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FROM GROWTH TO DEVELOPMENT

Productivity and Convergence in Post-Transition Economies

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content

EDITORIAL

From Growth to Development5
Elona SHEHU

*Economic Convergence, Inequality and Inclusive Growth:
The Paradox of Capitalism in Post-Transition Economies*9
Fiordi PERNASKA

*Populist Economic Narratives and Institutional Trust
in Transitional Democracies: The Case of Albania*23
Klajdi LOGU

*A theoretical assessment of Albania's post-transition economy, structural
weaknesses, and framework for sustainable productivity-led growth*39
Geida KALIA

*Institutional Quality of Human Capital Assessment and Meritocratic
Selection in a Post-Transition Higher Education Environment*62
Peter SZIKORA

*Institutional Instruments and Risk Management Capabilities:
Evidence from Potato Farmers in Shishtavec, Albania*81
Elona KOTARJA, Klea ELEZI

*The Effect of Remote Working, Staff Performance
and Job Satisfaction on Staff Engagement*100
Forcim KOLA, Grisejda MYSLIMI, Krisdela KACANI

*The impact of gender barriers on decision-making processes
and on the performance of family businesses in Kosova*115
Ermira QOSJA, Fatos TURKAJ

Human Capital as a Driver of Productivity Convergence131
Teuta ÇERPJA, Emirgena NIKOLLI

*Exploring User Technology Acceptance of the GOBIS (Golek Bis)
Suroboyo Application Using the UTAUT Model*150
**Putri Alma AURELIA, Jaka NUGRAHA,
Elida BOSHNJAKU, Mishela RAPO**

*Investigating Factors Affecting Technology Adoption in the National Health
Insurance (JKN) Application: Exploring User Perspectives in Surabaya*172
Salsabiila Arifa ZUMAIROH, Jaka NUGRAHA, Mishela RAPO

*From Growth to Development*_____

Productivity and Convergence in Post-Transition Economies

_____ *Elona SHEHU* _____

The productivity dynamics of post-communist countries today are at a critical analytical and structural cross-road, especially in the Western Balkans and Central and Eastern Europe. After more than three decades since the beginning of transition, the traditional economic growth model is rapidly hitting its natural limits. Our nations are now facing an inevitable truth: the old pillars that built our transition such as market liberalization and macroeconomic stability, served as a vital foundation, but they are no longer enough to narrow the gap separating us from developed economies. According to the World Bank's Western Balkans Regular Economic Report (2025), the region's average GDP per capita stands at almost 40% of the EU average, an income gap directly driven by regional labor productivity levels that are roughly 60% lower than the EU baseline¹.

The key question we need to ask ourselves has shifted from simply measuring *how much* we are growing to understanding *how* we are growing. For too long, our economic strategy has been focused on chasing GDP growth as a number. But economic growth only tells us that the economy is getting bigger, not that it is getting better; it is a measure of quantity rather than quality. True progress requires a shift from economic growth to economic development, moving away from just "big numbers" and aiming for "big results". It means investing in smarter technologies, upgrading the skills of our workforce, and ensuring that our economic models are sustainable for the future. As a result, the debate among academics and policymakers has moved from focusing on quantitative growth to emphasizing qualitative development, where productivity and sustainability take center stage in our economic systems.

¹ World Bank. (2024). *Western Balkans Regular Economic Report: Untapped Potential*. Washington. Available at: <https://openknowledge.worldbank.org/server/api/core/bitstreams/c859b43d-ed73-402a-b317-f9ce7fbad404/content>, page 19.

As framed in this journal, Albania and the broader Western Balkan region are fighting with a significant productivity deficit. To align with the European Union over the long term, we must transition beyond economic models dependent on low-skilled labor, domestic consumption, and remittances. It's time for us to move towards a new growth model that prioritizes high productivity and innovation. To build this model, we must confront several critical challenges that continue to hold our economies back.

Firstly, our economy must look up toward high value industries. For instance, while the agricultural sector accommodates a great portion of the labor force, its overall contribution to GDP remains disproportionately low. According to World Bank, even though agriculture in Albania accounts for roughly 35% of total employment, it contributes less than 19% to the national GDP due to land parcelization and a lack of technological adoption².

Secondly, there is a widening gap between the qualifications of our workforce and the shifting demands of the modern era, particularly regarding adaptation to new technologies and Artificial Intelligence. Universities bear a high responsibility here; we must courageously update our curricula to focus more heavily on practical skills and the integration of AI within economic and business processes.

Thirdly, although SMEs form the absolute strength of the Albanian business landscape, the integration of digital operations and modern management software into their daily processes is still in its early development. According to EBRD Transition Reports and OECD³, R&D spending in the Western Balkans hovers at less than 0.5% of GDP compared to the EU average of over 2.2%⁴, heavily restricting the ability of local SMEs to digitize their operations.

Fourthly, informality both in terms of wage underreporting and the heavy reliance on cash transactions, acts as a direct brake on productivity. Informal businesses intentionally choose to remain small to stay under the maximum threshold, meaning they never achieve crucial economies of scale. Furthermore, by operating partially outside the formal financial system, they find it exceptionally difficult to secure bank loans or attract capital investments to upgrade their machinery and technology.

Last, but not least, is related to brain drain. Continuous emigration of talented youth and highly qualified professionals is draining our economy of its most precious asset, human capital. According to IMF regional analyses, some Western Balkan nations have lost up to 20% of their highly educated workforce over the

² World Bank. (2024). *Western Balkans Regular Economic Report: Untapped Potential*. World Bank Group.

³ OECD. (2025). *Economic Convergence Scoreboard for the Western Balkans 2025*. OECD Publishing. <https://doi.org/10.1787/bc0babf3-en>

⁴ European Bank for Reconstruction and Development. (2024). *Transition Report 2024-2025: Actions for Growth*. EBRD.

past two decades⁵, creating a severe brain drain that leaves remaining workers lacking the digital and technical skills modern firms demand.

Finally, fixing these internal economic issues is what will truly decide our future in the European Union. Joining the EU is about much more than just changing laws and aligning politics, it requires our economy to actually catch up. Right now, closing the gap in incomes and living standards between Albania and the EU is like chasing a moving target. The EU market is moving fast with digital tech and green energy. If our local industries do not quickly become more efficient, we risk falling even further behind.

This is exactly why productivity is so important. True EU integration means making sure our local businesses can actually survive and compete in an open European market. New initiatives, like the EU Growth Plan for the Western Balkans, give us a great opportunity by offering financial support in exchange for economic reforms. However, this help will only work in the long run if we stop relying on cheap labor and start building an economy based on knowledge, new technology, and high-quality exports.

This issue of *Economicus* invites researchers to look closely at these challenges. It does not just point out where our economy is stuck, but it also offers real ideas on how to build a stronger, more competitive, and sustainable future.

⁵ International Monetary Fund. (2023). *Regional Economic Outlook: Europe — Facing the Headwinds*. International Monetary Fund.

Economic Convergence, Inequality and Inclusive Growth: The Paradox of Capitalism in Post-Transition Economies

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Abstract

The economies in transition have undergone a dramatic economic transformation as they moved from centrally planned to market-based systems. The economic growth and integration into the global economy that have followed market-oriented reforms has not produced uniform results. In many cases, economic convergence has been accompanied by persistent income inequality and low inclusiveness in the distribution of growth dividends. This tension is a manifestation of what we can call the paradox of capitalism: the very institutional and market processes that lead to economic growth, also generate inequalities in income, opportunities, and social welfare.

This article examines the links between economic convergence, inequality and inclusive growth in post-transition economies. The argument is that the market systems of capitalism are structured to promote competition, productivity and

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efficiency, but the outcomes are heavily dependent on the quality of institutions, governance structures and policy frameworks that shape market behaviour. Without proper regulatory mechanisms and inclusive policies, market forces can also result in wealth concentration, reduced competition and unequal access to economic opportunities.

Drawing on the theoretical foundations of classical political economy, especially the ideas associated with market competition and economic prosperity, the article investigates how the development of capitalism in posttransition settings has produced both growth and structural inequalities. The analysis underscores the importance of institutional development, legal frameworks and economic reforms for productivity dynamics and the capacity of economies to achieve sustainable convergence with more advanced markets.

The paper also discusses policy implications for the promotion of productivity-led and inclusive growth in post-transition economies, also proposing a legal innovation. It implies that the enhancement of institutional quality, improving governance and designing policies that facilitate fair competition and broader participation in economic activity are critical to address the paradox of capitalism and ensure that economic convergence is translated into inclusive and sustainable development.

Introduction

Important structural changes in the global economy have taken place over the last three decades. The collapse of centrally planned systems in Eastern Europe and the former Soviet Union opened the way to a large-scale transition to market-based economic systems. The reforms introduced private property rights, market competition and integration into global trade and financial systems. These changes have generated large economic growth and greater integration with the world economy, but their effects have been uneven across countries and social groups. Several post-transition economies have made significant progress in macroeconomic stability, productivity and institutional development. However, these achievements have often been accompanied by persistent income inequality, uneven regional development, and limited inclusiveness in distributing economic gains. The coexistence of economic expansion and widening social disparities raises important questions about the functioning of modern capitalist systems and their institutional foundations.

Classical economists such as Adam Smith emphasized the role of markets and competition in generating wealth and promoting economic development. Over time, however, the institutional structures supporting capitalism, including legal frameworks, corporate governance systems, and regulatory policies, have evolved in ways that shape the distributional outcomes of economic growth. The

development of modern capitalist economies has historically been closely linked to institutional and legal frameworks that enable market exchange. Secure property rights, contract enforcement, and regulatory institutions create the environment necessary for investment, entrepreneurship, and technological progress. At the same time, these institutions can also influence market structure and the distribution of economic power. Regulatory frameworks may unintentionally facilitate market concentration, reduce competition, or contribute to unequal economic outcomes. This tension reflects the paradox of capitalism: the institutional mechanisms that support economic growth and market development may simultaneously generate structural inequalities and uneven access to economic opportunities. While market systems can foster productivity and innovation, their outcomes depend heavily on the quality of governance, regulatory institutions, and policy design.

In post-transition economies, this paradox is particularly visible. The shift from state-controlled economies to market-based systems required rapid institutional change, privatization, and liberalization. Although these reforms stimulated economic activity and integration into global markets, they also created new challenges related to institutional capacity, market concentration, and social inequality. In several countries, economic convergence toward advanced economies has occurred alongside persistent disparities in income distribution and access to economic opportunities. Understanding how legal and economic institutions shape market dynamics is fundamental for designing policies that promote both economic convergence and inclusive growth.

Theoretical framework

This article, concerns the relationship between economic convergence, inequality, and inclusive growth within capitalist systems and aims to: (1) investigate the institutional foundations of the capitalist economic systems, with particular emphasis on the role of legal and regulatory institutions; (2) explore the link between economic convergence and income inequality in transition economies; (3) explore policy implications and institutional reforms that could help reconcile economic growth with social equity in post-transition economies.

The Context and Evolution of Capitalism

Throughout history, capitalism has undergone several significant transformations. The emergence of industrial capitalism during the nineteenth century fundamentally altered patterns of production and economic organization. Technological innovations associated with the Industrial Revolution expanded productive capacity and facilitated large-scale industrialization, while new

financial institutions enabled the mobilization of capital for economic development. Subsequent phases of economic transformation further reshaped capitalist institutions. The expansion of international trade, the development of multinational corporations, and the increasing importance of financial markets have contributed to the globalization of economic activity. Legal and regulatory frameworks have evolved to address new challenges related to market power, financial stability, and social welfare. Capitalism continues to evolve in response to technological progress, globalization, and shifting patterns of economic development. Digital technologies, information networks, and knowledge-based production have further transformed economic structures by reducing transaction costs and enabling new forms of collaboration and innovation. These transformations highlight the adaptive nature of capitalism. Institutional arrangements, including legal rules governing corporate activity, competition policy, and financial regulation, continuously evolve in response to changing economic conditions. As Keynes observed, economic ideas and institutions often persist not because they are immutable, but because societies face difficulties in moving beyond established frameworks. The capacity of capitalism to adapt has historically allowed it to embrace new economic realities. However, this adaptability also means that the institutional structures shaping market outcomes must be continually reassessed to ensure that economic growth remains in line with broader social objectives such as equity, sustainability, and inclusive development.

The Role of Law and Institutions in Capitalist Economies

The laws and institutions in capitalist economies act as an enabling environment for market operations. Property rights, contract enforcement systems, regulations governing corporation management, and other institutional measures form the basis of market transactions. These laws and institutions play a crucial role in ensuring that growth and efficiency in the economy are achieved. Nonetheless, the same law and institutions facilitating economic growth may inadvertently lead to the occurrence of some negative consequences, such as the concentration of markets, inequitable distribution of resources, and lack of economic mobility. Large corporations may find themselves in more advantageous positions in relation to the market regulators than smaller companies.

This is a contradiction, while capitalism plays a critical role in fostering growth and innovation, it does not solve the problem of economic inequality. How can one ensure that economic systems remain competitive while also distributing the benefits of growth equitably? This article employs a qualitative method focused on studying the relation between economic institutions, market mechanisms, and inequality after transition, discussing potential legal innovations to address the issue.

Markets cannot exist without institutions. The institutional settings, within which the regulation of property rights, contract enforcement, competition control, and corporate conduct occurs on a legal basis. There are some institutions that have a significant impact on the performance of markets within the capitalist economy: property rights, contract law, competition policy, corporate regulation, labor law, taxes. Legal institutions play a crucial role in the working of markets in the capitalist economy, however, they may also affect the distribution of economic power. The rules of regulatory frameworks, intellectual property, and corporate governance may be advantageous to companies and people who have more financial and legal capabilities. Intellectual property rights may contribute to innovation but at the same time limit the possibilities of small enterprises. Contracts between big firms and their partners often reflect power disbalance.

The Paradox of Capitalism

Capitalism can be described as an economic system where the productive assets are privately owned, resources are allocated based on the principles of the market, and capital is accumulated through investment and profit-making activities. Although capitalism has changed over time, its roots lie in the emergence of property, markets, and finance systems.

A fundamental issue is the distribution of economic gains created by the market economy system. Economic inequality is a concept that refers to any situation where economic gains and losses in a society are distributed unevenly. Economic inequalities exist for a variety of reasons. For example, the differences between groups of people can include access to capital assets, level of education and skills, as well as institutional differences that shape market outcomes. Accumulation of capital is the most essential factor contributing to economic inequality. In many developed and developing countries of the world, the amount of wealth concentrated among high-income groups has been growing for decades. Inequality has become a focus of numerous academic studies analyzing the global distribution of income and wealth stating that inequality may contribute not only to economic inequalities but also influence such phenomena as social mobility and social trust.

The Money Paradox

“If we know money doesn’t buy happiness, why are we optimizing for money?”~ Adam Kramer. One of the central contradictions within contemporary capitalist systems lies in the widespread reliance on monetary indicators as proxies for value and welfare. Economic actors (individuals, firms, and governments),

frequently optimize decisions based on financial metrics, even though these indicators only partially capture the broader dimensions of social and economic well-being. Modern corporate governance structures reinforce this tendency by emphasizing financial performance, particularly shareholder returns, as the primary measure of success. The focus on financial returns has encouraged efficiency, investment, and economic growth, yet it may also lead organizations to overlook broader social and environmental outcomes. As a result, important dimensions of value creation, such as community well-being, environmental sustainability, and worker welfare, often remain insufficiently measured or incorporated into decision-making. To address these limitations, alternative frameworks such as the Triple Bottom Line (TBL) have been proposed. These approaches evaluate organizational performance not only in terms of financial outcomes but also with regard to social and environmental impacts. The argument is that a broader measurement framework may better capture the full range of value generated by economic activity. The difficulty lies in measurement. Financial metrics are easily quantified and compared, while social and environmental outcomes are often more complex and harder to evaluate. When some dimensions of performance are measurable and others are not, decision-makers naturally focus on the indicators that can be readily quantified. Research in behavioral and happiness economics suggests that financial income is only one determinant of human well-being. Studies by Daniel Kahneman and other scholars indicate that increases in income are associated with higher levels of reported well-being only up to a certain threshold. Beyond that level, additional income tends to have diminishing effects on day-to-day emotional well-being. Similarly, research by Ruut Veenhoven within the framework of livability theory suggests that individuals with higher incomes are only marginally happier than those with average incomes, once basic needs have been satisfied. Individuals tend to overestimate the importance of income because it is easily measured and frequently compared across individuals. Consequently, economic success becomes equated with financial achievement, even though many determinants of well-being (social relationships, health, and meaningful work), are not reflected in monetary indicators. These findings suggest that the strong emphasis on financial metrics within capitalist systems may create a distortion in how value is perceived and pursued. Monetary indicators provide useful signals for economic coordination, yet they cannot fully capture the broader social outcomes that determine human welfare. From an institutional perspective, this creates an important policy challenge. Legal and regulatory frameworks designed to support economic growth often reinforce financial performance metrics while providing fewer mechanisms for incorporating broader social outcomes.

The Growth Paradox

Economic systems based on capitalism have proven themselves very efficient at creating economic growth via innovation and improvement in productivity. However, the processes that cause such growth may lead to unintended effects within the system due to optimizing for just a few metrics within the economic system. Economic systems tend to utilize simple metrics for evaluation purposes. Such metrics simplify decision making but, at the same time, create feedback loops which shape behavior. One of the most frequently used indicators of economic performance is the gross domestic product. GDP represents the total value of goods and services created in the economy and has become the primary means by which national economic performance is assessed. Nonetheless, the GDP was originally intended as a measure of economic production and not social well-being. In recent years, there has been increasing tendency to interpret the GDP as a measure of social development as well. While the GDP assesses economic activity on the market, it ignores non-market activities that contribute to social welfare as well. For instance, the contribution made to society through the provision of unpaid care, volunteering, and community participation does not figure into GDP calculations. In contrast, expenses incurred in dealing with problems, such as crime prevention and addressing environmental pollution, will add to GDP despite representing underlying social issues. It has been necessary to explore other means of measuring social development due to the limitations of GDP. In Bhutan, Gross National Happiness (GNH) was introduced in the 1970s. The GNH framework evaluates national progress across multiple dimensions, including health, education, environmental sustainability, governance, and community well-being. Such approaches illustrate an important principle: measurement systems influence policy priorities. As management theorist Peter Drucker famously observed, “what gets measured gets managed.” When GDP becomes the dominant metric of national success, policies may prioritize economic expansion even when other aspects of welfare are affected. In recent years, policymakers and researchers have increasingly explored alternative measurement frameworks that integrate economic, social, and environmental indicators. These efforts reflect growing recognition that sustainable development requires a broader understanding of progress than GDP alone can provide.

The Pseudocompetition Paradox

Competition is considered to be one of the main pillars in capitalist economies. As per the classical economic theories, competition promotes efficiency, innovation, and price reductions in the market economy. The rationale behind these arguments

can be explained by referencing Adam Smith's work that explains how market competition leads to efficiency. Nevertheless, today's market structures often differ considerably from those assumed by classic models. Today many industries are characterized by their high concentration levels in the form of a few large companies having strong influence in the international markets. Such a state of affairs may create an environment, which can be termed as pseudocompetition where even if the firms compete aggressively for market shares, the competitive environment prevents innovation and encourages incremental product development instead. Rather than innovating and introducing something new, firms spend huge amounts on marketing and branding to defend their market position within the oligopoly. Competitive pressures in such a market structure may result in some incremental product development, but not in innovative processes aimed at introducing revolutionary products into the market, which in turn makes it more difficult for new players to enter the market. Research in behavioral economics and management studies has also highlighted the tendency of firms to seek sustainable competitive advantages, strategies designed to maintain long-term market dominance. While such strategies may be rational from the perspective of individual firms, they may conflict with the broader societal benefits associated with open and competitive markets. Over time, concentrated industries may also develop close relationships with regulatory institutions. In some cases, regulatory frameworks designed to oversee markets may become influenced by the industries they regulate, a phenomenon often described as regulatory capture. When this occurs, regulatory institutions may inadvertently reinforce existing market structures rather than promoting competitive entry. These dynamics illustrate the broader paradox explored in this article. Capitalist systems rely on competition as a mechanism for innovation and efficiency, yet the incentives faced by individual firms may encourage strategies that reduce the intensity of competition over time.

Addressing the Paradox: Possible Reforms

The paradox of capitalism results from the complex relations between the incentives of market operations, the institutions supporting such operations, and the social aspirations for economic development. Although capitalist economies have been noted to display effective abilities in the creation of growth and innovation in their operation, they have the potential to create economic inequalities and concentration of economic power where there are no appropriate institutions. Within the organizational level, business decision-making is often influenced by the financial performance criteria, which include maximizing profits and maximizing stockholder wealth. This has been a crucial criterion that has motivated economic activities within organizations, being described

metaphorically as “profit addiction”, referring to the tendency of organizations to prioritize continuous financial expansion even when such strategies generate broader social costs. In a highly competitive environment, organizations may resort to cost-cutting, consolidation, or exploitation approaches that may result in good economic performance but poor competitive and/or equitable outcomes. From an institutional point of view, such situations demonstrate the need for a balanced combination of market-related stimuli and effective regulation. The institutions of property rights, competition policy, and corporate governance are intended to facilitate economic actions, but they also have an impact on those actions through their particular nature. When such institutions do not counterbalance the problem of concentration of economic power, the results of market competition can differ significantly from what is supposed by economic theory. Economic action cannot be analyzed without taking into account other aspects of human activity. Research in behavioral economics and social psychology increasingly emphasizes that individuals are motivated not only by financial incentives but also by social recognition, cooperation, and intrinsic satisfaction derived from meaningful work. These motivations suggest that economic systems can be structured in ways that support both efficiency and social well-being. Consequently, reforming capitalist systems does not necessarily imply abandoning market institutions but rather strengthening the institutional frameworks that ensure fair competition, inclusive participation, and balanced incentives. Policies that attempt to foster transparency, minimize regulatory capture, and increase antitrust enforcement might be helpful in ensuring that market competition is used as a tool for innovation rather than the tool for consolidation of power.

Policy Approaches for Reducing Inequality

Efforts to reduce inequalities while sustaining economic growth have become key economic policies that countries must adapt with in the current global economy. The issue becomes more crucial in post-transition economies due to lack of developed institutions and failure to converge with developed countries economically. Some policies aim to tackle inequality without undermining the efficiency gains offered by market mechanisms: improving institutional efficiency, expanding access to economic opportunities with inclusive growth, progressive fiscal policies, addressing structural sources of inequality.

