right to acquire the remaining shares from other shareholders. This provision allows for the potential consolidation of full control over the company. Additionally, minority shareholders are granted the right to force majority shareholders to purchase their shares, a mechanism that ensures the protection of minority interests. Should a shareholder misuse their influence, the court may mandate the liquidation of the company. Nonetheless, a minority shareholder has the option to request that the company buy their shares, thus preserving their rights and interests. When it comes to the transfer of shares, shareholders are generally free to transfer their shares without limitations, unless a pre-emption clause is included in the company's bylaws. This clause may restrict the ability to transfer shares, often to preserve internal control of the company. In cases where a company issues new shares, shareholders are entitled to acquire a proportional amount of the new shares relative to their existing holdings.

This serves as a safeguard for existing shareholders, ensuring they maintain an equitable share in the company’s capital (European Commission , n.d.). In terms of shareholder control rights, there are no significant distinctions between shareholders of private companies and those of public companies. In both instances, minority shareholders are legally protected to ensure they can influence major decisions affecting the company. Shareholders are entitled to appoint a representative to participate and vote on their behalf at the general meeting, allowing them to engage even if they cannot attend in person. To maintain transparency and fairness in decision-making, board members are selected by the general assembly and are directly accountable to the shareholders. Information rights are another vital aspect for shareholders.

In companies with fewer than ten shareholders, they have the right to request and inspect the company’s documents and financial statements to assess its financial health and operations. This access is particularly important for minority shareholders, as it allows them to better understand the management’s policies and protect their interests. In companies with more than ten shareholders, the ability to request information is more restricted, and the board may choose to withhold information if disclosing it could harm the company (Tillvaxt Verket, n.d.). Shareholders also have the option to request a special examination by an external auditor to review the company's operations and management, ensuring proper oversight and safeguarding their interests.

In comparison with Albania, here are the key aspects of legal protection for shareholders in Sweden:

Legal Framework

Sweden's Companies Act governs both private and public companies, establishing provisions for both with minor distinctions. It is underpinned by civil law and judicial practice, with a clear emphasis on protecting minority shareholders (Aktiebolagslag (2005:551), 2005-06-16). In Albania, the legal framework for corporate governance is primarily governed by Law No. 9901/2008 "On Traders and Commercial Companies." This law includes provisions related to shareholders' rights and protection but is still evolving, particularly in areas like minority shareholder protections (The Law No. 9901, dated April 14, 2008 "On Traders and Commercial Companies", April 14, 2008).

Minority Shareholder Rights

In Sweden, minority shareholders have equal rights to participate in general meetings and have a preemptive right during capital increases. Shareholder voting rights are restricted to a maximum ratio of 1:10, preventing controlling shareholders from having disproportionately strong voting power (Aktiebolagslag (2005:551), 2005-06-16). In Albania, minority shareholders are entitled to participate in the General Assembly with voting rights, but the legal framework does not specifically restrict voting rights between different classes of shares, leading to potentially unequal voting power in cases of control by large shareholders (The Law No. 9901, "On Traders and Commercial Companies", April 14, 2008).

Economic Rights

Sweden ensures uniform economic rights for all shareholders, including rights to profit distribution and share transfers. It also offers specific protections for minority shareholders, such as the right to force the majority shareholders to buy their shares in certain situations (Aktiebolagslag (2005:551) Chapter 22, Article 1, Article 2, 2005-06-16). In Albania, shareholders have the right to participate in profit distribution, but specific protections for minority shareholders, such as the right to force the purchase of shares, are not explicitly outlined in the legislation. Transfer of shares may be restricted under certain conditions, and Albania lacks a detailed regulatory framework to protect minority shareholder exit rights in the same way Sweden does (The Law No. 9901, dated April 14, 2008 "On Traders and Commercial Companies",Chapter VIII and IX, April 14, 2008).

Corporate Governance and Shareholder Control

Sweden follows a single-tier system, where shareholders have the right to appoint board members through the general assembly. They also have the right to appoint representatives to vote on their behalf. In companies with fewer than ten shareholders, they can request company documents and financial statements to evaluate the company's operations (Aktiebolagslag (2005:551) Chapter 8, Article 3, 2005-06-16). Albania also follows a single-tier system for corporate governance, with shareholders voting to appoint board members. However, transparency in decision-making and access to information for minority shareholders may not be as robust as in Sweden. The Albanian legal framework does not specify detailed provisions for shareholders to request company documents, making access to such information more restricted (The Law No. 9901, dated April 14, 2008, "On Traders and Commercial Companies",Chapter VIII, Chapter IX, April 14, 2008).