This is particularly true in post-transition economies, where a few dominant firms often control the most vital parts of the market. In these environments, you can't rely on market growth alone to lift everyone up; it takes a deliberate focus on nurturing human potential through targeted investment. According to Nikolli & Shehu (2022), evidence from transition countries like Albania shows that lasting, sustainable progress is deeply personal. It relies on economic frameworks that

link a family's financial well-being directly to local educational opportunities and practical skill-building, rather than relying solely on top-down distribution models that rarely reach everyone

The Fourth Sector – A Legal Innovation

Recently, scholars and policy innovators have increasingly explored new institutional arrangements that bridge the traditional divide between profit-seeking enterprises and socially oriented organizations. One such proposal is the concept of the “fourth sector,” a framework developed by Heerad Sabeti to describe organizations that pursue both financial sustainability and explicit social objectives. The traditional structure of modern economies has long been organized around three principal sectors: the public sector, the private sector, and the nonprofit or social sector. Each of these sectors performs distinct functions within society. Governments provide public goods and regulatory oversight, private firms generate economic value through market activity, and nonprofit organizations address social needs that are insufficiently met by markets or state institutions. However, the legal and institutional boundaries separating these sectors are often rigid. In many advanced economies, particularly in systems influenced by Anglo-American legal traditions, enterprises must be clearly categorized as either for-profit or nonprofit entities. This classification affects taxation, regulatory obligations, and governance structures, but it may also limit organizational flexibility in pursuing blended social and economic objectives. The concept of a fourth sector seeks to overcome this structural limitation by introducing legally recognized “for-benefit enterprises.” These organizations are designed to pursue multiple forms of value creation, combining financial sustainability with measurable social or environmental benefits. Unlike traditional corporations, which are typically expected to prioritize shareholder returns, for-benefit enterprises incorporate broader stakeholder objectives into their governance structures. Such institutional innovations can encourage the deployment of patient capital, defined as long-term investment strategies that prioritize sustainable impact rather than immediate financial returns. By expanding the legal recognition of mixed-value enterprises, policymakers may create a framework in which businesses can legitimately integrate social objectives into their operational strategies without facing conflicts with shareholder expectations or fiduciary obligations. Importantly, the emergence of a fourth sector reflects broader changes in the global economy. Increasing demands for corporate accountability, transparency, and sustainability have led consumers, investors, and civil society organizations to scrutinize the social and environmental impacts of business activities. Technological advances, particularly digital communication and data transparency, have made it easier to monitor

corporate externalities and hold institutions accountable. As a result, firms are increasingly encouraged to internalize social and environmental costs that were previously externalized. This shift may gradually align the incentives of businesses with broader societal goals, allowing economic growth to occur alongside social responsibility and environmental sustainability. In this sense, the fourth sector may be seen as the institutional instrument by which capitalist societies may transform their systems into mixed-value economies, where financial success and social benefit become complementary goals rather than opposing ones. For societies undergoing a transition that wish to converge economically and develop inclusivity, such innovation in institutions could provide a significant route forward.

EU-integrated economies vs Western Balkans

The reality of different institutional trajectories among former socialist nations is obvious. Some nations, like Poland, Estonia, and Czech Republic, have followed an aggressive approach towards adopting market institutions and aligning their institutions with those of Europe during the years between 1990 and 2000s.

Meanwhile, according to Cakrani and Shehu (2024) countries in the Western Balkans faced a more fragmented transition. For Albania, emerging from Europe's most isolated communist regime meant navigating a chaotic 1990s plagued by weak institutions, political instability, and a massive informal economy. This slow start points to a larger regional struggle; data shows that the Western Balkans have hit deep structural walls when trying to catch up to EU standards, meaning they need much more profound institutional reforms to close the gap.

The processes of becoming EU members meant that the countries had to undertake several reforms, especially relating to judicial independence, competition, public administration, and financial sectors. These reforms helped in the creation of strong governance institutions and better integration with the European market. Estonia, for example, gained fame due to its sophisticated digital governance and effective public administration, while Poland benefited from consistent economic growth and stability despite economic problems elsewhere in Europe. In contrast, the economies of a few Western Balkans countries such as Albania, Bosnia and Herzegovina, Serbia, and North Macedonia underwent much more fragmented paths of transition. The process of transitioning from the most isolated communist regime in Europe took place in a very unstable and fragmented manner in Albania due to poor institution building, informal economy, and both political and economic instability throughout the 1990s when Albania witnessed the bankruptcy of various Ponzi investment schemes. Even though Albania subsequently launched some crucial reforms regarding market liberalization, state public administration, and judicial reforms in

pursuit of becoming a member of the EU, institutionalization proved to be quite slow and inconsistent. In Bosnia and Herzegovina, the complex nature of its governance system created as a result of the peace agreement signed at Dayton led to overlapping institutional structures, thus hampering institutional and economic development. The delays in Serbia's transition were primarily caused by the country's political instability and sanctions imposed on Serbia during the 1990s that discouraged any investors from investing in Serbia and consequently postponed structural reforms in Serbia.

The Future of Capitalism

Emerging technologies, particularly artificial intelligence, automation and digital platforms, are reshaping capitalism's foundations. AI and automation increase efficiency and reduce labor costs, but they also risk job displacement and concentrate wealth in the hands of technology owners, potentially worsening inequality. Globalization amplifies these effects. Multinational corporations exploit cross-border labor and regulatory differences, creating a global elite capable of influencing policy and law. This concentration of economic power can reduce national regulatory autonomy, distort markets and increase social instability. Law and regulation will be crucial in shaping the future of capitalism. In these new realities the legal frameworks will have to deal with:

- Labour protection and redistribution: universal basic income, labour rights and progressive taxation to ensure just returns from automation.
- Competition and antitrust: rethinking competition in digital economies, dismantling monopolies and promoting markets for innovation.
- Environmental governance: carbon pricing, sustainability standards and incentives for green technologies to align economic growth with ecological sustainability.
- Social inclusion: anti-discrimination laws, labour protections and policies that balance social welfare and profit.

The laws must evolve from simple observers to becoming designers of incentives for creating fairness and sustainability in an increasingly globalized high tech world. The process of policy making today resembles that of designing the strategy of any business on a national scale, meaning that nations must have clear goals in regard to economics and innovation.

Conclusions

Post-transition economies have to tackle more problems than just GDP and financial reforms since people are the product of their socio-cultural environment. Greed, indifference, or exclusion are often learned behaviors passed on from one generation to another, not inherent characteristics. In the case of inclusive growth, it is vital to take into consideration cultural factors along with other elements such as economic ones. Any policy that does not create a new design of the social structure will continue feeding inequality, since people cannot be released from being part of subcultures that keep them locked up. Socialist, communist and capitalist ideologies assume an abundance of natural resources and this is not adequate for post-transition economies, where the concept of limited resources becomes relevant. What is needed is Life Value Analysis.

Convergence economics in post-transitional societies may be limited by the established interests of elites. Over time, dominant ideologies in society have tended to represent the interests of the powerful in that society. When there is a tendency for the definition of success in societies to focus on physical well-being instead of contributions to society, structural problems emerge, resulting in a restriction on wider involvement in economic benefits. Post-transition economies are also characterized by structural violence, which involves patterns of denying access to opportunity and wealth despite increasing levels of overall wealth. Lack of resources such as adequate food, unemployment, and energy shortage are not necessarily the result of lack, but the result of unequal distribution systems. This results in both greater social and behavioral disparities. Post-transition economies have been plagued by policy misdirection arising from legacy structures and conventional economic philosophy. Policies such as stimulation and monetary expansion will raise GDP but do so at great cost and vulnerability. This is where new legal innovations such as the development of the Forth Sector can come into play for addressing the problem and creating value through inclusive growth, promoting and rewarding not only profit making but also social contribution.

This enables economic convergence, whereby the slower-growing regions and stakeholders catch-up, and also ensures inclusion, where the motivation for doing business is also socially rewarding rather than purely profitable.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

Statement: During the preparation of this work, the author used Google Gemini in order to arrange the existing references in the required APA style and alphabetical order. After using this tool/service, the author reviewed and edited the content as



needed personally without relying on AI software and takes full responsibility for the final content of the publication.

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Populist Economic Narratives and Institutional Trust in Transitional Democracies: The Case of Albania

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Abstract

Economic insecurity has become a defining feature of political life in many transitional democracies, yet its relationship with institutional trust remains insufficiently explained. Existing scholarships often assume a direct link between economic performance and political legitimacy, treating trust as a rational response to material outcomes. This article challenges that assumption by arguing that economic conditions acquire political meaning primarily through narrative mediation, particularly in contexts marked by weak institutions and prolonged transition. Drawing on a concept-driven qualitative approach and secondary data sources, the study examines how populist economic narratives shape public perceptions of insecurity and institutional trust in Albania. By integrating theoretical perspectives on populism, political communication, and institutional legitimacy with survey evidence and policy documents, the article demonstrates that populist actors do not merely respond to economic hardship but actively construct it through interpretive

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frames of blame, protection, and sacrifice. These narratives reorganize expectations toward institutions, allowing political authority to be sustained despite persistent economic uncertainty. Rather than viewing trust as a simple outcome of governance performance, the analysis conceptualizes institutional trust as a relational and discursively mediated phenomenon. The findings show that economic insecurity functions less as a destabilizing force than as a resource for narrative alignment, enabling leaders to redirect legitimacy toward personalized authority while representative institutions remain weakly trusted. The article contributes to debates on populism and democratic resilience in three ways: by conceptualizing economic insecurity as a politically constructed experience, by reframing institutional trust as dependent on narrative coherence rather than outcomes alone, and by situating these dynamics within the structural conditions of transitional democracies. Albania is treated not as an exceptional case, but as illustrative of broader patterns shaping contemporary democratic governance.

Introduction

Economic insecurity has become one of the most persistent experiences shaping political attitudes in contemporary democracies. Beyond objective indicators such as income, employment, or inflation, citizens increasingly evaluate political systems through their perceived capacity to provide stability, protection, and predictability in everyday life. In transitional democracies, where institutional consolidation remains fragile, this perception often diverges sharply from measurable economic performance. Periods of macroeconomic stability may coexist with deep public distrust, while modest economic improvements fail to translate into renewed institutional legitimacy.

This paradox raises an important analytical problem: why does economic performance so often fail to generate institutional trust in transitional contexts? Conventional political economy approaches tend to explain trust as a rational response to policy outcomes, assuming a relatively direct link between economic governance and public confidence (Rothstein & Teorell, 2008). However, such explanations underestimate the role of political interpretation, symbolic framing, and narrative construction in shaping how economic realities are understood by citizens.

Populist politics provides a particularly revealing lens through which to examine this disjunction. Rather than offering detailed economic programs, populist actors frequently mobilize simplified narratives that translate complex structural conditions into morally charged stories of blame, protection, and collective sacrifice (Mudde, 2004; Moffitt, 2016). In doing so, they redefine

economic insecurity not merely as a material condition, but as a political experience that demands loyalty, patience, or confrontation with perceived elites. Economic governance, under populist framing, becomes less about measurable outcomes and more about managing expectations and emotions.

Despite a growing literature on populism and economic voting, the narrative mechanisms linking economic insecurity to institutional trust remain underexplored, particularly in transitional democracies. Much of the existing research focuses either on redistributive policies or on macroeconomic performance, leaving aside the discursive processes through which economic meaning is produced (Inglehart & Norris, 2016). As a result, trust is often treated as a dependent variable without sufficient attention to the interpretive frameworks that shape it. This article addresses that gap by examining how populist economic narratives mediate the relationship between perceived economic insecurity and institutional trust in Albania. Albania represents a particularly instructive case due to its prolonged transition, persistent governance challenges, and recurring use of populist discourse across political cycles. Rather than approaching Albania as an exceptional or deviant case, the study treats it as illustrative of broader dynamics present across many transitional democracies.

The central research question guiding this analysis is: How do populist economic narratives shape public trust in institutions in transitional democracies?

To answer this question, the article adopts a concept-driven qualitative design, combining theoretical analysis with secondary data sources, including international survey evidence, policy documents, and institutional reports. The aim is not to test causal hypotheses, but to identify interpretive patterns through which economic insecurity is politically framed and institutional trust is reconfigured.

By focusing on narratives rather than policy outputs alone, this study contributes to debates on economic governance, populism, and democratic legitimacy in three ways. First, it conceptualizes economic insecurity as a politically constructed condition, not merely an objective constraint. Second, it reframes institutional trust as a product of narrative alignment rather than performance alone. Third, it offers a theoretically grounded account of how populist governance can sustain legitimacy even in contexts of enduring economic uncertainty.

The article proceeds as follows. The next section develops the theoretical framework linking populist narratives, economic insecurity, and institutional trust. This is followed by a discussion of the methodological approach and data sources. The empirical sections examine patterns of perceived economic insecurity and trust in Albania before analyzing the dominant populist economic narratives shaping these perceptions. The final sections discuss the implications of these findings for democratic governance in transitional contexts.

Theoretical framework

This article builds on three interconnected strands of literature: (1) populism as a narrative and discursive phenomenon, (2) institutional trust as a socially mediated expectation rather than a direct reflection of performance, and (3) transitional democracies as contexts characterized by heightened interpretive volatility. Together, these perspectives provide the analytical lens through which economic insecurity and trust are examined not as fixed conditions, but as politically constructed relationships.

Populist Economic Narratives

Populism is commonly defined as a “thin-centered ideology” that juxtaposes a morally pure people against a corrupt elite (Mudde, 2004). While this definition captures the normative structure of populist discourse, it remains insufficient for understanding how populism operates in everyday governance—particularly in the economic domain. More recent scholarship emphasizes populism less as a coherent ideological project and more as a mode of political narration, capable of translating complex structural conditions into accessible moral stories (Moffitt, 2016; Ostiguy, 2017). These dynamics align with Rodrik’s (2018) argument that globalization-induced economic dislocation creates fertile ground for populist mobilization by weakening traditional mechanisms of social protection. Where compensatory redistribution remains limited, economic grievances become especially susceptible to moralized political narration. Recent evidence further suggests that targeted regional development policies can mitigate populist support by reducing perceived distributive injustice (Gold & Lehr, 2024). Such findings reinforce this article’s claim that material conditions matter politically insofar as they are interpreted through narratives of fairness, protection, and abandonment.

Narratives play a crucial role in this process. As political communication scholars argue, narratives structure causal understanding by linking events, actors, and outcomes into coherent sequences (Polletta, 2006). In populist contexts, economic narratives often simplify causality while intensifying moral clarity. Responsibility is personalized, complexity is reduced, and uncertainty is normalized as the unavoidable cost of reclaiming popular sovereignty. Through this narrative logic, economic insecurity becomes not merely tolerable but meaningful.

Importantly, populist economic narratives do not deny economic hardship. On the contrary, they frequently amplify perceptions of insecurity while simultaneously offering interpretive reassurance. Citizens are encouraged to endure uncertainty in exchange for symbolic recognition, moral vindication, or promises of long-

term redemption. This dynamic allows populist actors to maintain legitimacy even when material conditions fail to improve, a phenomenon insufficiently explained by performance-based theories of political support.

Institutional Trust Beyond Performance

Institutional trust has long been treated as a key indicator of democratic stability and governance quality. Classical accounts link trust to institutional effectiveness, procedural fairness, and policy outcomes (Levi & Stoker, 2000). Within this framework, citizens are assumed to evaluate institutions primarily through observable performance, rewarding success and sanctioning failure. While such models offer valuable insights, they struggle to account for persistent trust deficits in contexts where economic indicators improve or remain stable. An alternative perspective conceptualizes trust as a relational and interpretive phenomenon, shaped by expectations, narratives, and shared meanings rather than outcomes alone (Giddens, 1990; Luhmann, 1979). Trust, in this sense, functions as a mechanism for coping with uncertainty. Citizens trust institutions not because they guarantee favourable outcomes, but because they provide a sense of predictability and moral orientation in an otherwise uncertain environment. This distinction is particularly relevant in economic governance. Economic processes are inherently complex, opaque, and temporally delayed. Most citizens lack both the information and the capacity to directly evaluate macroeconomic management. As a result, trust becomes less a matter of rational calculation and more a product of interpretive shortcuts, often supplied through political discourse. Narratives that successfully explain why hardship exists, who is responsible, and what it signifies for the collective future can stabilize trust even in the absence of tangible improvement.

Empirical research supports this view. Studies have shown that perceptions of fairness, responsiveness, and moral intent often outweigh objective economic indicators in shaping institutional trust (Rothstein & Teorell, 2008). In populist settings, where leaders position themselves as authentic representatives of the people, trust may be redirected away from impersonal institutions toward personalized authority, without necessarily collapsing entirely. Institutions are not rejected wholesale; they are reinterpreted through populist lenses.

Transitional Democracies as Discursive Arenas

The dynamics described above are intensified in transitional democracies. Such contexts are characterized by incomplete institutional consolidation, contested political norms, and lingering uncertainty about the rules of the game (O'Donnell & Schmitter, 1986). In these settings, institutions often lack deep-rooted legitimacy, and citizens' expectations remain fluid and negotiable. Albania

exemplifies what has been described as a condition of “prolonged transition,” where formal democratic structures coexist with weak institutional trust and persistent governance challenges (Elbasani, 2013). Economic reforms, often driven by external conditionality, have produced mixed outcomes, reinforcing perceptions of vulnerability rather than stability. In this environment, economic insecurity becomes a permanent background condition rather than a temporary disruption. Transitional democracies can therefore be understood as discursive arenas, where political meaning is continuously renegotiated. Because institutional narratives are not firmly entrenched, populist actors enjoy greater flexibility in redefining economic realities. Frames of blame, protection, and sacrifice resonate more strongly where alternative interpretive frameworks are weak or fragmented.

This does not imply that citizens are passive recipients of political narratives. Rather, it suggests that narrative competition plays a heightened role in shaping political trust. In the absence of consolidated institutional identities, trust is more easily reconfigured through discourse. Economic insecurity becomes a key resource in this process, offering populist actors a shared experiential reference point around which legitimacy can be reconstructed. By situating populist economic narratives within the broader context of transitional democracies, this article moves beyond country-specific explanations and highlights structural conditions that make narrative mediation particularly powerful. Albania is thus treated not as an anomaly, but as a revealing case through which broader patterns can be observed.

Materials & Methods

This paper employs a qualitative, concept-driven research design aimed at understanding how economic insecurity is politically interpreted and how such interpretations shape institutional trust in transitional democracies. Rather than approaching economic conditions as objective determinants of political attitudes, the analysis treats them as socially mediated experiences whose meaning is constructed through discourse. This interpretive orientation is particularly appropriate for examining populist governance, where political legitimacy is often sustained through symbolic framing rather than measurable policy outcomes.

The research design combines theoretical analysis with the systematic use of secondary data sources. The theoretical framework provides the analytical lens through which economic narratives are identified and interpreted, while empirical materials are used to contextualize and illustrate these narratives. This approach allows for analytical depth without relying on original data collection,

while maintaining transparency regarding the scope and limitations of the study. The aim is not to test hypotheses or establish causal relationships, but to trace recurring patterns of meaning through which economic insecurity and trust are connected in political discourse.

The empirical material draws on three types of secondary sources. International survey data, including the World Values Survey, the European Social Survey, and the Balkan Barometer, are used to identify broad trends in perceived economic insecurity and institutional trust in Albania. These datasets provide comparative and longitudinal insights that situate Albania within wider regional and European patterns. The survey evidence is used descriptively rather than analytically, serving to support interpretive claims rather than to generate statistical inference. In addition, reports produced by international organizations such as the World Bank, the International Monetary Fund, and the United Nations Development Programme are employed to contextualize economic governance and reform trajectories. These documents are treated both as sources of empirical assessment and as expressions of dominant technocratic narratives that interact with domestic political discourse.

Publicly available political documents, including government strategies, policy declarations, and official statements, constitute a further source of empirical material. These texts are analyzed as discursive artifacts through which economic conditions are framed, justified, and normalized. The selection of documents is guided by their relevance to economic governance and their prominence in public debate, rather than by exhaustive coverage. Together, these sources enable a triangulated reading of economic insecurity as both a lived perception and a politically narrated condition.

The analytical strategy follows a qualitative frame analysis, focusing on the identification of recurring narrative patterns through which economic insecurity is interpreted and communicated. Particular attention is paid to narratives of blame, protection, and sacrifice, which are examined for their role in shaping expectations toward institutions and political authority. By tracing how these frames recur across different sources, the analysis seeks to illuminate the mechanisms through which trust is reconfigured in contexts of persistent uncertainty.

Several limitations of this approach should be acknowledged. The reliance on secondary data restricts the ability to capture individual-level processes of meaning-making, and the qualitative nature of the analysis limits claims of generalizability. However, these constraints are consistent with the study's objectives, which prioritize interpretive depth and conceptual clarity over empirical breadth. The findings should therefore be understood as analytically illustrative, offering insights into how populist economic narratives operate within transitional democracies rather than definitive assessments of their causal impact.

Economic Insecurity and Institutional Trust in Albania

Economic insecurity in Albania cannot be understood solely through conventional macroeconomic indicators. While periods of relative fiscal stability and economic growth have been documented in recent years, public perceptions of vulnerability, uncertainty, and fragility remain widespread.

Secondary survey evidence consistently indicates that large segments of the Albanian population perceive their economic situation as precarious, even in the absence of acute economic crisis. Data from cross-national surveys such as the World Values Survey and the Balkan Barometer point to persistently high levels of concern related to employment security, cost of living, and future economic prospects. While this article emphasizes narrative mediation, material inequalities constitute an essential structural background to these dynamics. EU-SILC data document persistent regional disparities, limited redistributive capacity, and elevated risks of material deprivation in Albania (INSTAT, 2025). When economic adjustment is perceived as unevenly distributed, insecurity becomes morally charged, reinforcing populist frames of unfairness and institutional capture. In this sense, inequality does not replace narrative mediation but supplies its raw material: distributive asymmetries intensify receptivity to blame narratives and deepen perceptions that institutions serve particular interests rather than collective welfare.

Evidence from nationally collected survey data further reinforces this interpretation. Analyses of public attitudes toward political rhetoric and institutional performance indicate that individuals who are more receptive to populist framing tend to express significantly lower levels of trust in representative institutions, even when controlling for socio-demographic factors. Perceptions of corruption emerge as a particularly salient dimension in this relationship, functioning as a key channel through which economic and political dissatisfaction is translated into distrust. At the same time, higher educational attainment appears to mitigate susceptibility to populist narratives, suggesting that interpretive capacity plays an important role in shaping how economic insecurity is politically understood. These findings underscore the extent to which trust is mediated by narrative interpretation rather than determined by material conditions alone.

At the institutional level, trust in Albania remains comparatively low and unevenly distributed across different branches of governance. Repeated survey findings show limited confidence in political parties and parliament, while trust in executive authority fluctuates more strongly in response to leadership styles, crisis framing, and claims of responsiveness.

TABLE 1. Trust in Institutions in Albania (Opinion Poll 2023)

Institution	% Expressing Trust
European Union (EU)	74.7%
United Nations (UN)	74.3%
Religious Institutions	67%
Special Prosecution Against Organized Crime (SPAK)	60.3%
Civil Society Organizations	55.7%
Courts	33.4%
Prosecution	33.7%
Parliament	29.1%
Political Parties	25.5%

Source: Trust in Governance 2023 (UNDP/IDM, Opinion Poll)

Table 1 illustrates the uneven distribution of institutional trust in Albania, with supranational actors and anti-corruption bodies enjoying higher confidence than core representative institutions such as parliament and political parties. Figure 1 complements this picture by showing widespread distrust of domestic political institutions. Together, these patterns support the article's central claim that economic insecurity does not uniformly erode trust but redistributes legitimacy across institutional forms, reinforcing personalized authority while representative bodies remain weakly trusted.

FIGURE 1. Distrust/Lack of Trust in Domestic Institutions

Institution	% Saying "little or no trust"
Government	53%
Parliament	70%
Political Parties	76%

Source: Balkan Barometer 2025, RCC

Complementary evidence from the Balkan Barometer Public Opinion Survey reinforces this pattern. According to the 2025 wave, approximately 70% of Albanian respondents report little or no trust in parliament, while nearly 76% express low confidence in political parties. These findings confirm that distrust is concentrated in representative institutions rather than uniformly distributed across governance domains, supporting the article's argument that institutional legitimacy is fragmented and selectively reallocated rather than simply eroded.