Exit Rights and Minority Protections

In Sweden, minority shareholders can force the majority to purchase their shares in specific scenarios. They can also request a court-ordered liquidation of the company in cases of misuse of influence. The ability to transfer shares is generally unrestricted unless specified in the company's bylaws (Aktiebolagslag (2005). In Albania, minority shareholder protections concerning exit rights are less defined. While shareholders can sell their shares, the law does not grant the same level of legal protection for minority shareholders' ability to exit the company or require the majority to buy their shares in the event of a dispute (The Law No. 9901, dated April 14, 2008).

Judicial Protection

Sweden provides a clear judicial mechanism for minority shareholders to protect their rights, including the ability to request a special examination by an external auditor and the right to seek judicial intervention if their rights are violated (Aktiebolagslag, 2005). Albania provides judicial protection for shareholders through the courts, but the application of these protections, especially for minority shareholders, might not be as clearly defined or as readily accessible as in Sweden (The Law No. 9901, dated April 14, 2008).

Sweden provides more comprehensive legal protections for minority shareholders than Albania, particularly in terms of equal voting rights, economic rights, judicial remedies, and shareholder transparency. While Albania's legal framework is evolving, there are still gaps in shareholder protections, especially in cases where minority shareholders seek to exit or challenge the actions of the majority shareholders.

Conclusions and Recommendations

Law No. 9901/2008 on Commercial Companies in the Republic of Albania has provided a solid basis for the protection of the rights and obligations of primary shareholders and minority shareholders. This law includes in its composition well-regulated provisions that ensure a high level of transparency, as well as the rights to information, voting and participation in decision-making processes within the economic entity. Despite the improvements contained in this law, there are still many issues, especially regarding the unclear treatment of minority shareholders within the company and the possibility of unequal legal interpretation.

In several different countries of the European Union (EU) there are quite a few cases of useful application examples of diverse and sophisticated legal systems that could improve the Albanian Legislative System. The dividend distribution process is another serious issue considering that majority shareholders often benefit disproportionately from it compared to minority shareholders.

However, in many EU jurisdictions, the laws governing dividend distribution are stronger and offer clearer protection for the rights of minority shareholders.

We can say that in countries such as Germany and France, the laws clearly and precisely define the entire procedure for the decision-making process regarding dividends for economic entities. In addition, in countries such as the Netherlands, which encourage more inclusive and equitable governance, minority shareholders are able to appoint representatives to supervisory boards.

Albanian Reform Suggestions and Lessons Learned from the EU Experience:

Albanian legislation should clearly articulate the rights of minority shareholders by expressly including the term "minority shareholders" within substantive legal provisions, following the example of countries such as France and Germany. This would ensure that minority shareholders are recognized, and their rights are clearly outlined within the legal framework. Albania could follow the example of some EU countries by limiting the situations in which dividends cannot be distributed and by putting in place stronger protections to protect the interests of minority shareholders. This would help ensure fairness in the distribution of profits among all shareholders. Albania should consider implementing a system comparable to that of the Netherlands, in which representatives from small shareholders are allowed to serve on supervisory boards. Minority shareholders would then have the power to directly control decision-making at the highest levels of corporate governance.

By implementing procedures that allow minority shareholders to initiate the process of removing board members for misconduct or poor management, Albania could make a significant step forward in protecting minority shareholders. These procedures could be modelled on those in countries such as Croatia and Portugal. This would add another level of accountability to the company's management. As models suitable for the Albanian legal system, the legal systems of Spain and neighbouring Greece, where minority shareholders are allowed to call special meetings to discuss important business issues, could serve as a solid foundation. As a result, minority shareholders would have the opportunity to express their views and concerns and participate in the decision-making process that has a direct impact on the business.

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PROSPECTS FOR THE DEVELOPMENT OF VENTURE FINANCING IN AZERBAIJAN

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This article examines the prospects for the development of venture financing in Azerbaijan as a critical tool for promoting an innovation-driven economy. It analyzes key barriers hindering the growth of venture capital, including economic dependence on the oil and gas sector, limited venture capital availability, insufficient institutional support, underdeveloped startup infrastructure, and a lack of entrepreneurial culture. The study also explores global practices in venture financing—particularly the models of the United States, Israel, and China—and evaluates their applicability to Azerbaijan's economic conditions. Based on this analysis, the authors propose a development framework for venture financing in Azerbaijan that includes four key components: improving the legal framework, enhancing infrastructure, attracting investment, and cultivating a venture culture. Recommendations include creating a national venture fund, encouraging corporate venture investment, attracting international partners, and implementing educational initiatives to raise entrepreneurial literacy. The article provides forecasts on how these initiatives could boost innovation, increase the number of startups, attract investment, and reduce dependence on the oil sector. The implementation of these measures is expected to enable Azerbaijan to develop a competitive venture ecosystem integrated into the global investment landscape, thus ensuring sustainable economic growth and the development of high-tech industries.

Keywords: venture financing, startups, investment, innovation, venture capital, economic development, infrastructure, legislation, entrepreneurship, Azerbaijan

Introduction

In the context of accelerating technological progress and global competition, venture financing is becoming a very important tool for stimulating innovative entrepreneurship and economic growth. The development of venture capital plays a key role in the transformation of the economies of various countries, providing support for start-ups, commercialization of scientific research and attracting investments in high-tech industries. In this context, the relevance of the study of the prospects for the development of venture financing in Azerbaijan is due to the need to diversify the national economy, reduce dependence on the oil and gas sector and create a competitive innovation environment.

Today, the venture industry in Azerbaijan is at an early stage of its formation. Despite the existence of state initiatives to develop an innovative ecosystem, the lack of specialized venture financing mechanisms, limited available capital and insufficient entrepreneurial culture hinder the active growth of the sector. At the same time, global practice shows that the creation of favorable conditions for venture financing contributes to a significant increase in the competitiveness of the national economy, attracting international investors and accelerating technological development.

In scientific literature, venture financing is considered from various positions, including its role in the innovation economy (Schumpeter, 1934; Gompers & Lerner, 2001), mechanisms for attracting investment

(Kaplan & Strömberg, 2003), and the impact of state support on the development of venture ecosystems (Lerner, 2009). However, the problem of adapting international venture financing models to the national characteristics of the Azerbaijani economy remains insufficiently studied. In this regard, there is a need to develop a comprehensive concept that considers economic, institutional and social factors influencing the formation of venture capital in the country.

Thus, the research problem is to identify the prospects for the development of venture financing in Azerbaijan, analyze the current state of the ecosystem, and develop strategic directions and mechanisms for stimulating venture capital, considering international experience and national specifics. The solution to this problem will allow formulating scientifically based recommendations for creating an effective venture financing system. This will contribute to the innovative development of our country and increase its investment attractiveness.

Barriers to Venture Capital in Azerbaijan.

Today, Azerbaijan has serious innovation potential, the state is taking successful and consistent measures to create favorable conditions for entrepreneurship. However, the country's venture capital market cannot achieve logical development due to the presence of restrictions that prevent the formation of a full-fledged venture ecosystem. Among them, we note the following as the main ones.

Economic dependence on the oil and gas sector

Modern Azerbaijan is the leader of the South Caucasus and one of the leading oil-producing countries in the region. That is, our national economy still largely depends on oil and gas exports. Although active steps have been taken in recent years to diversify the economy, the non-oil sector remains underdeveloped. We believe that this is the reason why most large investors and financial institutions, such as the State Oil Fund of Azerbaijan, focus on traditional, less risky investments, while venture financing does not receive sufficient support. This significantly slows down the transition to an innovative economy (State Oil Fund of Azerbaijan, n.d.).

Limited availability of venture capital

One of the key obstacles to the development of venture capital financing in Azerbaijan is the lack of capital available for funding early-stage startups. Most local investors prefer to invest in real estate, trade and traditional sectors of the economy, while high-risk venture projects remain underfunded. Moreover, there are no large venture funds, and existing angel investors and business incubators have limited resources. This is also reflected in the relevant information from the World Bank (World Bank, n.d.).