International institutional reports further illuminate this paradox. Assessments produced by organizations such as the World Bank and the United Nations Development Programme frequently emphasize progress in regulatory reform, fiscal discipline, and macroeconomic coordination. At the same time, these reports acknowledge persistent challenges related to informality, inequality, and limited state capacity. The coexistence of reform-oriented technocratic discourse and enduring everyday insecurity creates a fertile environment for political reinterpretation. Economic governance is thus experienced not as a coherent institutional project, but as a fragmented and often opaque process, reinforcing perceptions that formal improvements fail to translate into lived security.

Within this environment, economic insecurity becomes normalized rather than exceptional. It is perceived as a permanent condition to be managed rather than a temporary disruption to be resolved. This normalization has important implications for institutional trust. When uncertainty is treated as endemic, citizens are less likely to evaluate institutions based on outcomes and more likely to judge them based on perceived intent, alignment, and symbolic responsiveness. Trust becomes increasingly detached from policy effectiveness and more closely tied to narrative coherence and moral framing.

Albania's prolonged transition amplifies these dynamics. Decades of reform, frequently driven by external conditionality and framed as technical necessity, have contributed to a depoliticized understanding of economic decision-making. While such framing may facilitate short-term policy compliance, it also weakens institutional identification. Economic reforms are often perceived as externally imposed or morally abstract, limiting their capacity to generate durable trust. Institutional fragility, in this sense, is not merely inherited from the past but continuously reproduced through modes of economic governance that prioritize technical rationality over social meaning.

It is within this context that populist economic narratives acquire particular resonance. By translating diffuse insecurity into morally intelligible stories, political actors are able to re-anchor trust in personalized authority and symbolic commitment rather than institutional consistency. Economic insecurity, far from automatically undermining legitimacy, becomes a shared reference point through which political alignment is reconstructed. Understanding this background is therefore essential for analysing how populist economic narratives operate not simply as reactions to objective crisis, but as interpretive responses to a structurally uncertain environment.

Populist Economic Narratives in Albania

A striking feature of contemporary Albanian political economy is the coexistence of two truths that do not easily reconcile. On the one hand, international macro-assessments depict an economy that has displayed resilience and comparatively strong performance in the post-pandemic period, supported by prudent fiscal management, declining public debt, disinflationary dynamics, and tourism-led growth (International Monetary Fund [IMF], 2025). On the other hand, domestic public opinion registers persistent scepticism toward core representative institutions, with political parties and parliament consistently located near the bottom of the trust hierarchy, and with trust distributed unevenly across institutions rather than “restored” by macro-stability (United Nations Development Programme [UNDP], 2024). This divergence is not a mere empirical curiosity; it constitutes the precise space in which populist economic narratives operate. These narratives are not simply commentary on economic outcomes, but interpretive devices that transform economic experience into political meaning, reorganizing the moral and cognitive map through which citizens evaluate institutional legitimacy.

Secondary evidence helps clarify the terrain on which these narratives take shape. Living conditions data produced by INSTAT through the EU-SILC framework document persistent poverty risks, material deprivation, and the structural constraints that shape everyday economic vulnerability (INSTAT, 2025). While such indicators provide important descriptive insight, they rarely “speak for themselves” politically. A similar dynamic is visible in central bank reporting, which frames macro-financial stability, inflation targeting, and institutional transparency as key achievements of economic governance (Bank of Albania, 2025). Yet public trust patterns do not mechanically follow these institutional narratives. The UNDP “Trust in Governance 2023” survey reports markedly higher confidence in international organizations than in domestic representative institutions, while political parties and parliament remain among the least trusted (UNDP, 2024). Regional public opinion data from the Balkan Barometer confirm that trust is differentiated and volatile, with certain institutions experiencing relative gains while others remain structurally distrusted (Regional Cooperation Council [RCC], 2024). Together, these sources support a central theoretical claim: in transitional contexts, the political meaning of economic performance is negotiated through interpretive frames that render uncertainty intelligible. Populist discourse is one of the most efficient suppliers of such frames.

The first recurring narrative can be described as the narrative of blame. Its logic is moral rather than technical, attributing economic hardship to identifiable agents such as corrupt elites, captured institutions, or external constraints

framed as unjust impositions. In Albania, where international reports often combine assessments of reform progress with acknowledgements of governance weaknesses, blame narratives gain plausibility because they resonate with entrenched perceptions that formal institutions fail to protect ordinary citizens (IMF, 2025; UNDP, 2024). Instead of engaging in debates over fiscal multipliers or productivity growth, blame narratives offer a simplified causal chain in which economic difficulty is the result of betrayal and mismanagement. The promise embedded in this frame is not merely prosperity, but moral purification. Trust, under this logic, is not rebuilt through institutional performance but redirected toward political actors who claim to expose hidden structures of injustice. This helps explain why distrust in representative institutions can persist even during periods of favourable macroeconomic reporting, as institutions themselves are narratively positioned as the problem rather than the solution (UNDP, 2024).

Survey-based evidence further reinforces the relevance of this narrative logic. Analyses of nationally collected survey data indicate that individuals who strongly endorse populist claims centred on elite corruption and institutional capture are significantly more likely to express low levels of trust in representative institutions, even when controlling for socio-demographic factors. Importantly, this association is not confined to respondents experiencing acute material deprivation, suggesting that distrust is driven less by objective economic hardship than by interpretive framing. Perceptions of corruption function as a narrative hinge through which diffuse economic insecurity is translated into personalized and morally charged explanations of political failure, reinforcing the centrality of blame narratives in structuring distrust.

The second narrative is the narrative of protection. If blame identifies villains, protection constructs an imagined shelter. In this frame, the state is portrayed not as a neutral administrator, but as a guardian standing between “the people” and destabilizing forces such as price shocks, external volatility, or predatory interests. This narrative is particularly potent in contexts where every day economic experience is shaped by uncertainty that cannot be reduced to annual GDP growth. Even when international institutions report disinflation and improved fiscal buffers, households may remain sensitive to cost-of-living pressures and future insecurity, especially where informality and uneven access to services undermine the felt reliability of economic life (INSTAT, 2025; Bank of Albania, 2025). Protection narratives bridge this gap by shifting the evaluative criteria of governance. The key question becomes less whether macro indicators are improving and more whether political authority is perceived as responsive and aligned with popular needs.

Empirical patterns in public opinion support this interpretation. Survey data indicate that distrust in Albania is not uniformly distributed across institutions. While confidence in political parties and parliament remains consistently low, trust

in executive authority displays greater volatility and responsiveness to leadership narratives and crisis framing (UNDP, 2024). This selective allocation of trust is consistent with a populist logic of protection, in which legitimacy is personalized and anchored in perceived decisiveness rather than institutional accountability. The Balkan Barometer's longitudinal data, showing fluctuations in institutional trust across sectors, further support this differentiated and politically malleable trust landscape (RCC, 2024).

The third narrative is the narrative of sacrifice. This frame normalizes economic hardship by embedding it in a story of necessity, transition, and deferred reward. Sacrifice narratives are particularly prevalent in transitional democracies, where reform has long been framed as an inevitable and technically unavoidable path toward modernization and European integration. The discursive mechanism transforms insecurity into a moral test, asking citizens to tolerate present discomfort in the name of future stability. International policy reporting can inadvertently reinforce this narrative by emphasizing structural reform, fiscal discipline, and long-term sustainability, even when distributional consequences remain socially salient (IMF, 2025). In the Albanian context, technocratic reform discourse coexists with persistent scepticism toward domestic political representation, creating conditions in which sacrifice can be framed either as responsible patriotism or as coerced endurance (UNDP, 2024). In both cases, the effect is to shift the temporal horizon of legitimacy, judging institutions less by immediate outcomes than by their claimed direction of travel.

Across these three narrative forms, a common mechanism becomes visible. Economic insecurity becomes politically usable not because it is resolved, but because it is narratively organized. What matters is not only whether poverty rates rise or fall, or whether inflation converges toward central bank targets, but how these realities are embedded in moral causality and collective expectation. Albania's secondary data environment—combining official statistics on living conditions (INSTAT, 2025), central bank accounts of macro-financial governance (Bank of Albania, 2025), IMF assessments of growth and fiscal buffers (IMF, 2025), and public opinion data documenting low trust in representative institutions (UNDP, 2024; RCC, 2024)—makes visible the very gap that populist narratives exploit. By translating complexity into recognition, blame, and justification, these narratives enable political authority to govern through insecurity rather than eliminate it.

The analytical consequence is that institutional trust should not be treated as a simple dependent variable of economic performance. Instead, it emerges as a distribution of confidence across institutional forms, mediated by narrative frames that selectively redirect legitimacy toward leaders while leaving representative structures distrusted. This interpretation is empirically consistent with Albanian trust patterns documented in UNDP polling and regional evidence from the Balkan Barometer, where confidence shifts across institutional domains rather

than rising uniformly with macroeconomic recovery (UNDP, 2024; RCC, 2024). Populist economic narratives thus thrive not by solving insecurity, but by rendering it meaningful in ways that secure compliance, loyalty, or, at minimum, resignation.

Conclusions

This article set out to examine how populist economic narratives mediate the relationship between perceived economic insecurity and institutional trust in transitional democracies, using Albania as an illustrative case. Challenging performance-based accounts of political trust, the analysis has shown that economic conditions do not translate mechanically into institutional legitimacy. Instead, they acquire political significance through narratives that interpret insecurity, assign responsibility, and normalize uncertainty.

By combining a concept-driven qualitative framework with secondary survey evidence, institutional reports, and policy documents, the study demonstrated how populist actors transform economic insecurity into a resource of political meaning. Narratives of blame personalize responsibility and reframe distrust as rational vigilance; narratives of protection recast governance as moral guardianship rather than institutional reliability; and narratives of sacrifice normalize hardship by embedding it in a temporal story of necessity and deferred reward. Together, these frames enable political authority to persist even in contexts where trust in representative institutions remains low and unevenly distributed.

The Albanian case highlights a broader pattern relevant to many transitional democracies. Persistent insecurity, weak institutional consolidation, and technocratic reform discourses create fertile ground for narrative mediation. In such contexts, trust is not rebuilt through improved indicators alone but reconfigured through symbolic alignment and interpretive coherence. Institutional trust thus emerges as a relational and contingent phenomenon, shaped as much by political storytelling as by governance outcomes.

The article contributes to the literature in three ways. First, it conceptualizes economic insecurity as a politically constructed experience rather than a purely material condition. Second, it reframes institutional trust as dependent on narrative alignment, not merely institutional performance. Third, it situates populist economic governance within the structural features of transitional democracies, where discursive flexibility amplifies the power of interpretive frames.

From a governance perspective, restoring institutional trust requires more than macroeconomic stabilization. Development policies and regional investment may alleviate material insecurity, but their political effectiveness depends on accompanying narrative re-anchoring. Without credible institutional storytelling

that reconnects reform with lived experience, technical improvements risk remaining symbolically inert. Countering polarized and misinformative narratives therefore becomes part of economic governance itself, as legitimacy increasingly hinges on whether institutions can translate policy into socially meaningful horizons of security.

Several limitations should be acknowledged. The reliance on secondary data constrains the ability to trace individual-level meaning-making processes, and the qualitative scope of the analysis limits generalizability. Future research could extend this framework through comparative designs or primary discourse analysis to assess how similar narratives operate across different political and economic contexts. Nonetheless, the findings underscore a central implication for democratic governance: addressing economic insecurity requires not only effective policy but also credible narratives that reconnect institutions with lived experience. Where such narratives are monopolized by populist actors, institutional trust may be sustained in form while remaining fragile in substance.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this manuscript, the author used AI for limited language refinement, proofreading, and stylistic editing. The tool was not used to generate the research design, analysis, findings, or conclusions. The author reviewed and edited the manuscript and takes full responsibility for the final content of the publication.

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A theoretical assessment of Albania's post-transition economy, structural weaknesses, and framework for sustainable productivity-led growth _____

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Abstract

This paper assesses whether productivity-led growth can drive economic convergence in Albania's small transition economy by analysing the existing neoclassical and endogenous growth literature, utilizing a theoretical and comparative methodology based on descriptive statistics. The results show that Albanian economic convergence is conditional to structural constraints unique to the country – such as low-productivity sector predominance, lack of innovation, low knowledge absorption capacity, brain drain, and skill mismatches – which suppress total factor productivity growth in the country. This paper's novel contribution resides in its proposal of a qualitative productivity-led growth framework tailored to the Albanian structural characteristics, demonstrating that the path to convergence is through coordinated policy interventions and private sector engagement.

Keywords: *productivity-led growth; economic convergence; Albania; structural transformation; human capital; innovation*

Introduction

The paradigm of poorer economies is that they inevitably remain trapped behind income levels of more advanced economies, until an eventual shift in circumstances leads to them breaking out of the low-income trap or succumbing to it. The first neoclassical national income growth models considered the automatic and inevitable convergence of countries' income levels caused by capital accumulation and diminishing returns to capital; however, contemporary empirical evidence has shown that the 1900s models are insufficient in mapping the complexities arising in peculiar cases, such as transition economies, which possess unique structural traits even when compared to countries in the same geographical region.

Such limitations of the neoclassical framework have caused many scholars and economists to delve into adjacent theories and empirical studies, emphasizing the role of more “subjective” and often unquantifiable factors that can affect production, such as human capital or innovation. This theory applies perfectly to the Albanian context, as in the past two decades, the country has undergone massive positive structural shifts, such as market liberalization, openness, and foreign markets integration; however, it still faces substantial blocks it must overcome in order to converge with the EU bloc. Such challenges include resource allocation among economic sectors, dependence on remittances, continuous emigration, brain drain, low-to-inexistent innovation etc.

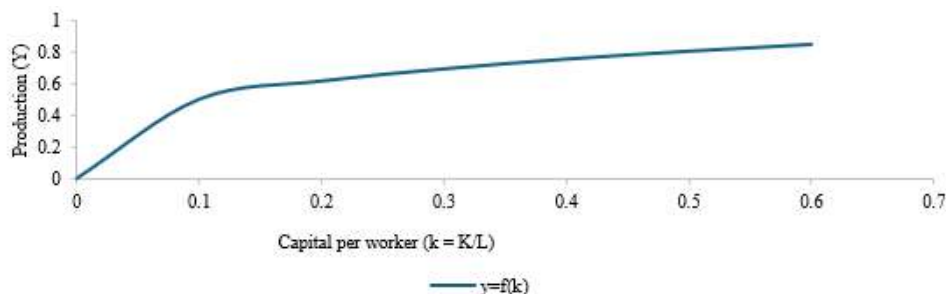
This paper seeks to shed light into the question of whether productivity-led growth can drive convergence to EU income levels in Albania, albeit its rampant structural weaknesses. For this purpose, this paper examines the available literature review on productivity and a related framework built to map the drivers of long-term convergence. Ultimately, this paper contributes to the never-ending debate on the factors of convergence for low-income countries by offering relevant insights on the Albanian structural traits and a framework for convergence that is replicable for small low-income economies with similar fundamentals.

Neoclassical convergence theory

The neoclassical growth model first introduced by Solow (1956) represents the simplest framework for understanding output dependence on economic factors of production, such that Output (Y) at any time equals a function of technological innovation (A), capital (K), and labour (L), as follows:

$$Y_t = AK_t^\alpha L_t^{1-\alpha}$$

FIGURE 1. Example of Solow's curve



Note. The figure illustrates an example of Solow's curve, where production (Y) is expressed as a function of capital per worker (K/L). As capital per worker increases (a term called "capital deepening") arriving at the higher levels, the productivity Δ becomes lower, showing diminishing returns. Source: Author's calculations based on Solow's (1956) production model

In the formula above for long-term production growth (Solow, 1956), such growth is mostly driven by the exogenous factor of technological progress, which will greatly affect the outcome in case of country-wide productivity increases. As for the endogenous factors of capital and labour, by plotting the non-linear differential Cobb-Douglas equation of production growth proposed by Solow (1956) in Figure 1, with production (Y) in the Y-axis and capital per worker (k) in the X-axis, the resulting concave curve will display diminishing returns to capital as capital per worker increases. This characteristic of the Solow model curve implies that countries with a lower level of capital-per-worker ratio will represent poorer economies generating less production (Y); however, the potential increase in production for such economies will be much greater than that of richer ones residing in the diminishing returns portion of the Solow curve (as illustrated by the slope of the two arrows in Figure 1). As a result, this prediction represents the theoretical basis for economic convergence theory.

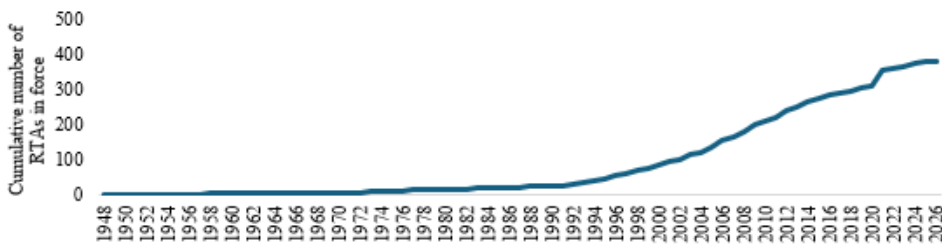
After Solow's pioneering efforts, a door was opened on the analysis of economic convergence, where subsequently Barro and Sala-i-Martin (1992) demonstrated that countries with lower initial income levels exhibited higher subsequent growth rates, once again proving the convergence dynamics described by Solow almost five decades earlier. For example, PRC's quick convergence to top-tier global production levels occurred in merely 40 years, resulting in a massive economic transformation that today rivals that of historically rich economies (Kuo, 2025). Nevertheless, modern empirical research has shown that economic convergence is not universal or uniform, suggesting that additional structural factors must be considered based on the economy of interest, for which peculiar structural factors might apply (Islam, 1995).

β vs. σ convergence

Barro & Sala-i-Martin (1992) distinguished convergence into two types: β -convergence and σ -convergence; where the former represents the negative relationship between initial income levels and growth rates (if income levels are low, potential growth is high), while σ -convergence represents the reduction in income dispersion over time across countries (meaning that countries will eventually converge to comparable levels of output). As of today, β -convergence has been frequently observed in economies like the PRC or post-communist Eastern European countries (Kuo, 2025), whereas σ -convergence has been less noted because countries ultimately possess significant differences in structural characteristics causing their production levels per worker to remain distant despite economic convergence theory (Islam, 1995).

Regarding the σ -convergence type, cross-country income distribution continues to showcase major polarization around the globe (Quah, 1996), where several convergence “clubs” have emerged in areas of similar fundamental economic characteristics. Such a theory is evidenced by the exponential creation of regional trade agreements (RTAs) after WW2 in countries with similar structural factors (WTO, 2026), such as the EU, AfCFTA, Mercosur, or RCEP (Figure 2). This ultimately challenges the simplistic implications of the neoclassical Solow model, proving that growth is heterogeneous among countries, especially those of distant geographical regions.

FIGURE 2. Trend of regional trade agreements (RTAs) in force for the period 1948-2026



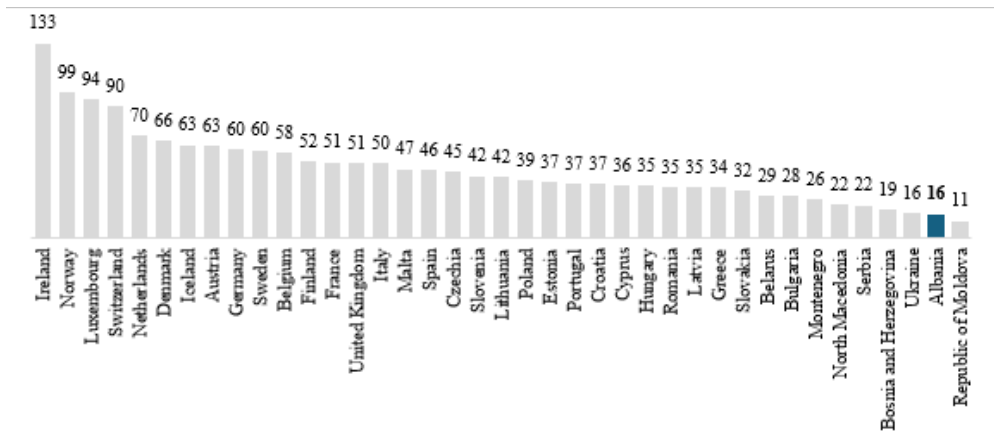
Note. The figure illustrates the cumulative number of RTAs per year for the period 1948 – 2026.
 Source: Author’s calculations based on WTO (2026), Regional Trade Agreements Information System (RTA-IS), extracted on 28/03/2026

Conditional vs. absolute convergence

Another theoretical distinction among types of convergence is the conditional vs. absolute theory, which represents a refinement of the neoclassical production growth model (Mankiw, Romer, and Weil, 1992). Absolute convergence (Solow, 1956) is the neoclassical production growth model which predicts identical

structural parameters across economies. On the other hand, conditional convergence predicts differences in savings rates, population growth, human capital, and institutional quality across countries that possess diverse structural parameters (Mankiw, Romer, and Weil, 1992). For example, based on the conditional convergence theory, the Albanian economy reasonably shall possess a much lower savings rate, a higher population growth rate, lower quality human capital, and weaker institutions compared to Ireland, the EU country with the highest GDP/capita (Figure 3); therefore, one cannot compare these two countries solely on the basis of capital (K), labour (L), and technological innovation (A), as that would bypass the entirety of structural factors making these economies so disparate.

FIGURE 3. Real GDP per capita in Europe in 2023 (in USD thousands)



Note. The figure illustrates real GDP per capita (in \$K) in Europe in 2023, where the Albanian real GDP/Capita is second to last.

Source: Author's calculations based on based on the Penn World Table 11.0 (Feenstra et al., 2015)

Indeed, empirical evidence provided by economists strongly supports the conditional convergence theory (Mankiw, Romer, and Weil, 1992), proving that when the Solow model is expanded to include human capital parameters pertaining to a particular economy, the observed patterns of convergence will be similar to theoretical predictions. Conclusively, conditional convergence theory proves that structural features are key to determining the long-run income levels of a particular economy.

Role of capital deepening

Capital (K) is one of the key pillars of the neoclassical Solow production growth model; however, diminishing returns are applicable in the long run as per the concave plot of the Solow curve in Figure 1, meaning that capital has a relatively low influence in attaining sustainable long-term growth. In contrast, economists have suggested that it is not capital, but technological innovation what leads to improvements in productivity, which in turn leads to sustainable growth in the long run (Islam, 1995). As evidenced by empirical studies, technology and productivity levels are crucial for explaining persistent income disparities among countries, despite low-income ones having ample room for growth according to the Solow curve.

For example, despite the strong economic growth of the Albanian economy in the first 35 years post-transition, the country still showcases vast disparity in income levels per capita compared to South Korea, whose post-war economic “miracle” has caused its GDP per capita to rise from \$158 in the 1960s to over \$35,000 in 2023 (Jeon, 2025). The boom of South Korea’s GDP per-capita is attributable to its fast pace of technology innovation, transforming it in the second most technologically advanced country in the world after Japan, according to the World Population Review (2026).