Insufficient institutional support

The Azerbaijani government is taking serious steps to improve the business climate, but our country does not yet have specialized legislation that would regulate the activities of venture funds and investment companies. The lack of a legal framework makes it difficult to attract foreign investors, complicates the process of registering start-ups, and does not provide for mechanisms to protect intellectual property. For comparison, in countries with a developed venture infrastructure, such as the United States, Israel, and China, there are clear regulations that stimulate the growth of venture capital (Lerner, 2009; Fuerlinger & Garzik; Klingler-Vidra, 2019; Information Technology & Innovation Foundation, 2014; Growing Business Intelligence, n.d.; Dealroom, n.d.; Dong, Hu, Yin, & Kuo, 2019; Invest Beijing, 2020; Dauchert & Garzik, 2022; Propwise, n.d.; EU-Startups, 2018; The Recursive, n.d.; Startup Nation Central, 2022; Times of Israel, n.d.).

Completely undeveloped infrastructure, weak support for startups

Although there are technology parks and incubation centers in Azerbaijan, their infrastructure is still not developed enough to fully support venture projects. For example, the Sumgait Technology Park (STP), the Sumgait Chemical Industrial Park (SCIP), and the Jabrayil Industrial Park "Araz Valley Economic Zone" (BestSoft, n.d.; Sumgait Technologies Park, n.d.; Wikipedia contributors, n.d.; Economic Zones Development Agency, n.d.; Caspian News, 2023) are focused primarily on manufacturing enterprises and do not provide the comprehensive services typical of international startup incubators. In developed venture ecosystems, such as Silicon Valley, such centers not only provide physical space, but also provide startups with educational programs, access to venture capital, and mentoring support (Adams, 2021).

Limited entrepreneurial culture

Venture entrepreneurship requires specific knowledge and skills related to managing innovative projects, risk assessment and attracting investments. However, the level of awareness of venture financing opportunities among Azerbaijani entrepreneurs remains low. Many startups are focused on the local market, which reduces their investment attractiveness for international funds. At the same time, countries with a developed venture culture, such as Israel and the United States, are taking active measures to develop entrepreneurial education, including specialized courses at universities and acceleration programs (Albion Education, n.d.; InfoStudy USA, n.d.).

Geopolitical instability and global challenges

The global economic situation, fluctuations in oil prices, inflation and geopolitical instability put pressure on investment processes in the region. Although Azerbaijan maintains its status as a stable country, regional conflicts and economic uncertainty reduce its attractiveness for foreign venture investors. In such conditions, it is especially important to create mechanisms that compensate for risks for private and international investors, such as tax incentives and guarantees of capital return (Kalbiyev, Maharramov & Rzayev, 2011; International Monetary Fund, n.d.).

Thus, the current state of venture capital financing in Azerbaijan is characterized by several serious barriers, including the economy's dependence on the oil and gas sector, limited access to venture capital, the absence of specialized legislation, weak infrastructure for supporting startups, insufficient entrepreneurial culture, and the influence of external economic factors. To overcome these challenges, it is necessary to develop a comprehensive strategy aimed at creating a favorable institutional environment, attracting international investors, and developing an innovation ecosystem.

In this regard, we consider it appropriate to consider the concept of venture financing development in Azerbaijan, considering international experience and national specifics. In our opinion, the development of venture financing in Azerbaijan can be significantly accelerated by studying and adapting the best global practices. International experience shows that successful venture ecosystems are built on the synergy between government regulation, private capital, innovation infrastructure and educational programs. We will consider three leading venture financing models - American, Israeli and Chinese, conduct their analysis and justify their applicability in the conditions of Azerbaijan.

International Models of Venture Financing.

Table 1 presents a comparative analysis of the three leading venture financing models: American, Israeli and Chinese. It highlights the main characteristics of each model, the key elements that determine the effectiveness of the venture ecosystem, as well as the role of the state in the formation and support of venture capital.

Table 1

Comparative Analysis of Venture Capital Financing Models: Experience of the USA, Israel and China

Country	Main characteristics of the model	Key elements	The role of the state
USA	Public-private partnerships and market flexibility	Developed net venture funds (Sequoia Capital, Andreessen Horowitz, Accel Partners). Government support programs (SBIR, STTR). An effective ecosystem of accelerators and incubators (Y Combinator, Techstars)	Auxiliary – creation of favorable conditions for private investors
Israel	Government support and technology clusters	Yozma program (co-financing of venture investments) - Tech clusters (science parks, university-business cooperation) - Development of defense technologies and cybersecurity (Check Point, Mobileye, Waze)	Active – Venture capital stimulation and strategic support
China	State strategic planning and special economic zones (SEZ)	State venture funds (China Investment Corporation, National SME Development Fund) - Special economic zones (Shenzhen) - Cooperation of the state with large corporations (Tencent, Alibaba, Huawei)	Strategic – active regulation, large-scale government investments

Source: Author's own elaboration.