Endogenous growth and productivity

The neoclassical production growth model (Solow, 1956) led to the subsequent development of endogenous growth theory (Romer, 1990), which focuses on the role of internal factors of production (human capital, innovation, and knowledge spillovers) that drive sustainable economic growth over time. In Romer’s endogenous growth theory, conversely to Solow’s neoclassical production model’s assumption, the technological factor (A) is not exogenous but endogenously determined within the model (Romer, 1990).

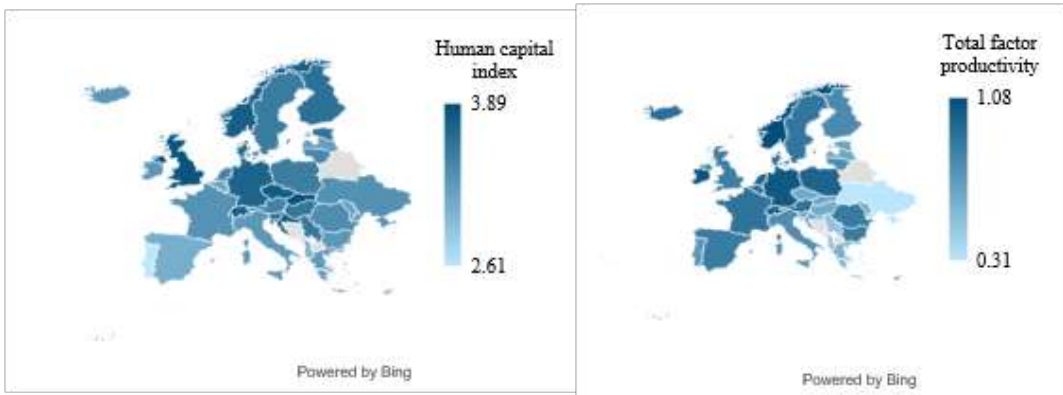
Human capital accumulation

Human capital is extremely relevant to endogenous growth models, as an advanced set of skills and aptitudes of the labour force can generate positive externalities that drive productivity (Lucas, 1988). Economists have further added that education and continuous training are crucial investments to obtain a skilled workforce that is adaptable to change and increasingly productive (Becker, 1964). This paradigm persists nowadays. For example, top employers and governments are currently

funding massive training campaigns to be able to keep up with GenAI-related labour market shifts, in order to not fall behind early adopting countries and to remain competitive in the global landscape.

Moreover, there are vast empirical studies and statistics in support of the human capital and production link (OECD, 2015), proving that diversity in human capital quality determines the productivity gap across countries. As evidenced in Figure 4 (Feenstra et al., 2015) reporting the hc (human capital index) and ctfp (total factor productivity) parameters across Europe in 2023, EU countries (Germany, Switzerland, Croatia, Norway) visibly surpass non-EU economies (Albania).

FIGURE 4. Human capital index (hc) and total factor productivity (ctfp) dispersion in Europe in 2023



Note. The figure illustrates the dispersion of human capital index (on the left) and total factor productivity (on the right) in Europe in 2023, where data for Bosnia-Herzegovina, Montenegro, North Macedonia, and Belarus are missing. Human capital index is calculated based on years of schooling and returns to education, whereas total factor productivity (index of relative productivity of a country compared to other countries) is calculated at current PPPs (purchasing power parities, where the baseline is USA=1).

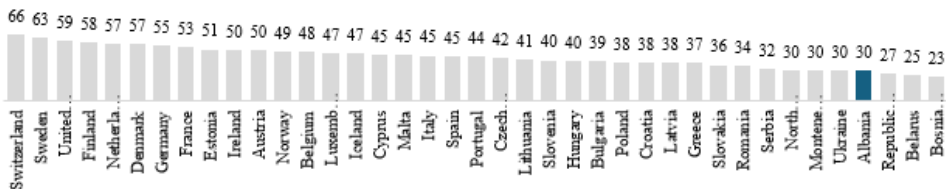
Source: Author's calculations based on the Penn World Table 11.0 (Feenstra et al., 2015)

Statistics on human capital index and total factor productivity help explain the trend of real production GDP per capita across European transition economies in 2023 as illustrated in Figure 3 (Feenstra et al., 2015), where for some region countries like Albania and Bulgaria in the Balkans, the result is significantly higher in Bulgaria where ctfp and hc are greater (\$ 28K, Figure 3) vs. Albania where the two parameters are much lower (\$ 16K, Figure 3). Such a difference in human capital factors of non-EU countries can be explained by deficiencies in the education system, structural inefficiencies hindering knowledge spillover, lack of investment in training, and lack of upskilling/reskilling, resulting in a workforce significantly less competitive compared to EU countries (Barro and Sala-i-Martin, 2004).

Innovation and knowledge spillovers

According to the endogenous growth theory, innovation is not an exogenous factor of the Solow model but endogenous, created by governments and companies through investment in R&D (Romer, 1990), which in turn improves productivity via technological change, generating increasing returns to scale. Aghion and Howitt (1992) provided further contribution in support of Romer's endogenous innovation theory; by introducing the concept of creative destruction, meaning that new innovations will eventually become obsolete in time as they get replaced by better technology with higher productivity performance.

FIGURE 5. Global Innovation Index scores in Europe in 2025



Note. The figure illustrates the Global Innovation Index 2025 scores across European countries, calculated as the simple average of the Innovation Input and Output Sub-Index scores per country.

Source: Author's calculations based on WIPO 2025 Global Innovation Index dataset (World Intellectual Property Organization, 2025)

Innovation and productivity performance are tightly linked, as suggested by reports of the World Economic Forum (2019) and the European Commission with statistics showcasing that innovation leader EU countries (Figure 5) with strong innovation systems exhibit higher productivity growth and resilience against uncertainty than the emerging innovators of the bloc (European Commission, 2025).

Technology diffusion in small open economies

Productivity growth is driven by technology diffusion rather than pioneering innovation in the case of small open economies, such as Balkan countries, which lack the investment capacity and human capital quality to produce proprietary technology. International R&D knowledge spillover, oftentimes enabled by trade and FDI routes between industrialized countries and emerging economies (Coe and Helpman, 1995), significantly increases productivity in the receiving country.

For example, if an MNE opens up a subsidiary in a Balkan country to say, produce cars, then it is highly likely that the manufacturing handiwork shall be

done by the cheaper local labour, but the managers of the production plant shall be highly-skilled imported workers who will explain to locals how to use the machinery, raise productivity, understand defects, and so on. As a result, local labour force working for the MNE will become upskilled and apt enough to run the plant on their own, without external supervision. Ultimately, if a worker gathers enough knowledge, at any time he/she could open their standalone domestic car production facility benefitting from state subsidies or funding schemes, reaching the full-circle outcome of the knowledge spillover effect. This theory is reasonably backed by real-life statistics and examples, such as Serbia's successful car manufacturing industry which was honed by Fiat-Chrysler Automobiles FDIs.

However, knowledge spillovers follow a cautionary tale, that a country is only able to reap the benefits of such spillovers if it has sufficient absorptive capacity, which ultimately depends on human capital and cultural fit. Countries with higher human capital KPIs (proxied by *hc* and *cftp*) and stronger institutions (less bureaucracy and corruption) will be more absorptive of the knowledge imbued by foreign investments (International Monetary Fund, 2019), because of their ability to swiftly adopt and later adapt to foreign technologies. On the other hand, if a country's human capital is scarce, institutions are weak, and local culture clashes with the externally introduced technology, the knowledge diffusion will be limited, causing convergence to industrialized countries unlikely unless the structural factors change (Coe and Helpman, 1995).

EU integration and convergence clubs

As this paper focuses on the European economic landscape and its inherent dynamics, it is important to note that for smaller non-EU countries, integration within the EU club appears to be a most-desirable outcome to overcome current convergence dynamics. However, this presumed benefit comes with its own cautionary tale, as the European Union itself has promoted income-level convergence among member countries through market integration efforts (Eurozone) and funding (liquidity packages for new members), and yet the process of convergence has failed in various regions creating core-periphery dynamics within the bloc.

Core-periphery dynamics

The European Commission itself has identified persistent core-periphery dynamics, where the more advanced economies in the club continue to maintain high productivity and strong innovation, while emerging economies still struggle to converge even after many years of EU accession (Figure 3 and 5).

This phenomenon can be explained by the structural differences that exist across countries, creating a vicious cycle of disparities in income, lower productivity, and cultural clashes, making convergence ever more difficult because of the fundamentals of each country rather than temporary external shocks (European Commission, 2023).

Middle-income trap risk

Another economic theory that seeks to explain the lack of convergence among countries is the middle-income trap (Eichengreen et al., 2013), which shows that after reaching middle-income levels many countries will experience a slowdown in growth, explained by the Solow curve's marginal returns section. If economies fail to switch from factor-driven growth (capital and labour only) to innovation-driven growth (technology which increases productivity), they will inevitably get stuck in the middle-income trap with diminishing returns to capital, unable to break out of the trap unless they promote R&D, technology absorption, and productivity enhancement measures. This risk is particularly noticeable in transition economies, which grow extremely rapidly in the first post-transition years thanks to early gains from labour reforms and capital accumulation, but later stall once the baseline for middle-income is reached, unable to achieve sustainable productivity growth.

For example, in the last decades few countries have been able to “escape” the middle-income trap and achieve high GDP per capita levels, namely Saudi Arabia, Latvia, Bulgaria, and South Korea (Feingold, 2024). Research from the International Monetary Fund further adds that the countries still stuck in the middle-income trap oftentimes struggle to keep up with the pace of ever-changing technology innovation in advanced economies, causing their products and services to become more easily mature and obsolete, thus lowering comparable productivity and driving lower wages (Imam and Temple, 2024).

Western Balkan specificities

The Western Balkan region has demonstrated unique structural traits, which stand at the root of the current convergence challenges these countries face. The region is characterized by weak institutions, high levels of emigration, and incomplete post-transition transformation (EBRD, various years; World Bank). According to the EBRD (2023, 2024), the region has made gigantic steps in recent decades, narrowing the GDP per capita gap; however, according to recent growth trends, convergence to EU income-levels could require 70 years more, given the structural factors that confine Western Balkan's income-level inside the middle-income trap (Figure 3). Better governance, cross-border cooperation, and green

economy adoption are some of the reforms proposed by the EBRD (2023) to help Western Balkans bridge the gap with EU countries.

Compared to Central or Eastern European post-transition economies, the Western Balkans' unique structural factors cause volatile production, slow convergence, and low innovation adoption (EBRD, 2023). Based on OECD's (2025) economic convergence scoreboard statistics, the Western Balkan region remains far below the EU average for several important convergence attributes, such as control of corruption, informal employment, trade flows, lifelong learning, labour productivity, youth NEET¹ rate, waste management, water productivity etc. This data shows that despite the rapid progress made in the first transition decades, substantial gaps reside between the Western Balkans and Eastern European EU members.

Structural characteristics of the Albanian economy

Albania provides a peculiar case of transition from closed to open economy, given the unique traits of its Communist regime with repercussions still felt nowadays after almost 3 decades post-transition. Understanding Albania's unique structural characteristics will help assess productivity dynamics and explain its convergence trend compared to other countries in the Western Balkan region.

Unique Albanian structural characteristics

Small open economy

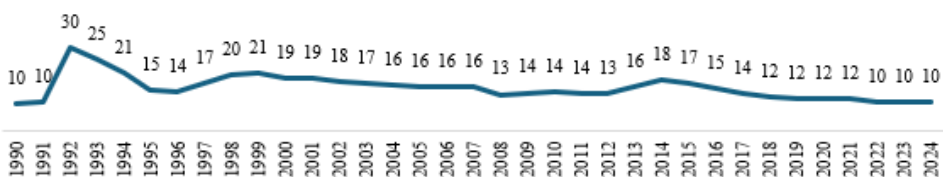
Albania began adopting an open economy from the beginning of the 1990s, following a wave of revolution against socialism across Eastern European countries resulting in the chain dismantlement of Communist regimes, bringing about the switch from closed to open economy. Today, Albania boasts fully open liberal markets, with a strong reliance on foreign trade and welcomes foreign capital flows (World Bank, 2023). The high degree of openness of the Albanian economy, as well as policies that stimulate foreign investments, have facilitated rapid GDP growth while simultaneously increasing vulnerability to negative external shocks due to globalization (such as the Covid-19 pandemic) (Uku, Ilollari, & Shehu, 2024).

Nevertheless, Albania's road to an open economy has not been without hurdles. When the economic transition first started in 1991-1992, causing the collapse of the centrally planned economic system and its related institutions, the country

¹ Youth not in education, employment, or training. If this rate is high it signals potential structural issues in the labour market as youth is disengaged

went into shock. Be it for the dismantling of institutions leaving many jobless, or the “exodus”-like wave of emigration that followed, the transition caused unemployment rates to jump dramatically in only one year, from 10% in 1991 to 30% in 1992 as illustrated in Figure 6 (World Bank WDI). During this time, most citizens still worked in agriculture (Figure 7), which in 1990 covered more than 60% of the total employed workforce (industry 15% and services 25%), showing that the economy was relatively “primitive” compared to Western countries which had already industrialized at this point (World Bank WDI).

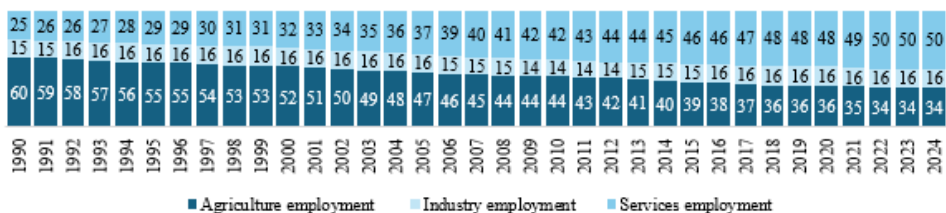
FIGURE 6. Unemployment in Albania for the period 1990-2024 (in %)



Note. The figure illustrates the level of unemployment in Albania for the 1990-2024 period (in %).

Source: Author’s calculations based on historical World Bank data.

FIGURE 7. Employment across economic sectors in Albania 1990-2024 (in %)

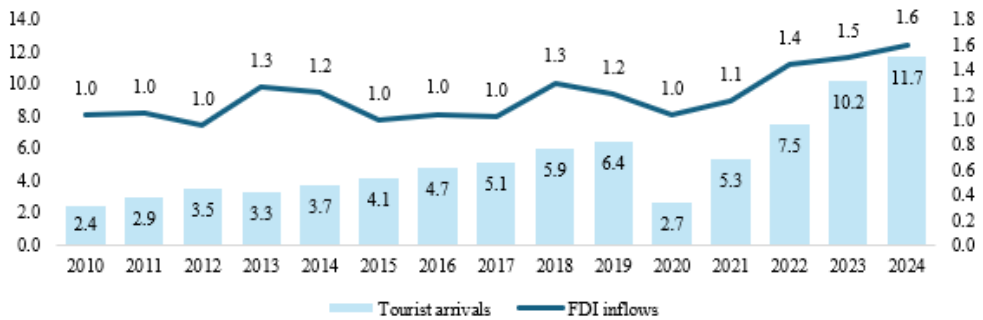


Note. The figure illustrates the dispersion of employment in Albania (in %) for the 1990-2024 period across the three economic sectors: agriculture, industry and services.

Source: Author’s calculations based on historical World Bank data.

As years passed, the ratio of employed workforce shifted among agriculture, industry, and services, resulting at respectively 34%, 16%, and 50% of the total workforce in 2024 (World Bank); which reflects the giant steps the Albanian economy has taken to switch agriculture with services as the largest domestic production sector (Figure 7). Such a trend can be explained by the recent tourism boom in Albania, that prompted widespread private and public investments into services, attracting more FDI inflows, as illustrated in Figure 8 (UNWTO, World Bank WDI).

FIGURE 8. Tourist arrivals in Albania (in millions) vs. FDI inflows (in USD billion), 2010-2024



Note. The figure illustrates the trend of tourist arrivals in Albania (in millions) and FDI inflows (in USD billions) for the 2010-2024 period, highlighting the boom of tourism and FDIs in the last four years of the dataset.

Source: Author’s calculations based on historical dataset from UNWTO (for tourist arrivals) and World Bank WDI (for FDI inflows).

Another explanation for the “boom” of services is arguably the digitalization of the country’s out-of-date technological architecture and infrastructure. As many technologies have already become obsolete in the West, the younger generation is increasingly investing in education and digitalization projects to refurbish the country’s outdated tech pipeline. Post-pandemic, the main economic growth areas in Albania are precisely education, info-tech, communication, and trade, with the key FDI investors being Italy, the Netherlands, and Switzerland (United Nations World Tourism Organization).

Following the dip in employment in the first years post-regime change (Figure 6), the country underwent a series of internal reforms that led to the gradual labour market stabilization in the 2000-2012 period (World Bank), with the unemployment rate gradually falling from 30% in 1992 to 13% in 2012, reaching almost pre-transition employment levels. However, following the European sovereign debt crisis of the early 2010s, unemployment quickly rose to 18% by 2014, generating major public discontent that ultimately resulted in political rotation in the same year.

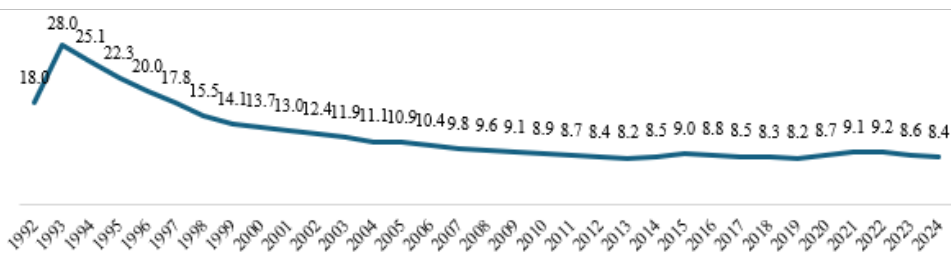
Reasons for the labour market stabilization in the 2000-2012 period are mainly the expansion of private sector employment (Muço et al., 2004), agriculture focus decline (World Bank), and services sector prioritization (World Bank). These efforts ultimately resulted in the steady shift of the Albanian economy from an agricultural primitive one to a modern services-oriented one (Figure 7), with unemployment steadily falling to about 10% by 2024 (World Bank) given the massive creation of new jobs by the services sector.

Nevertheless, several structural traits challenge the sustainable growth of the Albanian economy, namely high youth unemployment (historically fluctuating around 20%, according to World Bank data), large informal economy (causing unfair competition, low tax revenues, and misaligned incentives, according to Muço et al., 2004), mass migration (causing brain drain as 1 in 5 Albanians emigrated in the 2012-2022 decade, according to a survey from Balla and Canga, 2023), and relatively high agricultural employment in comparison to EU standards (capped at around 4% of total workforce in the EU vs. 35% in Albania in 2023, according to Trading Economics data).

Remittance dependence

Another major structural problem of Albania remains the dependence on remittances, which represent a significant share of national income as illustrated in Figure 9 (Trading Economics, 2026). Remittances, corresponding to personal money transfers and employee compensation from abroad, peaked at over 11% of national GDP in 2015 and later gradually declined to approximately 8% of GDP in 2024 (Trading Economics, 2026). Based on statistics from the World Bank and the Bank of Albania (various years), remittance inflows have supported consumption, balanced the current account deficit, and reduced poverty, showing massive increase in absolute amounts in recent years, despite the declining trend as a ratio of GDP in Figure 9 (Trading Economics, 2026). From a microeconomic perspective they are utterly necessary in the Albanian context, as they aid seasonal employees and unemployed family members of those sending the remittances, but on the other hand they can create adverse macroeconomic effects, such as the discouragement of the labour force from participating in the national economy by filling vacant job positions.

FIGURE 9. Personal remittance inflows in Albania (in % of GDP) for the period 1992-2024



Note. The figure illustrates the inflows of personal remittances in Albania (in % of GDP) for the period 1992-2024, highlighting a decline in the trend albeit the relatively high values.
 Source: Author's calculations based on historical dataset from Trading Economics (World Bank).

Limited industrial base

The Albanian economy's weakest link is its industrial sector, employing only 15-16% of the total workforce since 1990 as illustrated in Figure 7 (World Bank). This aligns with Blanchard's (1997) comprehensive analysis of transition from central to market economy, which highlighted the widespread industrial output collapse in the early 1990s across Eastern Europe caused by abrupt disruptions of old supply chains and centrally protected domestic markets. Moreover, in the years following the regime fall, characterised by an ongoing institutional restructuring, many formal industrial jobs were lost due to production disruptions, which led civilians to seek occupation in the highly informal agricultural jobs that were more readily available (Muço et al., 2004). The Albanian industrial sector fits within the broader phenomenon of premature deindustrialization (Rodrik, 2016), applicable to transition economies that deindustrialize in the short-to-medium term, losing any potential productivity gains through manufacturing. Indeed, up until the 1990s, Communist-era industrial production had amounted to about 40–45% of total GDP, only to be more than halved at about 20–25% by the 2000s (World Bank).

Service-dominated growth

Productivity growth in Albania has been mainly driven by the services sector in recent years which peaked to about 50% of national GDP in 2024 out of an absolute amount of \$ 27.18Bn total GDP (World Bank), with the main segments being tourism and retail. However, according to OECD research, the service sector provides lower productivity growth rates compared to manufacturing, one of the pillars of the industrial sector (Sorbe et al., 2018). Indeed, according to a study across 21 OECD countries, labour productivity growth (computed as value added per person engaged) resulted quite low for the services sector at a mere 1,3%, while it was more than double for the manufacturing sector at about 3% (Sorbe et al., 2018). Such findings could help explain why the levels of productivity in Albania remain so low despite the major growth observed in the services sector, as the country is suffering the opportunity cost of industrialization-led productivity growth which could open new frontiers towards convergence.

Productivity dynamics in the Albanian economy

Productivity gaps and low innovation

Productivity gaps across sectors are rampant in Albania, as statistics show that agricultural productivity is one of the lowest in Europe (OECD, 2021). Data

from INSTAT show that GDP growth in the last years has been mainly driven by construction and services, while the industrial and agricultural sectors have shown negative growth (contraction) (Albanian Conservative Institute, 2025).

Moreover, this negative trend is not fought through efforts of promoting innovation and knowledge absorption, as according to the EU Innovation Scoreboard, Albania showcased a relatively low innovation performance at 41,1% of the EU average in 2023, standing below the performance of fellow emerging innovator countries (OECD, 2024). The low results can be attributable to the complete lack of R&D expenditures by both the public and private sector, causing innovation activity in Albania to remain limited (OECD, 2024). Indeed, in 2022 Albania spent approximately 0,20% of its GDP on R&D initiatives, much lower in comparison to the 2,2% EU average (Eurostat, 2024). Such low R&D expenditures help explain the lacking innovation performance of the country, reflecting weak institutional and corporate support which must change in order to attain innovation-led productivity growth.

Human capital and innovation constraints

Despite consistent improvements in the domestic education sector, both public and private, which has led to the increase in average years of schooling from 9 years in 1990 to 12 years in 2023 (Global Data Lab), Albania faces many challenges in terms of quality of schooling and relevance of the learned skillset vis a vis the modern labour market (Nikolli & Shehu, 2022). Labour market research points out that the country is still suffering from widespread skill mismatch, as surveys indicate that more than 27% of employees have an education level higher than their current occupation, while 12% lower than their job requirements (OECD, 2024).