The US Model: Public-Private Partnerships and Market Flexibility

The United States is undoubtedly the world leader in venture capital financing. The American model is based on the active participation of private capital in investments in startups, while the state plays a supporting role, creating favorable conditions for venture investors and innovative companies. Among the main elements of the American model: a developed network of venture funds **-** more than 1,000 active venture funds operate in the United States, including such giants as Sequoia Capital, Andreessen Horowitz and Accel Partners (National Venture Capital Association); government support programs – the Small Business Innovation Research (SBIR**)** and Small Business Technology Transfer (STTR) programs provide grant funding for innovative companies, facilitating their growth at early stages (U.S. Small Business Innovation Research, n.d.); an ecosystem of accelerators and incubators **–** Silicon Valley is an example of successful interaction between private investors, startups and accelerators (Y Combinator, Techstars), providing entrepreneurs with access to financing, mentoring and educational resources (TalkToChef, 2016).

The Israeli Model: Government Support and Tech Clusters

The Israeli venture ecosystem is known as one of the most successful in the world. Thanks to a combination of government support and private investment, the country has become one of the world's leading centers of innovation. Significant elements of the Israeli model include: the Yozma program - in 1993, the Israeli government launched the Yozma fund, offering co-financing for private venture capital investments. This mechanism attracted international investors to the country and allowed the creation of dozens of venture funds (EPRussia); the development of technology clusters **-** Israel is actively developing science and technology parks**,** focused on cooperation between universities and businesses. This has allowed the commercialization of scientific research and turned the country into a leader in the number of startups per

capita (Senor & Singer, 2009); an emphasis on defense technologies and cybersecurity - innovations in the military sector have played a key role in the development of high-tech companies such as Check Point, Mobileye and Waze (IGT, 2017).

China's Model: National Strategic Planning and Special Economic Zones

China's approach to venture capital financing combines active government regulation, large-scale public investment, and the development of special economic zones (SEZs). The main elements of the Chinese model are: state venture funds – in China, more than 50% of venture capital comes from state sources, such **as** the China Investment Corporation and the National SME Development Fund (China Investment Corporation; Preqin); development of SEZs – the city of Shenzhen is an example of the successful integration of venture capital and innovation infrastructure, where companies receive tax incentives, access to financing and support from the government (Chentsova & Chentsov, 2023); cooperation between the state and large corporations **–** companies such as Tencent , Alibaba and Huawei actively invest in start-ups, creating an ecosystem of corporate venture financing (Forbes Ukraine, 2023, October 17; InVenture, n.d.).

Strategic Concept for Venture Financing in Azerbaijan.

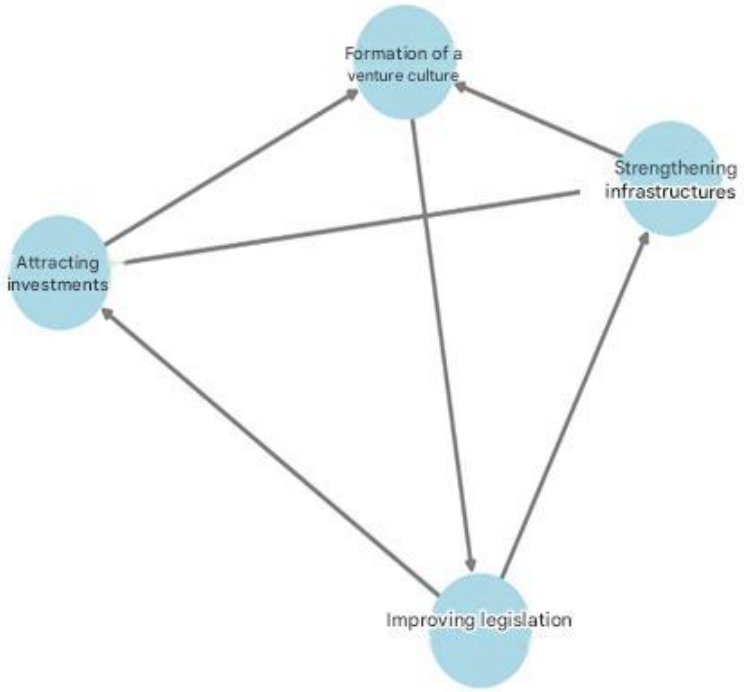
As we can see, the American model emphasizes the importance of private investment and competition in the venture market. For our country, this means the need to create a national grant financing program for startups like SBIR, develop a network of accelerators and incubators, and create mechanisms for state **co-**financing of venture funds to attract private capital. Israel's experience proves the effectiveness of state co-financing of venture funds. For Azerbaijan, it is possible to create a state program to support venture funds like Yozma, which could attract international investors. It is also necessary to develop technology clusters in universities and technology parks to ensure the commercialization of scientific developments. Chinese experience shows that the creation of special venture zones in Azerbaijan, for example, since the High-Tech Park**,** could stimulate the attraction of venture investors. It is also advisable to attract large national companies (for example, SOCAR, Pasha Holding) to corporate venture financing.

Analysis of international experience shows that successful development of venture financing requires a comprehensive approach, including government support, private investment, developed infrastructure and educational programs. We believe that the following strategies are most applicable to Azerbaijan: according to the US model **-** creation of a national grant program and development of a network of venture funds and accelerators; according to the Israeli model: launch of a state program for co-financing of venture funds and development of scientific and technological clusters; according to the Chinese model **-** development of special venture zones and stimulation of corporate venture financing. In our opinion, the application of these approaches will allow Azerbaijan to create a competitive venture ecosystem, strengthen the development of an innovative economy and the country's integration into the global technological space.

As we can see, the development of venture financing in Azerbaijan requires a systematic approach that considers both domestic economic realities and international experience.

Based on the conducted research, we have developed a concept that includes four key areas**:** improving legislation**,** strengthening infrastructure, attracting investment and forming a venture culture**.** These areas are interconnected and complement each other, creating a favorable environment for the establishment and growth of venture financing (see Figure 1).

Figure 1
Interrelation of the directions of the venture financing concept



Source: Author's own elaboration

Legislative regulation: Creation of a favorable legal environment

The legislative framework is a fundamental element of the successful development of venture financing. Currently, there is no separate legal act regulating venture investments in Azerbaijan. In this regard, we propose the development and adoption of a special Law on Venture Financing, which should include: defining the legal status of venture funds and investors - creating clear mechanisms for their functioning and interaction; regulating the legal regime of start-ups - simplified registration, protection of intellectual property, mechanisms for investors to exit the project**;** forming a system of tax incentives - reducing the tax burden on venture funds, exempting start-ups from income tax in the first 3-5 years of operation; creating a legal framework for crowdfunding and crowd investing - developing alternative instruments for financing innovative projects; developing mechanisms to protect investors' rights - clear procedures for judicial and pre-trial dispute resolution.

The adoption of this law will ensure transparency of the venture capital market, increase investor confidence and create favorable conditions for the development of startups.

Infrastructure: Forming an ecosystem for startups

For the effective functioning of venture financing, we believe, it is necessary to create an appropriate innovation infrastructure, including technology parks, incubators, accelerators and technology transfer centers**.** To develop existing technology parks, it is necessary to modernize the High-Tech Park, Sumgait Technopark and create specialized startup hubs to support innovative companies. The importance of creating a national venture accelerator is that this institution will provide support for startups at early stages, including financing, mentoring and consultations on entering the market. The formation of technology transfer centers is also of great importance**:** structures focused on the commercialization of scientific research should be created at universities. Another important aspect is the organization of annual startup forums**:** holding events aimed at popularizing venture business and attracting investors.

We can confidently say that the development of infrastructure will become a catalyst for the growth of

innovative entrepreneurship and will help to form a sustainable venture ecosystem in the country.

Attracting Investments: Creating Financing Mechanisms

Another important factor for the successful development of the venture market is the availability of funding sources. In this regard, it is necessary to create **various investment mechanisms** that provide startups with access to capital.