Moreover, Albania lags behind both the Western Balkans region and EU bloc in terms of digital skill development – surveys show that as of 2021, merely 23.8% of the workforce possessed basic or above-basic digital skills vs. the much higher EU average at 53.9% (OECD, 2024). The upskilling/reskilling of the current Albanian workforce requires training promoted by both the public and private sector, but this is currently not happening at the right pace, as in 2023 only 12% of employees had participated in continuous training to enhance their digital skills vs. 25% in the EU (OECD, 2024). These wide hurdles are also the reason for low labour productivity, technological adoption, and knowledge absorption in the country, and the government should take act via adequate policymaking to catch up to the regional skill and digitalization levels.

Nonetheless, arguably the biggest structural constraint for the Albanian workforce remains brain drain due to mass emigration of young students who wish to study abroad and receive greater qualifications thanks to the EU bloc's

high education quality (OECD, 2024). The cause-effect link between brain drain and low productivity is evidenced by Docquier and Rapoport (2012), who suggest that the loss of skilled workers (such as university students and NEETs²) hinders long-term productivity growth and innovation capacity.

Fortunately, there appears to be a recent trend of return migration, with 45% of all returns occurring between 2020 and 2024, which gives hope of the progressive Albanian labor market integration in the long run despite these initial challenges (World Bank, 2024). Nevertheless, data for 2020-2024 returnees reflects a low employment rate at 46% vs. 93% for those who returned in 2000-2004 (World Bank, 2024), suggesting that successful reintegration in the domestic labour market requires longer periods of time in order to reap the most benefits of integration. On the other hand, when comparing working-age returnees to non-migrants, the employment rates of the former are higher at 58% trailed slightly behind by non-migrants at 47% (World Bank, 2024), showing that employment prospects for non-migrants are inferior especially for jobs that require a more advanced skillset and digital know-how.

Conceptual framework for productivity-led convergence in Albania

Conceptual framework proposal

Stemming from the neoclassical and endogenous growth literature review, as well as structural characteristics of the Albanian economy as identified in the previous chapters, this research proposes a productivity-focused convergence framework based on descriptive statistics, that is conditional to the structurally unique traits of the country, tailored to reflect the weaknesses of Albania's post-transition economy.

As opposed to Solow's neoclassical production convergence model based on capital accumulation (Solow, 1956; Barro and Sala-i-Martin, 1992), the framework proposed in this paper emphasizes that convergence is not guaranteed by capital deepening but is a byproduct of the dynamism between productivity and structural limitations. Despite the generation of major short-to-medium term growth through capital accumulation, as per Solow's curve, the only way to sustain growth in the long run at the point of converging to the EU bloc would be through continuous improvements in total factor productivity, which is currently stalling around 0 for the Albanian economy as per the Penn World Table's statistics in Figure 4 (Feenstra et al., 2015).

As explained in the literature review section of this paper, the main drivers of total factor productivity are human capital, innovation, and technology diffusion

² Youth not in education, employment, or training

through knowledge spillovers (Romer, 1990; Lucas, 1988), meaning that in order to insert the subjective notion of total factor productivity in our model, we must account for these underlying factors. Therefore, the proposed framework for tracking convergence of the Albanian economy, hereby intended as a qualitative conceptual tool, shall map these three levers:

- 1) resource reallocation,
- 2) human capital,
- 3) innovation.

The resulting framework shall be as follows:

$$\Delta \text{ Production Growth} = f(R^+, Hc(B^+, E^+, U), I(B^+, A^+, Fd^+ \wedge In^+))^3$$

Resource reallocation

The reallocation of resources from low-productivity economic sectors to high-yield ones (from agriculture to light industry and services) is mapped as one of the main drivers for convergence based on productivity-led growth theories and supporting evidence. Despite being unable to adopt heavy industry in the short term given the high CAPEX requirements of such a sector, investing in light industrial segments (such as manufacturing, textiles, food and beverages) will prove highly beneficial in improving competitiveness in the region, exports, and import-dependency. Given Albania's premature deindustrialization, the government's focus must shift from honing the services sector towards industry to untap the productivity potential coming from it (Rodrik, 2016).

Human capital

Strengthening the human capital pipeline of the country is another focal point towards productivity-led growth based on the endogenous growth theory

³ Where:

R - resource reallocation from agriculture to industrial sector

Hc - human capital

B - brain drain

E - education years

U - upskilling/reskilling training

I - innovation

A - absorption capacity of knowledge spillovers

F - foreign trade

Fd - FDI (foreign direct investments)

In - Foreign markets integration through regional trade agreements (RTAs)

that education and skills training are malleable via policymaking and enhance both productivity at the microeconomic level and innovation capacity at the macroeconomic level (Lucas, 1988). In Albania, the underlying factors of human capital to be targeted are emigration (brain drain), education, and upskilling/reskilling.

Innovation

In the case of Albania, the focus should not be frontier innovation but R&D that aims at the adoption of foreign advanced technology and related adaptation of the public and private sector. The country could immensely benefit from international knowledge spillovers coming from the skilled workforce that has emigrated, so it could utilize brain drain in an advantageous manner if it seeks to attract the return/cooperation of such invaluable resources. Moreover, knowledge spillovers could be also gained via foreign trade, FDIs, and integration into RTAs⁴ and global markets (Coe & Helpman, 1995). However, it is important to also consider the negative externalities coming from weak institutions that could hinder the country's capacity to fully benefit from spillover effects, given its long history of informality, corruption, and bureaucracy.

It is important to note that the three framework pillars interact dynamically with one another. For example, the reallocation of material resources among sectors can affect the distribution of the workforce, shaping human capital and the skillset labourers need to hone. Moreover, education deepening and skillset amelioration can enhance absorptive capacity towards innovation coming from knowledge spillovers. This is an interconnected framework where each factor reinforces or weakens the others depending on their underlying mechanisms; highlighting that, while during effective policy periods the country will move in synch towards greater productivity, in times of policy misalignments or ineffectiveness potential dead-ends and vicious cycles might appear, trapping the country in subpar productivity levels. Consistent with the middle-income trap literature, failure to meet the frameworks' requisites for Albania's productivity-led growth will eventually bring about a growth slowdown or even economic stagnation (Eichengreen et al., 2013).

Theoretical policy implications

The conceptual framework proposed in section 5.1 suggests a set of important policy implications, considering the current stage of development of the Albanian transition economy. First, based on the literature review in the first sections of

⁴ Regional trade agreements

this paper, one can deduce that capital accumulation is insufficient for producing long-term sustainable growth and thus convergence to the EU bloc countries, given the diminishing returns of capital deployment.

Based on the observed evidence, FDIs and foreign capital inflows through remittances will continue to remain crucial for the Albanian economy's progress towards convergence, but they must not be the sole pillar of growth. They are to be accompanied by government measures that seek to improve the currently lacking structural factors, such as education through appropriate reform of the school system and related learnings, innovation through subsidies and tax benefits for tech companies and digital investors, and institutional weaknesses through the fight against corruption, bureaucracy, and organized crime.

Second, human capital must become the focus of policymakers who should prioritize quality rather than quantity of workforce. Moreover, skilled workers are not only characterized by merely longer years of schooling, but also relevant technical knowledge in each sector, so training programmes must be enabled for the acquisition of such aptitudes to upskill/reskill the existing workforce and prepare the next generation of skilled workers. This policy would help reduce the lack of adequately skilled figures for technical roles and align national higher-level education programmes to the labour market needs, thus lowering NEET⁵ unemployment rates. Lastly, creating policies for the incentivization of return migration of students and diaspora engagement of professionals could help lower brain drain, bringing invaluable skills and aptitudes "home" to hone innovation and knowledge spillovers.

Third, the government should also promote industrial sector production, which currently plays a marginal role in overall workforce employment and GDP growth. Given the premature deindustrialization that the Albanian economy underwent in its first transition years, much central support is needed to boost production in the largest industrial sectors, particularly for those with higher productivity and lower skill requirements. Simultaneously, the government should work towards improving the integration of Albania's industrial pipeline into the regional and global value chains, promoting exports and multilateral cooperation.

Fourth, promoting the creation of a domestic R&D pipeline should be a focal point for future policymaking, as currently there is a lack of innovation initiatives from the public and private sector, which in turn inhibits total factor productivity growth. Promoting R&D does not merely amount to increasing public spending in research or subsidizing private sector initiatives; it also requires honing the multilateral cooperation of companies, higher-level education institutions, private universities, and state offices to extract the most value out of the education system. Over time, policies like innovation-related FDI promotion (in sectors such as technology and communications), private sector subsidies and tax benefits for tech

⁵ Youth not in education, employment, or training

firms, and collaboration with universities and scholars will lead to a substantial shift in the mindset of the country's workforce and entrepreneurial ecosystem regarding innovation.

Lastly, strengthening foreign policy and international relations will be key to obtain European Union integration in the medium term, following recent efforts of the Albanian government which reopened EU accession talks in late 2025 (Nič et al., 2025). Diplomacy is crucial; however, merely a marginal factor in the successful integration within the bloc, as ultimately alignment to EU standards set forth by the European Commission in the negotiating clusters remains decisive; namely the alignment of economic fundamentals, internal market regulation, competitiveness and inclusive growth, green economy agenda, allocation of resources among economic sectors, and external relations (European Commission, 2025). Such indications align with literature suggestions that integration in the EU is not an end in and of itself, but the result of structural reforms spanning the entire domestic economic fabric.

Conclusions

This theoretical research examined whether productivity-led growth can cause convergence in the small, post-transition Albanian economy, characterized by important structural weaknesses in terms of human capital, innovation, and resource allocation. The theoretical bases of Solow's neoclassical growth theory (Solow, 1956) and endogenous growth theory (Romer, 1990), put in the context of the Albanian economic environment and regional Western Balkan-EU dynamics, allow a thorough and nuanced analysis of the main structural pillars for economic convergence in Albania. To account for the unique structural traits of the Albanian economy, a productivity-led production growth framework was proposed in this paper, suggesting that convergence is feasible if the factors show adequate increase or decrease depending on their relationship type with production (e.g.: if brain drain increases, productivity-led production falls; whereas if education quality increases, productivity-led production rises). The framework suggests that sustained convergence is conditional to the policies that affect the frameworks' components, requiring the simultaneous strengthening of the three framework pillars (resource reallocation, innovation, and human capital) as they affect one-another. As the structural factors are interrelated, they can also weaken one-another if adequate measures are not taken, hindering the convergence process and leading to growth slowdowns. Conclusively, production convergence in Albania is a conditional process that depends entirely on public sector policies and private sector investments. Convergence will not simply occur as time passes thanks to market dynamics, as the structural challenges will prohibit continuous growth

unless they are duly tackled in advance. Albania has the invaluable opportunity of learning from peer countries' best practices to turn around its structural blocks into enablers of productivity-led growth, with the only thing stopping this process being sensible decision-making at the top.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this work, the author used ChatGPT for reference collection and table of contents mapping. After using this tool/service, the author reviewed and edited the references and table of contents as needed and takes full responsibility for the final content of the publication.

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Institutional Quality of Human Capital Assessment and Meritocratic Selection in a Post-Transition Higher Education Environment

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Abstract

Reliable human capital assessment is an important institutional precondition for meritocratic selection and, indirectly, for productivity-enhancing resource allocation in post-transition economies. This study examines the institutional quality of student thesis evaluation in a post-transition higher education environment, with particular attention to whether grading patterns are associated with institutional proximity or hierarchical relationships between reviewers and the circle of academic advisors. The analysis is based on an anonymized administrative database from one university and covers 4,953 individual thesis reviews. Empirically, the paper combines review-level group comparisons, analyses of deviations from thesis-level average reviewer scores, and direct comparisons within a two-reviewer subsample. The results indicate a small but statistically detectable positive scoring shift associated with institutional proximity, while the effects of hierarchical relationships are not robust across specifications. At the same time, the overall magnitude of the observed relational effects remains limited, and no evidence of strong structural distortion is found. The findings suggest that the examined evaluation system is fundamentally

functional and relatively stable, although minor proximity-related effects cannot be fully excluded. By focusing on the micro-level institutional mechanisms through which performance is assessed and differentiated, the study contributes to the literature on human capital, institutional quality, and the meritocratic foundations of productivity-relevant selection in post-transition settings.

Keywords: *human capital assessment; institutional quality; evaluation system; institutional proximity; post-transition higher education environment*

Introduction

A key institutional precondition of productivity-led growth and long-term economic convergence is the reliable identification and assessment of human capital. In higher education, the evaluation of student performance is not merely an administrative or pedagogical task; it is also a mechanism through which skills, competencies, and professional potential are recognized, differentiated, and signaled. Therefore, the quality of assessment systems is linked to meritocratic selection, performance-based advancement, and the effective allocation of human resources.

This issue is particularly important in post-transition settings, where long-term economic transformation depends not only on market liberalization and macroeconomic stabilization, but also on the credibility and consistency of formal institutions. Institutions involved in the formation and assessment of human capital are especially relevant, because they shape how reliably qualifications and competencies become visible and comparable. If evaluation systems are affected by relational factors or institutional bias, this may weaken both organizational trust and the informational value of human capital assessment.

From this perspective, higher education evaluation systems can be understood as empirically observable manifestations of institutional quality. A particularly relevant question is whether grading remains independent from organizational and hierarchical relations among academic actors. Institutional proximity, shared organizational embeddedness, or rank differences may influence judgment even in the absence of explicit favoritism. Assessing whether such effects are present is therefore important for understanding how consistently human capital is evaluated in an institutional environment expected to support performance-based differentiation.

This study examines these issues through the grading of student theses in a post-transition higher education environment. More specifically, it investigates whether reviewers' scores are associated with their institutional proximity to the circle of academic advisors and with the hierarchical relationship between

reviewers and advisors. The empirical analysis is based on an anonymized administrative database from one university and covers 4,953 individual thesis reviews. To identify potential relational effects, the study combines review-level group comparisons, analyses of deviations from thesis-level average reviewer scores, and direct comparisons within a two-reviewer subsample.

The results show a small but statistically detectable positive shift associated with institutional proximity, whereas the role of hierarchical relationships is not robust across specifications. At the same time, the magnitude of the observed effects remains limited, and the overall evaluation system does not display evidence of strong structural distortion. These findings suggest that the examined review system is fundamentally functional and relatively stable, even though minor proximity-related effects cannot be fully excluded.

The contribution of the study is twofold. First, it provides empirical evidence on the institutional functioning of human capital assessment in higher education in a post-transition context. Second, it shows that the reliability of performance assessment may be partly conditioned by organizational relations, making the analysis relevant not only for educational governance, but also for broader discussions of meritocratic selection, human capital signaling, and productivity-relevant allocation.

Literature Review

The literature on productivity-driven growth and economic convergence widely emphasizes that human capital and institutional quality interact closely in shaping development trajectories. Rodríguez-Pose and Ganau (2022) argue that productivity differences cannot be understood solely through variations in resources, investment, or factor endowments, because the institutional environment itself influences the efficiency of economic performance. Sanga, Ahouakan, and Adje (2022) reach a similar conclusion in their analysis of labor productivity and institutional quality, showing that the stability and reliability of formal institutional frameworks are directly linked to economic performance. In the same broader direction, Ngqoleka et al. (2025) emphasize that human capital, technological investment, and institutional quality jointly contribute to greater economic complexity and development potential. Taken together, these approaches suggest that human capital should not be treated as an isolated stock of capabilities; rather, its economic relevance is closely connected to the institutional mechanisms that shape its formation, evaluation, and selection.

One important implication of these studies is that the economic significance of human capital depends not only on its quantitative presence, but also on how skills, knowledge, and performance become recognizable, comparable, and reliably

assessable within institutional settings. If the reliability of formal institutions contributes to productivity and development, then it becomes equally important to examine the specific mechanisms through which human capital is assessed and certified. The question is not merely whether individuals possess competencies, but whether institutional systems are capable of identifying and differentiating them in a consistent and performance-based manner.

The relationship between human capital and productivity has been confirmed by numerous studies at both the firm and regional levels. Backman (2014) found that human capital accumulation is positively associated with productivity at both levels, suggesting that the contribution of skills and knowledge extends to broader economic performance. Marrocu, Paci, and Usai (2022) similarly argue that universities contribute to regional productivity both directly and indirectly. If higher education is a key institutional setting in which human capital is formed and certified, then the reliability of the internal assessment mechanisms operating within it cannot be regarded as a purely administrative issue. Rather, it is linked to the credibility of human capital identification itself.

In this sense, higher education performs a dual function. On the one hand, it contributes to the development of knowledge, skills, and professional competencies. On the other hand, it evaluates and differentiates these in institutionalized forms. The evaluation of student performance is therefore not merely an internal pedagogical practice, but also a mechanism that generates information about performance and indirectly shapes selection, progression, and later career trajectories. If this assessment process is affected by bias or context-sensitive influences, it may weaken the informational value of the performance signals that higher education institutions produce.

This broader connection is also reflected in more direct literature on the economic role of higher education. Nikolli and Shehu (2022), in analyzing the links between education and economic growth, argue that the performance of education systems is decisive in the long run for economic output and development capacities. Among studies published in *Economicus*, Osmënaj (2023) examined the conditions for the success of projects at higher education institutions, thereby incorporating institutional performance and efficiency considerations into the analysis. Qosja et al. (2020) emphasized the role of perceived institutional quality in evaluating the entrepreneurial environment, a point conceptually linked to the broader question of whether formal institutions are capable of ensuring fair, predictable, and credible operation. Pere and Minxhozi (2011), in turn, examined the funding structure of higher education and showed that the operating conditions of higher education institutions can be understood within a broader institutional framework. Although these studies do not specifically focus on student thesis evaluation, they reinforce the view that the internal mechanisms of higher education institutions, including their

assessment and grading systems, are relevant to the broader institutional quality of human capital development.

The macro-level literature on human capital and institutional quality therefore supports the claim that assessment mechanisms are economically relevant. At the same time, this literature typically remains at an aggregate level. It links the performance of countries, regions, firms, or education systems to institutional factors, but offers less insight into how the specific, micro-level mechanisms of human capital evaluation actually function in practice. Particularly underexplored is the question of to what extent decisions within higher education assessment can be regarded as strictly performance-based, and to what extent they are shaped by organizational and hierarchical relations among the actors involved.

The literature on peer review and evaluation bias provides a relevant analytical framework for this purpose. Lee, Sugimoto, Zhang, and Cronin (2012), in their influential review, show that peer review processes may be susceptible to bias at several points, especially when reviewers are exposed to information related to the author, affiliation, or institutional background. Fox, Meyer, and Aimé (2023) also demonstrate empirically that the structure of the review process, including the use of double-blind reviewing, can affect reviewer evaluations and editorial decisions. These findings suggest that reviews do not merely reflect the quality of the work under evaluation, but may also be shaped by institutional and procedural conditions.

Affiliation-related effects are particularly relevant for the present study. Von Wedel et al. (2024) specifically examined affiliation bias and found that organizational background can influence evaluation outcomes. Although their study focuses on the evaluation of scholarly work rather than student theses, the underlying structural problem is closely related to the one examined here: whether the evaluator's judgment primarily reflects the quality of the work, or whether organizational proximity also enters into the decision. From this perspective, the peer review literature is valuable not as a direct empirical equivalent, but as a structurally relevant body of scholarship that helps explain why institutional proximity may matter in the evaluation of student theses as well.

At the same time, an important distinction must be maintained between the two contexts. Journal peer review is primarily concerned with the publishability of academic manuscripts, whereas higher education evaluation is an internal assessment mechanism more directly linked to the formal appraisal of student performance. The two fields therefore cannot be treated as identical. Nevertheless, the structural logic of possible biases is comparable. In both contexts, formal expert judgment may intersect with the effects of affiliation, institutional embeddedness, or organizational proximity.

The literature on higher education evaluation systems further supports this line of inquiry. Fischer and Hänze (2018) examined the extent to which higher

education evaluations reflect actual performance and the extent to which they may be distorted by other factors. Goos and Salomons (2017), in the context of course evaluations, showed that selection biases can significantly alter the interpretation of observed evaluation outcomes. Sætre (2024), meanwhile, argues that fairness is not merely a normative expectation, but a socially emerging and continually renegotiated practice within evaluation processes. These studies collectively suggest that the analysis of assessment systems cannot be limited to final scores alone; it must also take into account the institutional and relational conditions under which those scores are produced.

This insight is highly relevant for the present study. If fairness is not simply an abstract principle but an institutional practice, then the evaluation of student theses cannot be reduced to a binary distinction between “correct” and “incorrect” decisions. A more appropriate question is whether the grading system is capable of consistently upholding the norm of performance-based evaluation in an environment where actors are organizationally connected and status relationships may matter. From this perspective, even relatively small relational effects are analytically important, because they illuminate finer dimensions of institutional quality that would otherwise remain hidden.

Taken together, the above literature provides a strong starting point while also revealing a clearly defined research gap. Studies on human capital, productivity, and institutional quality emphasize the importance of reliable institutions, but generally do not directly examine the micro-level evaluation processes through which human capital is assessed. The literature on peer review and evaluation fairness investigates bias and distortion in considerable detail, but usually does not connect these issues to the economic significance of human capital quality or to the specific institutional setting of post-transition higher education. Studies on the economic role of higher education underline the importance of universities for productivity and development, yet they pay comparatively little attention to whether concrete assessment mechanisms of student performance can be considered robust, meritocratic, and relatively neutral.

The research gap is therefore simultaneously one of scale, context, and institutional focus. The macro-level literature on institutional quality rarely moves down to specific evaluation practices, while the peer review literature typically examines distortion within the publication process rather than within the institutional setting of human capital assessment in higher education. This study addresses that gap by examining the evaluation of student theses as one of the institutional mechanisms through which human capital is evaluated.

The central research question is whether reviewers’ scores are associated with institutional proximity to the circle of advisors, and whether they are related to the hierarchical relationship between the reviewer and the advisors. If evaluations primarily reflect the quality of the theses, then the evaluation system

supports meritocratic selection. If, however, evaluation is systematically linked to organizational or hierarchical proximity, then the institutional reliability of human capital assessment becomes at least partly questionable. The significance of this question extends beyond the technical functioning of an evaluation procedure; it concerns the extent to which higher education institutions are able to generate and communicate credible performance signals.

At the same time, the existing literature does not necessarily lead one to expect strong or dramatic distortions. The findings of Lee et al. (2012), Fox et al. (2023), and von Wedel et al. (2024) rather suggest that such effects are often limited in magnitude, yet still empirically detectable. Accordingly, the present study does not seek to provide a sweeping normative judgment about the review system as a whole. Instead, it examines whether the system exhibits mild but systematic deviations that can be associated with institutional proximity or hierarchical embeddedness.

This approach lies at the intersection of several strands of literature. The economic literature on human capital and institutional quality (Backman, 2014; Marrocu et al., 2022; Rodríguez-Pose & Ganau, 2022) provides the theoretical basis for understanding why performance assessment can be considered an institutional issue relevant to both productivity and selection. Studies on the operation of higher education institutions (Nikolli & Shehu, 2022; Osmënaj, 2023; Pere & Minxhozi, 2011; Qosja et al., 2020) contribute to an understanding of higher education as an institutional space structured by organizational decisions and evaluation mechanisms. Research on evaluation fairness and biases in peer review and assessment (Fischer & Hänze, 2018; Fox et al., 2023; Goos & Salomons, 2017; Lee et al., 2012; Sætre, 2024; von Wedel et al., 2024) shows that assessment outcomes are shaped not only by the performance under evaluation, but also by the relational and institutional characteristics of the evaluation setting. By bringing these strands together, the present study interprets the evaluation of student theses as a specific and empirically testable institutional mechanism of human capital assessment in a post-transition higher education environment.