Public and private funds

- National Venture Fund**:** its creation will allow financing promising start-ups and technology companies in the non-oil sector;
- State co-financing programs**:** the state can offer partial co-financing of venture investments, reducing risks for private investors;
- Development of corporate venture investment**:** stimulation of large national companies (SOCAR, Pasha Holding) to invest in start-ups;
- International Investments;
- Attracting foreign venture funds**:** developing incentives for their entry into the Azerbaijani market;
- International partnerships**:** creation of joint investment funds with countries that have a developed venture industry (USA, Israel, China);
- Participation in global startup forums: promotion of Azerbaijani startups on global platforms (Web Summit, TechCrunch Disrupt).

The implementation of these mechanisms will allow attracting significant financial resources to the country's innovative economy.

Formation of a venture culture: development of entrepreneurial thinking

One of the main barriers to the development of the venture capital market in Azerbaijan is the lack of knowledge and competence in the field of venture financing. In this regard, it is important to focus on the development of entrepreneurial culture.

- Creation of educational programs: introduction of courses on venture financing in universities.
- Investor training**:** conducting trainings on venture investments to form a community of business angels.
- Popularization of successful startups: highlighting the success stories of Azerbaijani companies that have achieved international recognition.
- Grant support for youth: development of programs to attract young entrepreneurs to the innovation sector.

These measures will help to form a critical mass of entrepreneurs and investors, which will ensure the dynamic development of the venture market.

Thus, the proposed concept for the development of venture financing in Azerbaijan is a comprehensive strategy aimed at creating favorable conditions for the development of an innovative economy. It covers four key areas:

- Improving legislation **–** developing a Law on Venture Financing, creating tax incentives and investor protection mechanisms.
- Infrastructure development – creation of accelerators, technology parks and technology transfer centers.
- Attracting investments – formation of a national venture fund, attracting international investors and developing corporate venture financing.
- Formation of a venture culture – popularization of entrepreneurship, training of start-ups and investors.

It is expected that the establishment of a national venture fund, the introduction of tax incentives and the

formation of a legislative framework will attract a significant amount of venture capital**.** Having conducted a comprehensive analysis of the historical dynamics of venture financing in Azerbaijan and other developing countries, comparative indicators with international examples (USA, Israel, China), where similar measures have led to certain results , statistical data on venture investments, technology startups and economic trends, data on foreign direct investment (FDI), innovation activity and scale effectiveness (SE) of the venture market obtained from official sources, we have compiled forecast indicators.

In the short term (2-3 years) we predict:

1. An increase in the number of venture deals – thanks to improved regulatory conditions, the activity of investors and entrepreneurs will increase;
2. Growth in the volume of startup financing **–** it is expected that the share of venture investments in the non-oil sector of the economy will reach 5-7 % of the total volume of foreign investment**;**
3. Increase in the number of venture funds and business angels – development of educational programs for investors and government support will lead to growth in private venture initiatives.

In the long term (5-10 years), the formation of a developed venture ecosystem will ensure a sustainable inflow of venture capital, the integration of Azerbaijan into the global investment network and the country's active participation in international venture projects.

The development of infrastructure (technology parks, accelerators, technology transfer centers) and educational programs will lead to an increase in the number of startups and an increase in their technological level. The expected effects include:

1. increase in the number of innovative start-ups – by 2030, growth of 200–300% compared to the current level is predicted;
2. expansion of the technology sector – venture financing will contribute to the development of fintech, aggrotech, green technologies, artificial intelligence and biotechnology;
3. commercialization of scientific developments – thanks to technology transfer centers, university research will have more opportunities for implementation in real business.

Thus, it is expected that Azerbaijan will be able to form a competitive innovation ecosystem capable of attracting international investments and creating global technology companies.

One of the main strategic effects of the implementation of the proposed concept is a reduction in dependence on the oil and gas sector due to the growth of venture entrepreneurship in non-oil industries. The predicted results include:

1. increasing the share of the non-oil sector in GDP – growth of 10–15% is expected over the next 10 years;
2. stimulation of export of innovative products – new start-ups will be able to enter international markets, ensuring an increase in export of high-tech goods and services**;**
3. creation of new jobs – the development of venture companies will increase the level of employment, especially among young people and high-tech specialists.

These changes will contribute to sustainable economic development by reducing the country's dependence on fluctuations in energy prices.

Formation of a favorable investment climate, development of international partnerships and holding of startup forums will ensure the attraction of foreign capital to the venture industry of Azerbaijan. The following important aspects open prospects for the development of venture financing in the country. Expected results:

1. growth of foreign direct investment (FDI) in the non-oil sector – by 2030, the share of FDI in innovative companies could increase by 2-3 times;
2. integration into global innovation networks – Azerbaijani startups will be able to actively participate in international acceleration programs and venture competitions;
3. development of international cooperation – public and private investment funds will have the opportunity to interact with the world’s leading venture capital centers (USA, Israel, China, EU).

Thus, Azerbaijan can become an attractive jurisdiction for international venture investors**,** which will

significantly accelerate the growth of the innovation sector.

Sustainable growth of the venture capital market also requires the development of venture thinking among entrepreneurs and investors. Expected effects include:

1. improving the level of education in the field of venture financing – the development of new courses and programs in universities will ensure the training of qualified personnel;
2. formation of an active community of startups – the development of accelerators and startup clusters will create a favorable environment for young entrepreneurs;
3. stimulation of youth initiatives – creation of grant programs and competitions for startups will attract talented young people to the venture business sphere.

We believe that raising the level of knowledge about venture capital will create the foundation for the long-term development of the industry**.**

The projected results of the implementation of the proposed concept of venture financing in Azerbaijan indicate the significant potential of this instrument for the economic development of the country. In the short term (up to 2025), growth in venture investments, development of technology startups and increased entrepreneurial activity are expected. In the long term (up to 2030), deep diversification of the economy, an increase in the number of international investment partnerships and the formation of Azerbaijan as a regional innovation hub can be predicted. A comprehensive approach is needed to achieve these goals, including legislative reforms, infrastructure development, attracting international investment and active popularization of venture entrepreneurship. The implementation of these measures will ensure the sustainable development of an innovative economy, which, in turn, will increase the global competitiveness of Azerbaijan and create long-term prospects for the growth of the venture industry**.**

Conclusions and Policy Recommendations.

The study confirmed that the current level of venture capital activity in Azerbaijan remains low. This is due to several factors, such as limited access to venture capital, insufficient institutional support, regulatory barriers and a limited entrepreneurial culture. At the same time, positive trends are observed in our country, including increased investment in the non-oil sector, increased state support for innovation and the establishment of the first venture funds.

Based on the analysis conducted, we proposed a concept for the development of venture financing, including the following key areas:

- improvement of the legislative framework, including the adoption of a specialized law on venture capital, the creation of investor protection mechanisms, tax incentives and simplification of startup registration;
- development of infrastructure, including expansion of the network of technology parks, incubators and accelerators, as well as the creation of technology transfer centers;
- attracting international investment through active cooperation with foreign venture funds, participation in global investment forums and the creation of risk reduction mechanisms for foreign investors;
- formation of an entrepreneurial culture through educational programs, popularization of successful start-ups and development of venture thinking among young people;
- focus on the non-oil sector as a strategic direction for economic diversification, including support for high-tech industries such as fintech, aggrotech, renewable energy and the IT sector.

Recommendations for Public Policy

- Government regulation and support: development of a clear legislative framework for venture capital; creation of a national venture fund with government participation; provision of tax incentives for venture investors and start-ups.
- Infrastructure development: expansion of the network of technology parks and business incubators;

creation of venture clusters in free economic zones; introduction of mechanisms for technology transfer between universities and businesses.

- Attracting international capital: creating a favorable investment environment; supporting Azerbaijan's participation in international venture programs; introducing state guarantees to protect foreign investments.
- Educational initiatives and personnel training: development of specialized university programs on venture financing; holding regular trainings and educational events for entrepreneurs; support of academic research and integration of science into the business environment.

The implementation of the proposed concept will allow: to increase the number of innovative startups by 2-3 times by 2030 due to improved financing and entrepreneurial activity; to attract significant volumes of venture investments, including international capital, which will ensure the growth of the non-oil sector; to stimulate the growth of export potential due to the development of high-tech industries and the entry of startups into the international market; to create new jobs, especially in the field of IT, fintech, agrotechnology and green energy.

Thus, the implementation of the proposed measures will lead to the formation of a competitive venture ecosystem that will contribute to long-term economic growth and sustainable development of Azerbaijan. The success of this strategy depends on the active interaction of the state, business, science and international partners. Only a comprehensive and coordinated approach will allow realizing the potential of venture financing as a key tool for modernizing the economy and integrating it into the global innovation ecosystem.

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