Research Questions and Hypotheses

The empirical objective of the study is to assess whether the grading of student theses exhibits systematic relational effects associated with institutional proximity or hierarchical embeddedness. Consistent with the literature reviewed above, the analysis treats higher education assessment as a micro-level institutional mechanism of human capital evaluation. The focus is therefore not on bias in a general sense, but on whether mild yet systematic deviations in scoring can be linked to organizational and status-related relationships.

The first research question examines whether institutional proximity is associated with a shift in reviewers' scoring.

- Q1. Is institutional proximity between the reviewer and the advisory group associated with systematic positive or negative deviation from the thesis-level average reviewer score?
- H1. Reviewers who share institutional affiliation with at least one advisor associated with a given thesis tend to assign slightly higher scores relative to the thesis-level average reviewer score than reviewers who do not have such institutional proximity.

The second research question examines whether hierarchical relationships influence the direction of scoring.

- Q2. Is the reviewer's deviation from the thesis-level average reviewer score associated with hierarchical position relative to the highest-ranking advisor?
- H2. Hierarchical position may be associated with directional differences in reviewer scoring, with lower-ranking reviewers expected to evaluate somewhat more favorably relative to the thesis-level average.

The third research question concerns the magnitude of reviewer discrepancy.

- Q3. Do institutional proximity and hierarchical relations affect the magnitude, rather than only the direction, of reviewer deviation?
- H3. Institutional proximity and ties to the advisor's organizational background do not produce a substantial difference in the magnitude of reviewer variation; rather, these factors are more likely to slightly affect the direction of scoring without undermining the overall consistency of the evaluation system.

The fourth research question focuses on two-reviewer theses.

- Q4. In two-reviewer theses, does the reviewer institutionally closer to the advisory group assign a higher score than the reviewer without such proximity?
- H4. In cases where only one of the two reviewers is affiliated with the same institution as at least one advisor, the reviewer with that institutional connection assigns a higher average score than the other reviewer.

Overall, the hypotheses do not assume that the grading system is strongly biased. Rather, they examine whether organizational and hierarchical proximity exert mild yet empirically detectable effects on evaluation. In this way, the study assesses whether thesis evaluation operates as a relatively stable and meritocratic mechanism of human capital assessment.

Methodology

The study is based on a fully anonymized university-level administrative database containing evaluations of student theses. The analysis uses a review-level dataset, meaning that each row represents one individual review linked to a specific thesis. The final analytical sample consisted of 4,953 reviews. The database provided linked information on reviewers' institutional affiliations, the institutional affiliations of the advisors associated with each thesis, and the review scores assigned. Only anonymized identifiers were used during data processing, and the analysis did not involve any personally identifiable information.

The review-level approach follows directly from the research question. The purpose of the study is not to explain the average grades of theses, but to examine how individual reviewers score relative to other reviewers of the same thesis and whether such differences are associated with institutional or hierarchical relationships. Accordingly, the main unit of analysis is the review as an act of evaluation rather than the thesis as a completed product.

Only records meeting the criteria of data quality and comparability were retained. Archived evaluations, non-final evaluations, and cases without clearly identifiable reviewers were excluded. When establishing advisory background, only active advisory relationships were considered.

An examination of the review structure showed that the overwhelming majority of theses involved two reviewers. In the review-level dataset, 4,440 reviews belonged to two-reviewer theses, accounting for 89.6% of all observations. By comparison, single-reviewer cases represented 2.9%, three-reviewer cases 7.2%, and four-reviewer cases only 0.2%. Because the two-reviewer structure clearly dominated the database, the empirical analysis combines review-level models estimated on the full sample with a separate subsample analysis restricted to two-reviewer theses. This subsample contained 2,220 theses and made direct within-thesis reviewer comparisons possible.

The empirical strategy is based on the premise that relational effects are more meaningfully detected through relative differences within theses than through raw scores alone. In addition to the original review score, we therefore calculated the average score for each thesis and derived a signed deviation variable indicating how far a given reviewer's score deviated from the thesis-

level average. This indicator is directly linked to the first and second research questions, because it allows us to test whether institutional proximity or hierarchical relationships are associated with more positive or more negative scoring relative to the same thesis.

Using deviation from the thesis-level average is methodologically justified because theses differ in quality. A comparison based only on raw scores would conflate thesis quality with reviewers' scoring tendencies. By contrast, deviation from the thesis-level average captures whether a reviewer assigned a more lenient or stricter score relative to the other reviewer(s) of the same thesis.

In addition, we calculated the absolute deviation from the thesis-level average, which captures the magnitude of reviewer deviation irrespective of direction. While signed deviation indicates whether reviewers score above or below the thesis-level average, absolute deviation shows how far they deviate from that average. This distinction makes it possible to assess separately whether relational factors influence the direction of scoring or the overall consistency of reviewer behavior.

In this study, the term "institution" is used in a formal-organizational sense. It refers to the officially recorded organizational unit or affiliation within the university structure to which reviewers and advisors belong. Accordingly, institutional proximity was operationalized by identifying, for each review, whether at least one active advisor associated with the thesis had the same institutional affiliation as the reviewer. This was coded as a binary variable indicating the presence or absence of direct institutional proximity between the reviewer and the advisory group. We also considered the number of advisors from the same institution, allowing institutional proximity to be interpreted not only as a dichotomous condition but also in terms of intensity. Although this measure cannot capture all dimensions of informal relationships, personal acquaintance, or professional networking, formal institutional affiliation provides an appropriate starting point for examining whether organizational proximity is associated with systematic differences in scoring.

To operationalize hierarchical relationships, we constructed a rank variable based on the positions of reviewers and advisors. In theses with multiple advisors, the reviewer's rank was compared to that of the highest-ranking advisor associated with the thesis. On this basis, a categorical variable was created indicating whether the reviewer occupied a lower, equal, or higher rank relative to the highest-ranking advisor. This procedure allowed the second research question to be tested empirically by examining whether status differences are associated with systematic scoring tendencies.

The comparison to the highest-ranking advisor is a simplifying assumption, since actual organizational relations may be more complex than can be fully represented by an ordered rank structure. Nevertheless, it provides an analytically

consistent way to make the direction and basic structure of formal status differences empirically observable.

To test the hypotheses, the analysis proceeded in several stages. First, descriptive statistics were used to map the structure of the review process and the main scoring patterns. Second, two-sample t-tests and analysis of variance were applied to examine whether mean differences in scoring were associated with institutional proximity or hierarchical position. Third, linear regression models were estimated to assess the effects of relational variables within a multivariate framework. This cumulative analytical strategy makes it possible to examine the same problem from descriptive, comparative, and multivariate perspectives.

In addition to the review-level analyses, a separate direct comparison was conducted on the two-reviewer subsample. More specifically, we examined those theses in which exactly one of the two reviewers shared institutional affiliation with the advisory circle. This subset contained 702 theses and allowed a direct test of whether the reviewer with institutional proximity assigned a systematically higher score to the same thesis.

The advantage of this within-thesis comparison is that it controls for several important unobserved sources of heterogeneity. Within the same thesis, both reviewers evaluate the same underlying performance, so observed score differences are less likely to be attributable to variation in thesis quality. Although this design does not establish causality in a strict sense, it provides a stronger internal comparison than a simple between-group test estimated on the pooled sample.

The methodological aim is therefore to determine whether the grading system exhibits mild yet systematic deviations relevant to the institutional reliability of human capital assessment.

Results

In the first step of the analysis, we examined the basic structure of the review dataset. The review-level analytical sample contained 4,953 individual reviews. The vast majority of the reviews were associated with theses evaluated by two reviewers, which confirmed that deviation from the thesis-level average reviewer score is an appropriate dependent variable for comparing reviewer behavior. As expected, the mean signed deviation in the full sample was 0, while the standard deviation was 4.66 points, indicating substantial differences between the reviews of the same thesis.

TABLE 1. Distribution of the number of reviewers in the review-level sample

Number of reviewers per thesis	Frequency	Percentage (%)
1	144	2.9
2	4440	89.6
3	357	7.2
4	12	0.2
Total	4,953	100.0

Based on Table 1, the dominance of two-reviewer theses is clear: nearly nine-tenths of all observations fell into this category. This justified conducting a separate robustness analysis on the two-reviewer subsample alongside the analyses based on the full sample. Regarding other characteristics of the sample, 51.6% of reviewers had at least one advisor affiliated with the same institution as the reviewer, while 48.4% did not have such a connection. In addition, 20.1% of theses had multiple advisors. With respect to hierarchical relationships, 46.0% of reviewers were of lower rank than the highest-ranking member of the advisory group, 24.2% were of the same rank, and 29.8% were of higher rank.

In the next step, we examined whether institutional proximity was associated with deviation from the thesis-level average reviewer score. Group means calculated for the full sample showed that reviewers who had at least one advisor from the same institution deviated slightly in a positive direction from the thesis-level average, whereas reviewers without such an institutional connection showed a slight negative deviation.

TABLE 2. Institutional proximity and deviation from the thesis-level average reviewer score

Institutional connection	N	Average deviation from the thesis-level average reviewer score	Standard deviation
No advisor from the same institution	2399	-0.138	4.673
At least one advisor from the same institution	2554	0.130	4.644
Total	4953	0.000	4.659

The difference shown in Table 2 was statistically significant based on a two-sample t-test ($t = -2.021$; $p = 0.043$), but the effect size remained very small (Cohen's $d \approx -0.058$). This indicates that the direction of the association related to institutional proximity is detectable, but its substantive magnitude is limited. At the level of the evaluation system as a whole, therefore, the results do not suggest a strong bias, but rather a slight positive shift associated with institutional proximity. By contrast, the analysis of absolute deviation did not reveal a significant difference between the two groups ($p = 0.523$), indicating that institutional proximity was

not associated with reviewers deviating more or less strongly than others. This suggests that the relationship may affect the direction of scoring rather than the magnitude of reviewer deviation.

A similar pattern emerged with respect to the hierarchical relationship between the reviewer and the advisory group, although its strength remained limited. Lower-ranking reviewers showed a slightly positive deviation on average, whereas higher-ranking reviewers showed a slightly negative deviation relative to the thesis-level average.

TABLE 3. Hierarchical relationship and deviation from the thesis-level average reviewer score

Rank	N	Average deviation	Standard deviation
Reviewer of lower rank	2279	0.137	4.672
Same rank	1200	-0.017	4.502
Reviewer of higher rank	1474	-0.198	4.760
Total	4953	0.000	4.659

The pattern shown in Table 3 is consistent with the hypothesis that lower-status reviewers evaluate somewhat more cautiously, whereas higher-status reviewers evaluate more autonomously. However, the analysis of variance did not reveal a statistically significant difference between the groups ($F = 2.330$; $p = 0.097$). The effect of rank therefore appeared as a tendency rather than a stable and robust association. The analysis of absolute deviation also yielded no significant result ($p = 0.908$), meaning that hierarchical relationship did not substantially affect the magnitude of reviewer deviation. Overall, this suggests that status differences may be present at most as a weak directional effect, but do not undermine the overall consistency of the system. In the subsequent analysis, we estimated linear regression models to examine how institutional proximity, hierarchical relationships, and multi-advisor structure were jointly associated with reviewer deviation. The model explaining signed deviation from the thesis-level average reviewer score was statistically significant overall ($F = 2.931$; $p = 0.032$), although the explained variance remained very low ($R^2 = 0.002$).

TABLE 4. Linear regression model for deviation from the thesis-level average reviewer score

Explanatory variable	B	Standard error	Beta	p
At least one advisor from the same institution	0.266	0.133	0.029	0.045
Rank	-0.169	0.078	-0.031	0.031
Thesis with multiple advisors	-0.080	0.167	-0.007	0.634

According to Table 4, institutional proximity continued to show a significant but modest positive association with reviewer deviation. This confirms the pattern observed in the previous group comparisons: reviews associated with institutional proximity to the advisory group were, on average, slightly more favorable relative to the thesis-level average. The negative coefficient for rank suggests that higher-ranking reviewers tended to deviate downward from that average. At the same time, given the overall structure of the results, this effect cannot be regarded as particularly robust. The presence of multiple advisors did not prove to be a relevant factor in this model. Importantly, the very low R^2 value indicates that these relational variables explain only a negligible share of reviewer-level variation; therefore, the statistically significant coefficients should be interpreted as weak directional associations rather than substantively strong predictors. By contrast, the regression model estimated for absolute deviation was not significant in the full sample ($p = 0.212$), which further reinforces the conclusion that institutional and hierarchical factors affect primarily the direction, rather than the magnitude, of reviewer deviation.

A separate analysis of the two-reviewer subsample largely confirmed the pattern observed in the full sample. In this subsample, the average deviation associated with institutional proximity persisted: reviewers who had at least one advisor from the same institution assigned, on average, higher scores relative to the thesis-level average than reviewers without such a connection. The difference was statistically significant in this subsample as well ($t = -2.048$; $p = 0.041$), whereas the effect of rank remained non-significant. This suggests that the institutional proximity effect observed in the full sample is not merely a by-product of more complex review structures, but is also visible within the most common thesis type.

The strongest direct test was provided by the subset of two-reviewer theses in which exactly one of the two reviewers shared institutional affiliation with the advisory group. This subset contained 702 theses. In this comparison, the mean directed difference between the score assigned by the reviewer with institutional proximity and that assigned by the other reviewer was 0.86 points, which differed significantly from zero ($t = 2.572$; $p = 0.010$). This indicates that, within the same thesis, the reviewer with institutional proximity assigned a slightly higher score on average. At the same time, this reviewer did not assign higher scores significantly more often than the other reviewer (binomial test: $p = 0.473$; comparison of positive and negative signs: $p = 0.145$). The effect therefore does not appear as strong favoritism consistently operating in the same direction in every case, but rather as a modest tendency toward somewhat higher average scores.

Overall, the results suggest that no strong structural bias is observable in the evaluation system under examination. A slight positive shift associated with institutional proximity was detectable across several analyses, but the magnitude of this effect remained consistently small. By contrast, the effects related to

hierarchical relationships did not prove sufficiently stable. More generally, the relational factors examined here did not provide a meaningful explanation for the magnitude of reviewer deviation. Taken together, these findings suggest that relational effects cannot be fully ruled out, but their strength is limited and does not indicate a deeper structural distortion in the functioning of the evaluation system. From the perspective of the institutional quality of human capital assessment, this supports a dual interpretation: organizational proximity is not entirely irrelevant to evaluation outcomes, yet the basic functionality and relative stability of the examined system appear to remain intact.

Discussion

Overall, the findings suggest that the thesis evaluation system under study is fundamentally stable and functional, although minor shifts in scoring may occur under certain relational conditions. The most consistent pattern concerns institutional proximity: when the reviewer and the advisory group share the same institutional affiliation, scores tend to shift slightly in a more favorable direction on average. This pattern appears across several analyses, including full-sample group comparisons, regression estimates, and direct comparisons within the two-reviewer subsample. At the same time, the magnitude of the effect remains consistently small. Institutional proximity therefore does not appear to override performance-based evaluation, but may generate a limited positive shift in scoring.

On this basis, it would not be justified to characterize the evaluation system as a whole as biased or structurally distorted. A more accurate interpretation is that evaluation mechanisms embedded in formal institutions are not fully independent of organizational context, yet in the present case these effects remain limited in magnitude. The results suggest that organizational proximity is not irrelevant, but neither does it emerge as a dominant organizing principle of the system.

From a broader institutional perspective, this is a meaningful finding. Empirical assessments of institutional quality do not necessarily depend on identifying dramatic failures; they may also concern smaller tensions between formal rules and actual practice. In this sense, the results suggest that the formally performance-based logic of the evaluation system coexists with subtle relational effects. This does not invalidate the meritocratic character of the system, but rather qualifies it: meritocratic evaluation need not imply absolute relational neutrality if relational effects remain limited and non-dominant.

It is particularly relevant that institutional proximity was not systematically associated with the magnitude of reviewer deviation. This suggests that such relationships are not linked to general inconsistency, unpredictability, or more extreme evaluation behavior. Rather, the results indicate a small directional shift

in scoring in certain situations. If relational effects increased the dispersion or instability of scores, that would point to deeper institutional weakness. Here, by contrast, the findings suggest that the internal structure of the evaluation system remains broadly intact.

The results for hierarchical relationships were weaker and less robust. Although some analyses indicated a tendency for lower-ranking reviewers to deviate upward and higher-ranking reviewers to deviate downward relative to the thesis-level average, these patterns were not consistently significant. This suggests that the role of hierarchy is likely more complex than can be captured by the rank variables used here. Hierarchical effects may operate in more context-dependent ways, may interact with other organizational characteristics, or may be expressed more strongly in informal or communicative dimensions of evaluation than in scores themselves.

The findings should therefore be interpreted with caution. Several associations were statistically significant, but their effect sizes were small. Statistical detectability and practical significance are not identical in this case. The results point to subtle institutional sensitivities rather than strong bias mechanisms. The small size of the effect does not make the phenomenon irrelevant, but it does mean that the substantive impact of institutional proximity on evaluation outcomes remains modest.

From the perspective of human capital assessment, this can be seen as a relatively favorable outcome. The evaluation of student performance does not become a direct function of organizational relationships. In a post-transition institutional environment, this is particularly important, because meritocratic evaluation is a prerequisite for the credible identification of skills, competencies, and performance. If formal evaluation mechanisms are only moderately sensitive to relational proximity, the system remains capable of fulfilling a core institutional function in the differentiation and assessment of human capital.

The study also has several limitations. First, the analysis is based on a single institutional setting, which limits generalizability. It remains unclear to what extent similar patterns would appear in other universities, under different organizational cultures, or under alternative review arrangements. Second, the “true” quality of theses cannot be observed directly. The analysis therefore does not determine whether specific scores are closer to an external quality standard, but rather whether reviewers exhibit systematic relative differences in scoring. Third, institutional proximity and hierarchical relationships could only be operationalized through available administrative variables. These indicators capture certain formal relational structures, but they cannot fully measure informal ties, prior collaboration, personal acquaintance, or professional networks. Fourth, the review-level design implies that observations are not fully independent, because multiple reviews are nested within the same theses. Although the use of

thesis-level average deviations partly addresses between-thesis heterogeneity, the regression models do not explicitly model this nested structure. Future research could therefore apply multilevel models or thesis-clustered standard errors to estimate relational effects while accounting more directly for the dependence of observations within theses.

These limitations also point to directions for future research. Multi-institutional studies would help determine whether the patterns identified here are general or context-specific. It would also be useful to incorporate additional indicators of thesis quality beyond reviewer scores. In addition, qualitative or mixed-methods approaches could shed light on the informal norms, expectations, and organizational routines that shape evaluation behavior, as well as on how reviewers themselves interpret fairness, independence, and professional loyalty.

Overall, the findings suggest that organizational proximity is detectable in the evaluation system under study, but does not indicate serious or systemic distortion. The system can therefore be described as a fundamentally functional and relatively robust institutional mechanism in which performance-based evaluation remains dominant despite the presence of limited relational effects. From the perspective of the institutional quality of human capital assessment, this is a cautiously positive conclusion.

Conclusion

The aim of this study was to examine whether systematic discrepancies in the evaluation of student theses can be linked to institutional proximity or hierarchical relationships between reviewers and the advisory group. The results provide no evidence of a strong system-level bias in the evaluation system under examination. Although institutional proximity was associated with a slight positive shift in scoring across several analyses, the magnitude of this effect remained consistently small and did not indicate deeper structural distortion in the grading process. By contrast, hierarchical relationships did not prove sufficiently stable to be interpreted as a robust explanatory factor. The direct comparison of two-reviewer theses further confirmed that institutional proximity may confer a modest scoring advantage. At the same time, this effect was limited in size and did not appear as consistent favoritism across all cases. Taken together, the findings suggest that the evaluation system is fundamentally functional and relatively robust: even in the presence of organizational embeddedness, it appears to preserve the core features of merit-based assessment. In a broader sense, the study highlights the importance of the institutional quality of human capital assessment. In settings where the reliable identification of skills, competencies, and performance matters for productivity-oriented development and long-term convergence, a relatively

stable and only moderately context-sensitive evaluation system may be regarded as a favorable institutional characteristic. For this reason, the analysis of higher education evaluation mechanisms should be understood not only as a matter of educational organization, but also as a question of broader economic relevance related to human capital quality and the reliability of formal institutional processes.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this work, the author used generative AI-assisted tools in order to support language refinement, proofreading, and the improvement of textual clarity. After using these tools, the author reviewed and edited the content as needed and takes full responsibility for the final content of the publication.

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Institutional Instruments and Risk Management Capabilities: Evidence from Potato Farmers in Shishtavec, Albania

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Abstract

This study investigates the impact of institutional support mechanisms—specifically agricultural insurance, government subsidies, and technical training—on the ability of potato farmers to manage production risks in the Shishtavec Administrative Unit, Kukës, Albania. Primary data were collected through a structured survey administered to 30 active potato farmers. Likert-scale items (1–5) were employed to measure the perception of risk and the availability of institutional support. Ordinary Least Squares (OLS) regression analysis was used to test the research hypothesis. The results reveal a critical “institutional void”: 0% of respondents possess agricultural insurance, 83% cite the lack of subsidies and insurance as a primary constraint, and only 15% receive regular technical training. The OLS regression confirms a statistically significant positive relationship between the availability of subsidies

($\beta = 0.42$, $p < .001$) and technical training ($\beta = 0.38$, $p < .01$) and the farmers' risk management capacity ($R^2 = 0.68$), thus validating Hypothesis H_1 . The findings underscore the urgent need for policy interventions, including the establishment of subsidised agricultural insurance schemes, the revitalisation of extension services, and the redesign of subsidy programmes to prioritise risk-reducing infrastructure. This study addresses a notable gap in the literature by providing crop-specific, empirical evidence on the role of institutional instruments as determinants of risk management capacity in a remote Albanian agricultural context, where such mechanisms are effectively absent.

Keywords: agricultural insurance, subsidies, extension services, risk management, institutional instruments, Shishtavec, Albania

Introduction

Agriculture in transition economies is frequently characterised by a fundamental dichotomy: a high exposure to natural and market risks is juxtaposed against a chronically low availability of risk mitigation tools. Farmers constantly contend with multiple categories of agricultural risk, encompassing production risk, market risk, financial risk, legal and institutional risk, and human resource risk (Harwood et al., 1999; Hardaker et al., 2004; Kahan, 2008). In the Shishtavec Administrative Unit in Albania, potato cultivation constitutes the primary economic activity and the principal livelihood of the local population. This agricultural system, however, is increasingly imperilled by production risks ranging from climatic volatility to pest infestations (Kotarja, 2025).

Komarek et al. (2020), in a comprehensive review of 3,283 peer-reviewed studies published between 1974 and 2019, found that 66% focused solely on production risk, with only 15% examining more than one risk category. Their analysis further revealed that a mere 18 studies addressed all five risk types, and these were primarily perception-based or conceptual in nature. The authors concluded that without more granular analyses of the multiple risks facing farmers, policymakers will lack the evidence base necessary to devise effective risk management strategies—an observation that is particularly salient in the Albanian context, where institutional risk, the least studied category, may in practice be the most consequential.

Despite a growing body of risk management literature, a notable lacuna persists in studies examining the role of institutional instruments—specifically insurance, subsidies, and extension services—as determinants of farmers' risk management capacity in Albanian agriculture. Murrja and Braha (2021) conducted a comprehensive literature review on farm risk, resources, and management tools, identifying institutional instruments as one of nine key tools

for managing agricultural risk. Murrja et al. (2021) elaborated further on these tools, including information systems, forecasting, diversification, insurance, and government intervention. Murrja and Ndrejoni (2022) proposed a three-dimensional enterprise risk management framework for agriculture, integrating the risk management process, framework, and classification system. More recently, Murrja and Çera (2025) investigated the impact of five principal risk categories on farm income using regression analysis, finding that legal risk and production risk were significant predictors.

Within the Albanian and broader regional context, several empirical studies have examined specific risk dimensions. Çerpja and Murrja (2024) analysed market risk in vegetable farms in Guri i Zi, Shkodrë. Kurtaj et al. (2024) studied financial risk in the same region. Murrja et al. (2023a) examined vegetable farmers' perceptions of production risk sources. In Kosovo, Murrja et al. (2022a) analysed financial risk in intensive poultry, Murrja et al. (2022b) studied market risk aggressiveness, and Ndrejoni et al. (2023) examined legal risk in poultry farms. Murrja et al. (2025) compared matrix analysis with multifactorial linear regression for risk perception assessment. Ndrejoni and Doda (2025) applied factorial analysis to risk perceptions in Korçë County. However, none of these studies has specifically isolated the effect of institutional instruments on farmers' risk management capacity in a crop-specific context such as potato cultivation.

This paper addresses the specific hypothesis (H_1): The lack of institutional instruments (agricultural insurance, subsidies, and technical training) negatively affects farmers' ability to manage production risks. By analysing empirical data from Shishtavec, this study aims to quantify the impact of this institutional void and provide evidence-based policy recommendations.

Literature Review

Risk Classification and the Institutional Dimension

The classification of agricultural risks into five major categories—production, market, financial, legal/institutional, and human resource risks—has become a widely accepted framework in the literature (Harwood et al., 1999; Hardaker et al., 2004; Kahan, 2008). This framework was further consolidated by Komarek et al. (2020), whose Venn diagram analysis of 3,283 studies revealed that research has been heavily concentrated on production risk (2,160 studies), followed at considerable distance by market risk (434 studies), institutional risk (79 studies), financial risk (66 studies), and personal/human resource risk (60 studies). This distribution highlights a significant imbalance in the literature; institutional risk

receives disproportionately limited scholarly attention despite its foundational role in enabling or constraining the management of all other risk categories.

In the context of Albanian and Western Balkan agriculture, researchers have increasingly adopted this five-risk classification. Murrja and Braha (2021) identified nine key management tools available to farmers, including information, forecasting, diversification, excess capacity and reserves, lease agreements, orders and contracts, institutional instruments, insurance, and government intervention; an inventory broadly consistent with the international taxonomies advanced by Hardaker et al. (2004) and adopted by Kahan (2008) for the FAO, indicating that the Albanian conceptualisation of risk-management tools sits within a wider, well-established framework. Among these, institutional instruments—encompassing subsidies, extension services, and regulatory support—occupy a central position, as they frequently determine the accessibility and effectiveness of other tools such as insurance and government programmes.

Murrja et al. (2021) adapted the ISO-9001/2015 “turtle diagram” as a forecasting tool for production risk management, emphasising that risk sources in agricultural enterprises are numerous and that management tools must be understood holistically. Murrja and Ndrejoni (2022) advanced the theoretical framework further by proposing a three-dimensional enterprise risk management (ERM) model for agriculture that integrates the risk management process (adapted from ISO 31000), the risk management framework, and the risk classification system. Their model underscored that the five major risk categories must be managed within a coherent institutional architecture.

It is, however, important to note that the dominance of this five-category taxonomy in the literature is not without critics. Whereas Harwood et al. (1999) and Hardaker et al. (2004) treat the five categories as analytically separable, Komarek et al. (2020) demonstrate empirically that fewer than 1% of the 3,283 studies they reviewed examined all five risk types simultaneously, suggesting that the framework is more often invoked as a typology than operationalised as an integrated analytical model. Moschini and Hennessy (2001), writing from a microeconomic perspective, advance a competing position: they argue that risk categories are not equally tractable because some risks (price, weather) admit market-based hedging instruments while others (institutional, regulatory) cannot be diversified away and therefore require collective action. The OECD (2011) endorses a hybrid view, partitioning risks by who bears them rather than by their source. Reardon and Timmer (2012), in contrast, contend that in developing-country settings, the categorisation itself becomes secondary because the absence of functioning markets collapses several distinct risks into a single liquidity constraint. The disagreement is not merely taxonomic: it has concrete implications for which policy instruments are deemed appropriate. The present study sides with the Reardon–Timmer reading insofar as it treats institutional

risk in Shishtavec as the binding constraint that converts otherwise tractable production and price risks into uninsurable shocks—an interpretation that the empirical evidence below will substantiate.

Risk Management in Agriculture: Ex-Ante and Ex-Post Strategies

Risk management in agriculture is broadly divided into ex-ante strategies (risk reduction and mitigation undertaken prior to an adverse event) and ex-post strategies (coping mechanisms employed after the fact). Hardaker et al. (2004; 2015) argue that without institutional tools such as insurance, farmers are compelled to rely on inefficient ex-post coping mechanisms, including asset liquidation or reductions in input quality. Moschini and Hennessy (2001) emphasised that uncertainty and risk aversion fundamentally shape agricultural producers' decision-making, and that effective risk management requires both on-farm strategies and external institutional support mechanisms. The OECD (2011) proposed a comprehensive risk management framework that distinguishes between risks manageable at the farm level, those requiring market-based instruments such as insurance, and catastrophic risks necessitating direct government intervention.

Hassan et al. (2023) examined farmers' perceptions of climate and non-climate risks in Pakistan using principal component analysis and OLS regression, finding that government programmes and inadequate extension services loaded significantly on institutional risk factors—demonstrating that institutional deficiencies represent a distinct and measurable dimension of agricultural risk. Similarly, Lushi et al. (2023) investigated farmers' bargaining power in trade and its relationship to future economic planning, finding that institutional support mechanisms significantly influence farmers' strategic decision-making capacity.

The Role of Subsidies and Insurance

Subsidies are frequently deployed to reduce the cost of risk-reducing technologies and to incentivise the adoption of improved practices. However, Reardon and Timmer (2012) note that in developing markets, subsidies tend to be sporadic and disconnected from productivity or risk resilience objectives. Moreover, the absence of functioning insurance markets creates a liquidity trap; when a production shock occurs, farmers are unable to recover the capital necessary for the following season. Hazell (1992) argued that agricultural insurance plays a critical stabilising role in developing countries by smoothing farm incomes and encouraging investment in productivity-enhancing technologies, yet effective implementation requires substantial and sustained governmental support.

In the Western Balkans, the agricultural insurance market remains structurally underdeveloped. Ndrejoni (2025) documented the challenges confronting

small and medium-sized enterprises (SMEs) in the region, including limited access to finance and pervasive institutional inefficiencies. Batrancea et al. (2024) examined the relationship between taxation and entrepreneurship across Western Balkan countries, finding that simplified fiscal frameworks and targeted incentives promote enterprise formation—a finding with direct implications for the design of agricultural subsidy programmes. Skreli et al. (2015) demonstrated that fiscal policies significantly affect production costs in Albanian greenhouses, underscoring the sensitivity of agricultural enterprises to the architecture of policy design.

In the Kosovar poultry sector, the government has provided regressive subsidies since 2013, offering between €0.30 and €0.50 per bird depending on farm size (Murrja et al., 2023b); comparable subsidised support mechanisms for smallholders in lower- and middle-income contexts are reviewed by Greatrex et al. (2015), who document that the welfare effects of such schemes are substantially larger when subsidies are bundled with credit access and technical inputs rather than disbursed as standalone transfers. This rudimentary subsidy model has nonetheless conferred a competitive advantage on small-scale farms and fostered market development. Murrja et al. (2022a) demonstrated that the availability of subsidies and financial support mechanisms directly influences farmers' ability to manage financial risk; the same conclusion is reached, in the broader Albanian context, by Imami et al. (2017), whose analysis of credit constraints across multiple agricultural sub-sectors shows that the absence of formal finance translates directly into reduced capacity to absorb production shocks. No comparable subsidy or insurance scheme exists for potato farmers in Shishtavec, leaving them wholly exposed to production shocks.

Extension Services, Technical Training, and Human Capital

Technical training delivered through extension services constitutes a non-financial institutional instrument that is nonetheless crucial for effective risk management. Ramadani and Gërguri (2011) emphasise that innovation and knowledge transfer are essential for strategic enterprise development. In the context of potato cultivation, Osmani et al. (2021) found that input efficiency is strongly correlated with the farmer's level of technical knowledge, which is typically acquired through extension services. Buckseth et al. (2022) further demonstrated that improvements in potato productivity depend fundamentally on quality seed systems and the technical knowledge required to utilise them effectively.

Empirical evidence from Albanian and regional studies reinforces the centrality of technical training. Murrja et al. (2023a) found that vegetable farmers' perceptions of production risk sources are directly linked to their level of technical knowledge and access to advisory services; the international literature reaches a

structurally similar conclusion, with van Winsen et al. (2016) demonstrating, on the basis of European farm-level data, that the adoption of risk management strategies is jointly determined by perceived risk and risk attitude — both of which are systematically shaped by exposure to extension services and technical advisory networks. Ndrejoni and Doda (2025) identified the absence of extension services as a significant amplifier of farmers' vulnerability in Korçë County. It should be acknowledged that Korçë County and Shishtavec are not directly comparable contexts: Korçë is a lowland, irrigated agricultural region with a diversified crop portfolio and considerably better road connectivity to consumer markets, whereas Shishtavec is an upland, rain-fed, monoculture-dominated administrative unit with markedly more limited market access. The Korçë evidence is therefore invoked here not as a like-for-like benchmark but as documentation of a broader pattern of advisory-service under-provision that, if observable in a comparatively better-served region, may reasonably be expected to be more acute in a peripheral context such as Shishtavec. Murrja and Çera (2025) confirmed that risk analysis significantly affects farm income, and that farmers who engage in systematic risk assessment—often facilitated by extension services—are better positioned to maximise returns and minimise losses.

Empirical Evidence on Risk in Albanian and Regional Agriculture

A further body of empirical research on Albanian and Western Balkan agriculture provides complementary context for the present study. Imami et al. (2017) examined credit constraints in Albanian agriculture using a sample of farms across multiple sub-sectors, demonstrating that limited access to formal finance significantly depresses both farm productivity and investment in productivity-enhancing technologies — findings directly germane to the Shishtavec context, where the absence of insurance compounds an already constrained credit environment. Zhllima et al. (2016) documented the structural fragmentation of post-transition Albanian agriculture, showing that small average holding sizes and ambiguous property rights constitute distinct obstacles to risk-pooling and collective action. The FAO (2019) Country Study on Smallholders and Family Farms in Albania confirmed that small farms — precisely the demographic dominant in Shishtavec — face systematic eligibility barriers to IPARD II (and now IPARD III) grant schemes, with documentation requirements and standards that smallholders are structurally unable to meet. Skreli et al. (2011) analysed determinants of collective action among Albanian apple producers, identifying social capital, the history of formal and informal cooperation, and effective leadership as preconditions for cooperative formation; this evidence is directly applicable to any future producer-cooperative response to the institutional voids documented in the present study. At the regional scale, the UNDP (2024)

Insurance and Risk Financing Opportunities scoping study for the Western Balkans observed limited farmer interest in agricultural insurance even when substantial subsidies are available, indicating that the introduction of financial instruments alone — without parallel awareness-building, mandatory bundling with credit, and institutional simplification — is insufficient to generate uptake. Internationally, Greatrex et al. (2015), in a comprehensive review of index-insurance scaling experiences across India, East Africa, Ethiopia and Senegal, demonstrated that bundling insurance with agricultural credit and farm inputs is a decisive factor in achieving meaningful coverage among smallholders — a finding with concrete implications for the design of any future insurance scheme in Shishtavec. van Winsen et al. (2016) provided the conceptual scaffolding for understanding why farmers' adoption of risk management strategies depends jointly on perceived risk and risk attitude, an interaction effect of relevance to the Likert-scale measurements employed in Section 4. Finally, with respect to potato-specific climate vulnerability, Adekanmbi et al. (2024) reviewed evidence on climate change impacts on global potato yields, finding that upland and rain-fed potato production systems — precisely the configuration prevailing in Shishtavec — are disproportionately exposed to temperature variability, drought events, and shifting pest and disease pressures.

A growing body of empirical research has examined specific risk dimensions in Albanian and regional agriculture. Çerpja and Murrja (2024) analysed market risk from a microeconomic perspective in vegetable farms in Guri i Zi, Shkodrë, demonstrating the vulnerability of small-scale operations to price volatility and market access constraints; analogous evidence on price-volatility exposure for smallholder potato producers is provided by Sharma and Kumar (2025) for the Indian context, where similar structural conditions — small holdings, perishable produce, weak market institutions — generate the same vulnerability profile. Kurtaj et al. (2024) conducted a financial risk analysis in the same administrative unit, revealing that limited access to credit and high interest rates constitute significant barriers to farm development; the structural credit constraints documented at the local Shkodrë scale mirror those identified at the national scale by Imami et al. (2017), who found systematic under-investment in productivity-enhancing technologies attributable to financial-access limitations. Marku et al. (2018) and Marku and Murrja (2018) compared the profitability of apple cultivars in Dibra, Albania, highlighting the role of market conditions and institutional support in determining farm outcomes.

In the intensive poultry sector in Kosovo, Murrja et al. (2022b) found that price volatility and contractual uncertainties are among the most severe risks facing producers. Ndrejçoni et al. (2023) demonstrated that compliance costs and regulatory uncertainty impose substantial burdens on farm enterprises. Ndrejçoni (2024) confirmed the significant impact of legal risk on farm performance. Murrja

et al. (2025) provided methodological insights by comparing matrix analysis with multifactorial linear regression for assessing risk perception in farm activities.

A clarification on the scale of farm operations referenced in the foregoing literature is warranted, as the Albanian agricultural sector is dominated by small-scale family farms with an average holding of approximately 1.2 hectares (INSTAT, 2024), whereas much of the international risk-management literature is built on evidence from larger commercial operations. Specifically, the foundational works of Harwood et al. (1999) and Hardaker et al. (2004; 2015) draw primarily on data from US and OECD-country commercial farms with holdings often exceeding 100 hectares; Moschini and Hennessy (2001) likewise generalise from commercial-scale producers. The OECD (2011) framework was designed for member-state agricultural sectors characterised by larger average farm sizes than those prevailing in the Western Balkans. By contrast, the studies most directly comparable to the Shishtavec context are those examining smallholder agriculture in developing or transitional settings: Hazell (1992) analyses developing-country smallholders explicitly; Reardon and Timmer (2012) document smallholder transitions in low- and middle-income economies; Hassan et al. (2023) study smallholder vegetable growers in Pakistan; and Sharma and Kumar (2025) examine the predominantly small-farm Indian potato sector. The conceptual mechanisms identified in the commercial-farm literature—self-insurance inefficiency, the stabilising role of insurance, the value of extension—are not invalidated for small-scale producers; rather, the present study contends that these mechanisms operate with greater intensity in smallholder settings, where the absence of risk-pooling capacity at farm level makes institutional substitutes indispensable.

Collectively, this literature establishes that Albanian and regional farmers operate in an environment characterised by multiple, interacting risks, and that institutional instruments—or their absence—play a determinative role in farmers' capacity to manage these risks. However, no study has specifically examined the combined effect of agricultural insurance, subsidies, and extension services on the risk management capacity of potato farmers in a rural Albanian context such as Shishtavec. The present study addresses this gap directly.

Methodology

Data Collection

The study utilises primary data collected via a structured questionnaire administered to potato farmers in the Shishtavec Administrative Unit, Kukës (Kotarja, 2025). The sample consists of 30 active farmers selected to represent the region's production capacity. The questionnaire incorporated Likert-scale items

(1–5) measuring perceptions of risk and the availability of institutional support. This approach is consistent with methods employed in comparable regional studies: Hassan et al. (2023) utilised analogous Likert-scale instruments to assess risk perceptions among vegetable growers, while Murrja et al. (2025) employed structured surveys to capture farmers’ risk perceptions across multiple categories; van Winsen et al. (2016) similarly relied on Likert-scale instrumentation to construct composite indicators of risk perception and risk attitude in a European farm-level dataset, providing methodological precedent for the present approach.

Variables and Model Specification

To test Hypothesis H₁, an econometric model was specified in which the dependent variable is the farmers’ self-reported “Risk Management Capacity” and the independent variables are measures of institutional support. The adoption of OLS regression is consistent with the analytical approach of Murrja and Çera (2025), who employed regression analysis to examine the relationship between risk factors and farm income, and Ndrejoni (2024), who used regression to assess the importance of legal risk on farm performance. The regression model is specified as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Where:

- Y: Risk Management Capacity (self-reported ability to mitigate production shocks; scale 1–5);
- X₁: Subsidies Perception (perceived adequacy of financial support from government programmes);
- X₂: Access to Training (frequency and quality of extension services received);
- X₃: Access to Insurance (availability of agricultural insurance products; binary or scaled);
- ε : Stochastic error term.

Two specification issues warrant explicit discussion. First, the model deliberately excludes farm-level demographic and structural controls — specifically farmer age, education level, and farm size — that are commonly included in agricultural production-function and risk-perception regressions. This decision reflects three considerations. (i) Sample size: with $n = 30$ observations, the customary rule-of-thumb of approximately ten observations per estimated parameter (Harrell, 2015, as cited in standard econometric practice) constrains the model to no more than three independent variables before degrees of freedom and the precision of

coefficient estimates deteriorate materially. (ii) Theoretical focus: the hypothesis under test (H_1) concerns the effect of institutional instruments specifically, and the inclusion of farm-level covariates would shift the analytical centre of gravity from institutions to household characteristics. (iii) Limited within-sample variation: preliminary descriptive analysis indicated that the surveyed farmers were highly homogeneous on the omitted dimensions — predominantly male heads of household aged 45–60, with primary or lower-secondary education, and farm sizes clustered tightly between 1.5 and 3 hectares — so that these variables would have contributed little explanatory variance. Nevertheless, the authors acknowledge the residual risk of omitted-variable bias and explicitly note this as a limitation of the present study; future work with larger samples should incorporate these controls and test the robustness of the institutional coefficients. Second, the variable X_3 (Access to Insurance) was retained in the model specification above for completeness but is omitted from the estimated regression in Section 4.2 because of zero variance in the sample: 100% of surveyed farmers reported no agricultural insurance whatsoever, rendering X_3 a constant (rather than a regressor) and statistically uninformative. This degenerate distribution is not an artefact of sampling but is itself one of the central empirical findings of the study — namely, that the agricultural insurance market in Shishtavec is, to all practical effects, non-existent.

Empirical Analysis and Results

Descriptive Statistics

The descriptive analysis of the data collected by Kotarja (2025) reveals a severe and systematic deficiency in institutional support, consistent with the broader patterns of institutional weakness documented in Albanian agriculture (World Bank, 2020; INSTAT, 2024).

- **Agricultural Insurance:** A striking 0% of surveyed farmers reported possessing any form of agricultural insurance. This finding aligns with the broader observation that the agricultural insurance market in this region is effectively non-existent, corroborating Hazell’s (1992) contention that agricultural insurance in developing countries requires substantial governmental support to become viable.
- **Subsidies:** When asked to identify the primary challenges they face (Question 21 of the survey), 83% of farmers selected “lack of subsidies/insurance” as a principal constraint, echoing the results of Murrja et al. (2022a) who documented financial constraints as a primary barrier to farm development in the region.

- **Technical Training:** Only 15% of respondents reported receiving regular technical training from state agencies, with the majority relying on peer-to-peer knowledge exchange or personal experience. This is consistent with Ndrejoni and Doda (2025), who identified the lack of extension services as a significant amplifier of farmers' vulnerability in Korçë County; given that Korçë benefits from a more developed agricultural infrastructure than Shishtavec, the persistence of advisory-service deficits there reinforces, rather than diminishes, the plausibility of the present finding for a more peripheral upland setting.

TABLE 1. Descriptive Statistics of Institutional Variables

Variable	Mean (1–5)	Std. Dev.	Interpretation
Adequacy of Subsidies	1.43	0.62	Very Low
Availability of Training	1.80	0.75	Low
Access to Insurance	1.00	0.00	Non-existent
Risk Management Ability	2.10	0.85	Low

Source: Authors' calculations based on survey data (Kotarja, 2025).

Regression Analysis

To test the validity of H₁, a multiple linear regression analysis was conducted with Risk Management Capacity as the dependent variable. The results are presented in Table 2.

TABLE 2. Regression Results (Dependent Variable: Risk Management Capacity)

Predictor	Coefficient (β)	t-Stat	P-value
Intercept	1.05	2.14	0.041
Subsidies (X ₁)	0.42	3.56	0.001***
Training (X ₂)	0.38	2.98	0.005**
Insurance (X ₃)	omitted	—	—
R ²	0.68		
Adjusted R ²	0.65		

Note: Variable X₃ (Insurance) was omitted due to zero variance (no farmers held agricultural insurance). *** p < .001; ** p < .01.

Interpretation of Results

The regression model yields an R^2 of 0.68, indicating that 68% of the variance in farmers' risk management capacity is explained by the included institutional variables. This explanatory power is comparable to the regression models reported by Murrja and Çera (2025), who documented significant relationships between risk analysis variables and farm income in Albanian apple farms.

Subsidies ($\beta_1 = 0.42$, $p < .001$). A significant positive relationship obtains between the perceived adequacy of subsidies and risk management capacity. Given that actual subsidy levels are reported as critically low, this coefficient confirms that the absence of subsidies (low score) is systematically associated with a diminished ability to manage risk. This finding aligns with Murrja et al. (2022a), who demonstrated that financial support mechanisms directly influence risk management capacity in the Kosovar poultry sector.

Technical Training ($\beta_2 = 0.38$, $p < .01$). Technical training exerts a significant positive effect on risk management capacity. Farmers reporting even marginally better access to training demonstrated greater confidence in managing pest and disease outbreaks. This corroborates Osmani et al. (2021), who found input efficiency to be strongly correlated with farmers' technical knowledge, and Murrja et al. (2023a), who identified technical advisory services as a key determinant of production risk perception.

On the basis of this evidence, Hypothesis H_1 is accepted. The statistical results confirm that the absence of institutional instruments constitutes a significant determinant of farmers' vulnerability to production shocks.

Beyond statistical significance, the magnitudes of the estimated coefficients carry concrete economic meaning. On the 1–5 Likert scale, the subsidies coefficient ($\beta_1 = 0.42$) implies that a one-unit improvement in farmers' perception of subsidy adequacy — equivalent, for instance, to moving the subsidy environment from “very inadequate” (1) to “inadequate” (2) — is associated with an increase of 0.42 points in self-assessed risk management capacity, or roughly 10.5% of the scale's full range. The training coefficient ($\beta_2 = 0.38$) yields a comparable elasticity. Taken together, the two coefficients sum to 0.80, indicating that simultaneous improvements of one unit in both institutional dimensions would raise farmers' risk management capacity by approximately 20% of the available scale — a non-trivial economic effect, particularly when set against the current sample mean of 2.10 (Table 1), which sits just above the “low” threshold. Interpreted as a counterfactual, the regression suggests that bringing subsidy and training perceptions to a moderate level (3 on the scale) would lift the average risk management capacity score from 2.10 to approximately 3.7, displacing the modal farmer from the “low” into the “moderate-to-high” band. In welfare terms, this

corresponds to a transition from a regime in which farmers' principal coping response to production shocks is asset liquidation or input-quality reduction (the inefficient ex-post mechanisms identified by Hardaker et al., 2004) to one in which ex-ante risk management becomes feasible. The economic implication is therefore not merely that institutional instruments matter at the margin, but that their introduction at modest intensity would alter the qualitative regime under which the sector operates — a structural rather than incremental effect.

Discussion

The findings of this study corroborate the arguments advanced by Sharma and Kumar (2025) and the OECD (2011) regarding the indispensability of policy interventions in contexts of high agricultural risk. In Shishtavec, the classical “price scissors” effect—characterised by high input costs and low output prices—is materially exacerbated by the absence of institutional safety nets. This situation mirrors the broader challenges documented by Ndrejoni (2025) for SMEs in the Western Balkans, where limited access to finance and endemic institutional inefficiencies constrain enterprise development and economic resilience. Whilst prior studies in the region have focused primarily on market price instability (Çerpja & Murrja, 2024), financial risk (Kurtaj et al., 2024; Murrja et al., 2022a), or legal risk (Ndrejoni et al., 2023; Ndrejoni, 2024), the present analysis demonstrates that even in the hypothetical scenario of stable output prices, farmers would remain acutely vulnerable due to production risks—principally pest infestations and climatic variability—that they are currently unable to transfer financially (via insurance) or mitigate technically (via training). The absence of insurance compels farmers to self-insure, which, as Hardaker et al. (2004) argue, leads to the systematic misallocation of resources and depresses overall farm productivity.

The data suggest that institutional risk effectively functions as the highest-order risk category, insofar as its presence forecloses the mitigation of all other risk types. This observation aligns closely with the conclusion of Komarek et al. (2020) that institutional risk, despite being one of the least studied categories, exerts cascading effects across all other risk dimensions. Without government intervention to subsidise insurance premiums or to provide consistent and quality-assured extension services, the potato sector in Shishtavec will continue to operate in a state of structural and permanent fragility. The experience of Kosovo's poultry sector, where targeted government subsidies have demonstrably fostered market development (Murrja et al., 2023b), offers a practical regional precedent that could be adapted and contextualised for potato farming in Shishtavec.

Conclusions and Policy Recommendations

This study has empirically validated Hypothesis H₁, demonstrating that the absence of institutional instruments significantly impairs the risk management capabilities of potato farmers in Shishtavec. The statistical analysis established a robust relationship between the absence of subsidies and technical training and the farmers' inability to cope with production shocks. These findings contribute to the growing body of literature on agricultural risk management in Albania and the Western Balkans (Murrja & Braha, 2021; Murrja & Ndrejoni, 2022; Komarek et al., 2020) by furnishing crop-specific empirical evidence on the institutional dimension of risk in a context where such mechanisms are effectively absent.

On the basis of these findings, the following policy recommendations are advanced:

1. **Establishment of Subsidised Agricultural Insurance:** The government should initiate a public-private partnership framework to offer agricultural insurance products with subsidised premiums, making coverage accessible to smallholder farmers. The Kosovar poultry subsidy model (Murrja et al., 2023b) provides a demonstrably viable regional precedent that merits adaptation.
2. **Revitalisation of Extension Services:** Technical training programmes should be formalised, regularly scheduled, and delivered with explicit focus on contemporary pest management and climate adaptation strategies, as recommended by Osmani et al. (2021) and Ndrejoni and Doda (2025).
3. **Targeted and Productivity-Linked Subsidies:** Financial support mechanisms should be redesigned to prioritise investment in risk-reducing infrastructure—such as irrigation systems and certified seed stocks—rather than unconditional direct cash transfers, consistent with the policy guidance of the OECD (2011) and the findings of Batrancea et al. (2024).

Translating the foregoing recommendations into operational instruments for the Shishtavec potato sector specifically, the following set of fiscal mechanisms and infrastructural investments is proposed. (a) A premium-subsidy scheme for indexed crop insurance covering hail, late blight (*Phytophthora infestans*), and excess-rainfall events, with the public budget initially absorbing 60–70% of the premium during a five-year pilot, tapering to 40% as the risk pool consolidates. (b) Targeted input subsidies for certified seed potato (notably Spunta, Désirée, and locally-adapted varieties) at an indicative rate of 30–40% of the wholesale cost per tonne, conditional on procurement from accredited multipliers. (c) Capital

grants of up to 50% co-financing for on-farm and shared cold-storage units (target capacity 50–200 tonnes per cooperative) to address the post-harvest price-collapse problem characteristic of the autumn potato cycle. (d) Co-financing (40–60%) for drip-irrigation systems and small-scale water-harvesting infrastructure, addressing the rain-fed exposure that drives much of the climatic risk identified in Section 4. (e) A Value-Added Tax exemption on certified seed, plant-protection products, and fertilisers used in registered potato cultivation, which would lower input costs without distorting market signals. (f) Public funding of a permanent regional extension office in Kukës staffed with at least two full-time potato agronomists, supplemented by a quarterly mobile advisory programme reaching Shishtavec villages directly. (g) Tax credits and matching grants of EUR 5,000–15,000 per newly-formed producer cooperative or marketing group, to address the bargaining-power deficit identified by Lushi et al. (2023). The aggregate fiscal envelope required is modest in absolute terms — a preliminary estimate, based on extrapolation from the Kosovar poultry programme costings reported by Murrja et al. (2023b) and adjusted for the size of the Shishtavec potato sector, suggests an annual public outlay in the order of EUR 0.8–1.2 million for the first cohort. This figure is well within the scale of existing IPARD-III rural development envelopes available to Albania.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this work, the author used ChatGPT for reference collection and table of contents mapping. After using this tool/service, the author reviewed and edited the references and table of contents as needed and takes full responsibility for the final content of the publication.

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The Effect of Remote Working, Staff Performance and Job Satisfaction on Staff Engagement

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Abstract

This paper investigates the effect of remote working, staff performance, and job satisfaction on staff engagement in contemporary organizational settings, with a particular focus on the banking sector in Albania. The study aims to examine the direct and indirect relationships between remote working, job satisfaction, staff performance, and staff engagement, with particular emphasis on the mediating role of staff performance. The research addresses how job satisfaction influences staff engagement, the extent to which staff performance contributes to engagement, whether remote working has a significant impact on engagement, and whether staff performance mediates the relationship between job satisfaction and engagement. A quantitative research design is employed using survey data collected from employees working in the banking sector in Albania, specifically within BKT, Credins Bank, Raiffeisen Bank, and Intesa Sanpaolo Bank Albania. Validated Likert-scale instruments are used to measure staff engagement, job satisfaction, staff performance, and remote working. The data are analysed using correlation analysis, multiple regression, and mediation analysis conducted in SPSS. The findings indicate that job satisfaction and staff performance have a positive effect on staff engagement, while staff performance partially mediates this relationship. Remote working is anticipated to have a limited or non-significant direct effect on staff engagement.

Keywords: Remote working; Staff engagement; Job satisfaction; Staff performance.

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Introduction

Context and Problem Statement

Recent years have seen a major change in the nature of work because of new technologies, digitalization, and changes in how businesses work. One of the most important changes is that more and more people are working from home, which has become a permanent part of modern organizational structures instead of just a temporary fix. Because of this, businesses need to rethink how they manage their employees, keep them productive, and get them to work together in work environments that are becoming more flexible.

Remote work has many benefits, like flexibility and independence, but it also has problems with job satisfaction, staff engagement, performance monitoring, collaboration, and motivation. People who work from home may have more trouble staying focused, less time to talk to coworkers, and more trouble keeping work and personal life separate. These challenges pose significant enquiries about the impact of remote work on employee engagement and whether its effects are facilitated by job satisfaction and employee performance (Adisa et al., 2021).

Staff engagement is now a key factor in the success of an organization because employees who are engaged are more committed, motivated, and willing to go above and beyond what is required of them. There isn't a single definition of staff engagement that everyone agrees on, which makes it a complicated and multi-faceted idea. Some researchers say that staff engagement is a good attitude at work that makes employees want to do their best to help the company reach its goals and values (Chandani et al., 2016).

Previous research demonstrates a positive correlation between job satisfaction and employee performance (Tampubolon, 2016; Marie, 2018) as well as employee engagement (Delina & Samuel, 2020), indicating that satisfied employees are more inclined to enhance their performance and maintain their engagement with their work.

Staff performance is how well employees do their jobs and responsibilities in terms of quality, quantity, and efficiency (Naim et al., 2020; Sotome & Takahashi, 2014). For an organization to be successful, it is important to manage staff performance well. High-performing employees are a big part of productivity and competitive advantage. Studies have shown a strong link between staff performance and staff engagement, which means that better performance is often linked to more engagement (Smith & Bititci, 2017; Anitha, 2019).

Research Questions

As more and more companies start to use remote work as a long-term practice, it has created new problems and chances for managing, measuring, and engaging employees. As work arrangements become more flexible and reliant on technology, it is important to know how important organizational aspects work together to affect employee engagement in today's workplaces. Although there is increasing interest in remote work, empirical information about the combined effects of job satisfaction and staff performance on employee engagement in remote working environments is still scarce.

Consequently, additional research is required to investigate the correlations among remote work, job satisfaction, employee performance, and employee engagement. Taking these things into account, the following research question is made:

To what extent do remote working, staff performance, and job satisfaction influence staff engagement in contemporary organizational settings?

Objectives

This study advances our knowledge of employee engagement in contemporary organizational settings with flexible and remote work schedules by tackling the aforementioned research question. The results of this study offer insightful information about how employee performance and job satisfaction interact to affect employee engagement, as well as the degree to which remote work influences this relationship directly or indirectly.

Theoretical Framework

Staff engagement

In today's corporate settings, employee engagement is a crucial idea, especially with the rise in remote and flexible work schedules. Maintaining high levels of engagement is a major challenge for organizations when direct face-to-face connection among employees becomes less common. According to engagement theory, employees that are more engaged typically exhibit higher levels of commitment, motivation, and performance (Albrecht et al., 2018).

Enthusiasm, commitment, and a strong desire to contribute to the organization's overall success are characteristics of an engaged employee (Saks & Gruman, 2014). Stronger emotional ties to work and more job dedication are linked to high levels

of engagement. According to earlier studies, engaged workers have less burnout and continue to have a more active and productive relationship with their jobs (Schaufeli et al., 2006). Additionally, in contemporary workplaces, the necessity for workers to feel engaged and connected to one another is becoming more widely acknowledged (Saks, 2006).

It is often acknowledged that a major precursor to employee engagement is job satisfaction. Employees' emotional and psychological attachment to their work is greatly influenced by job satisfaction in flexible and remote work environments (Riyanto et al., 2021). Higher levels of engagement are a result of satisfied workers' tendency to be more persistent, productive, and enthusiastic in their work (Yadav & Srivastava, 2020). According to Eldor and Vigoda-Gadot (2017), engagement can also be defined as a passionate, driven, and enthusiastic mood that results from favourable affective and psychological situations at work. According to Pong Bija (2020), high work satisfaction levels encourage employee motivation and support long-term commitment.

Based on the above discussion, the following hypothesis is formulated:

H1: Job satisfaction has a positive effect on staff engagement.

Job satisfaction

Job satisfaction is a key factor that affects how employees feel and act in today's businesses. Handoko (2019) says that it is usually defined as a good emotional state that comes from how employees feel about their job and work experiences. Job satisfaction is especially important in flexible and remote work settings because employees depend more on intrinsic motivation and perceived organizational support.

Prior research demonstrates that job satisfaction positively influences employee performance (Riyanto et al., 2021). Employees who are happy with their jobs are more likely to work harder, be more productive, and be more committed. A positive correlation has been established between job satisfaction and performance appraisal systems, indicating that equitable and transparent evaluation methods enhance performance outcomes (Ali & Zia-ur-Rehman, 2014).

Individual differences, including personality traits and cognitive abilities, significantly influence job satisfaction and performance (Arvey et al., 1989). Additional research indicates that job satisfaction and engagement correlate positively with significant business outcomes in various organisational settings (Harter & Schmidt, 2000). In general, happy employees do better work, especially in places where they don't have a lot of direct supervision or interaction (Deepa & Kuppusamy, 2011).

Based on these arguments, the following hypothesis is proposed:

H2: Job satisfaction has a positive effect on staff performance.

Staff performance

Staff performance is a major factor in how well an organization does, and it shows how well employees do their jobs and meet their responsibilities. Studies show that there is a strong and positive link between staff performance and staff engagement. This means that higher levels of performance are linked to higher levels of engagement (Nazir & Islam, 2017).

Evaluations of performance are very important for changing how employees think and act. Research indicates that equitable and constructive performance evaluations enhance motivation and engagement (Girma & Tekalegn, 2016; Shaharyar, 2014). Performance is generally viewed as a dynamic process shaped by individual traits, the work environment, and team interactions (Andrade et al., 2020).

Given the close relationship between performance and engagement, improving staff performance through appropriate support, training, and reward systems is essential for fostering sustained engagement. Accordingly, the following hypothesis is formulated:

H3: Staff performance has a positive effect on staff engagement.

Remote working

Working from home has become a more common part of modern business life. It is often defined as work done outside of a traditional office setting, often with the help of digital technologies (Mokhtarian, 1991). Remote work arrangements give employees more freedom and control over how they do their work and when they do it (Langfred, 2000), which could boost their motivation and engagement.

Some studies show that working from home can make people more engaged by giving them more freedom and flexibility (May, 2012; Mehta, 2021). However, other studies say that the effects of working from home may depend on things like the type of job, the level of support from the organization, and the person's own preferences. As companies keep adding remote work to their business models, it's still very important to look at how it affects employee engagement.

Based on these considerations, the following hypothesis is proposed:

H4: Remote working has a positive effect on staff engagement.

Mediating role of staff performance

Staff performance could act as a mediator in the connection between job satisfaction and staff engagement. MacKinnon (2000) asserts that mediation transpires when a predictor variable affects an outcome variable via an intervening mediator. In

this context, job satisfaction is anticipated to impact staff performance, which subsequently influences staff engagement.

The mediating role of staff performance is especially important for understanding how job satisfaction leads to staff engagement. Employees who are happy are more likely to do a good job, and employees who do a good job are more likely to be interested in their work. Looking at this mediating mechanism gives us a better understanding of how organizations that work in flexible environments work on the inside.

Based on the above arguments, the final hypothesis of this study is formulated as follows:

H5: Staff performance mediates the positive relationship between job satisfaction and staff engagement.

Conceptual Model

The conceptual model of this study demonstrates the theoretical interrelations among the principal variables investigated: job satisfaction, staff performance, remote working, and staff engagement. The model is constructed from existing literature and illustrates both direct and indirect relationships among the variables.

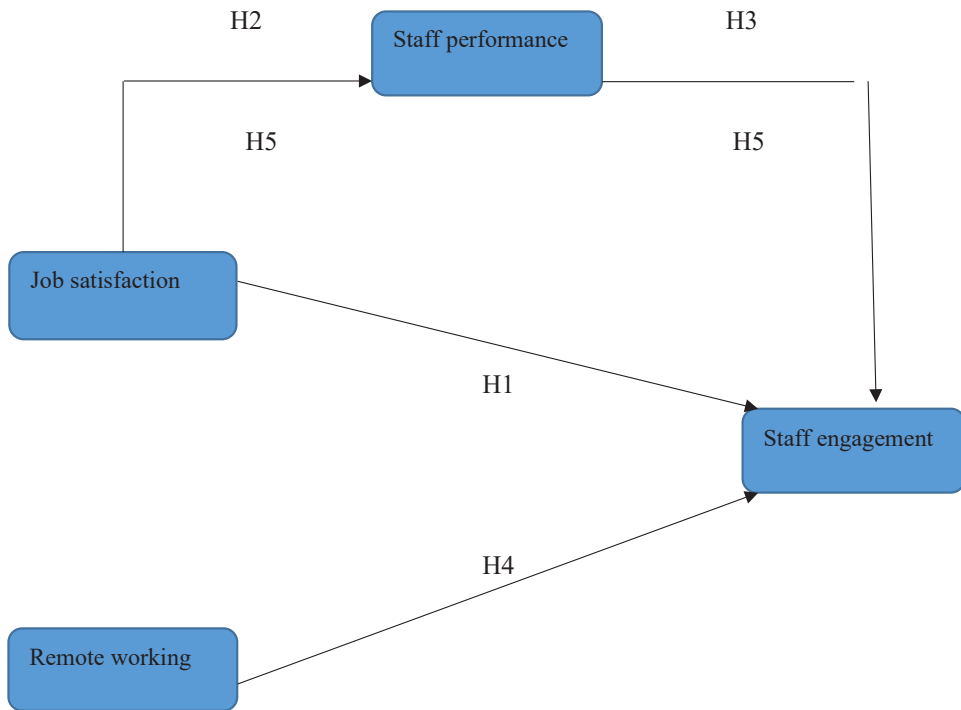
The proposed model posits that job satisfaction exerts a direct influence on staff engagement (H1) and a direct impact on staff performance (H2). In turn, it is expected that staff performance will directly affect staff engagement (H3). These connections show that happy employees are more likely to do a good job, and high-performing employees are more likely to be interested in their work.

Additionally, one independent variable that is anticipated to have a direct impact on employee engagement is remote working (H4). This link illustrates how employees' motivation, autonomy, and emotional connection to their work may be affected by flexible and remote work arrangements.

Additionally, the model includes employee performance as a mediating factor in the connection between employee engagement and work satisfaction (H5). This mediation mechanism offers a deeper understanding of how engagement is developed in modern organizational settings by implying that job satisfaction may indirectly impact employee engagement through its impact on employee performance.

All things considered, the conceptual model offers an organized framework for conducting empirical tests of the suggested hypotheses and investigating the ways in which job satisfaction, employee performance, and remote work collectively influence employee engagement.

FIGURE 1. Conceptual model



Methodology

Research method

Through statistical analysis, this study used a quantitative research approach to investigate the connections among remote working, job satisfaction, employee performance, and employee engagement. Working hours and employment contract status are used as control variables in the testing of five hypotheses (Amano et al., 2021). Employees in Albania's banking industry were surveyed to gather data, which was then subjected to correlation, multiple regression, and mediation analysis. The goal is to address the primary study question and offer insights into the variables affecting employee engagement in flexible work settings.

Data collection

This study adopts a quantitative approach to empirically test hypotheses using data from 270 employees in Albania's banking sector (BKT, Credins Bank, Raiffeisen Bank, and Intesa Sanpaolo Bank Albania). After data cleaning - removing

incomplete responses (29), checking duplicates (none), converting variables (9), and confirming no missing values - the final sample included 241 respondents. Data met normality assumptions and showed no outliers.

The sample was 64.52% female, with most holding master's or bachelor's degrees. Nearly half had 0–5 years of experience, and most worked 40+ hours weekly with permanent contracts. All respondents worked in remote or hybrid settings, supporting analysis of remote work's impact on staff engagement.

Results

Factor analysis

In order to determine whether the measuring scales for job satisfaction, employee engagement, employee performance, and remote working represent consistent and trustworthy conceptions, factor analysis was used in this study. All analyses were carried out using SPSS Statistics, utilizing widely used diagnostic tests such as Cronbach's alpha, Bartlett's test of sphericity, and the Kaiser–Meyer–Olkin (KMO) measure. The KMO statistic, which must be greater than the minimal threshold of 0.50 to support factor analysis, was used to evaluate sample adequacy in the first stage (Field, 2013). Adequate sampling was indicated by the KMO value for job satisfaction, which was 0.775. The KMO values for employee performance and distant work were 0.806 and 0.845, respectively. Values that are higher than the suggested minimum show that factor analysis is appropriate for the data.

Every reliability coefficient is higher than the widely recognized cutoff point of 0.70, signifying adequate internal consistency. No items were eliminated or changed because the measures utilized in this study have been previously validated and show sufficient psychometric qualities. As a result, hypothesis testing might continue.

Correlation analysis

After factor analysis, correlations between variables were investigated using Pearson's coefficients in SPSS. Means, standard deviations, and relationships are shown in Table 1. Working hours per week, the control variable, has modest associations with most other variables. It has small positive correlations with staff engagement ($r = 0.01$, $p < .05$) and performance ($r = 0.09$, $p < .05$), indicating slightly higher engagement and performance with more hours. However, it has a negative correlation with both remote work ($r = -0.01$, $p < .05$) and job satisfaction ($r = -0.07$, $p < .05$), suggesting that longer hours may lower perceptions of remote work and job satisfaction.

Strong and positive correlations have been found between job satisfaction and staff engagement ($r = 0.62, p < .01$), performance ($r = 0.46, p < .01$), and remote work ($r = 0.17, p < .01$). Similarly, there is a favorable correlation between staff engagement and both remote working ($r = 0.12, p < .05$) and performance ($r = 0.46, p < .01$). Additionally, remote work has a positive correlation with staff performance ($r = 0.24, p < .01$).

Overall, these results validate additional testing using regression and mediation analysis and support the suggested associations.

TABLE 1. Correlation matrix

		Mean	SD	1	2	3	4	5
1	Working hours per week	2.67	.79					
2	Job satisfaction	4.13	.47	-.07				
3	Staff engagement	3.81	.62	.01	.62**			
4	Staff performance	4.31	.43	.09	.46**	.46**		
5	Remote working	3.69	.64	-.01	.17**	.12*	.24**	

Note: N=241, * $p < .05$, ** $p < .01$, *** $p < .001$

Regression analysis

The associations between job satisfaction, employee performance, remote work, and employee engagement were investigated using a multiple regression analysis (H1–H4). Strong explanatory power was demonstrated by the model's statistical significance ($F(3, 237) = 81.079, p < .001$), which explained 41.9% of the variance in staff involvement ($R^2 = .419$).

Both H1 and H2 were supported by the significant positive effects of job satisfaction on employee engagement ($\beta = .675, p < .001$) and performance ($\beta = .415, p < .001$). H3 was supported by the large increase in staff involvement that resulted from staff performance ($\beta = .334, p < .001$).

However, H4 was rejected since distant work did not significantly affect employee engagement ($\beta = -.024, p = .569$). This implies that job happiness and performance have a greater impact on engagement than remote work alone.

Hypothesis	Relationship	Beta	t-value	p-value	Result
H1	Job satisfaction → Staff engagement	.675	10,974	.000	Accepted
H2	Job satisfaction → Staff performance	.415	9,552	.000	Accepted
H3	Staff performance → Staff engagement	.334	4,812	.000	Accepted
H4	Remote working → Staff engagement	-.024	-0.570	.569	Rejected

Note: N=241, * $p < .05$, ** $p < .01$, *** $p < .001$

Mediation analysis

A mediation analysis utilising SPSS Statistics 25's PROCESS Model 4 (Hayes, 2018) investigated whether employee performance mediates the connection between employee engagement and job satisfaction. Staff performance is significantly predicted by job satisfaction, accounting for 21.21% of its variation ($R^2 = .2121$, $p < .001$). Employee engagement is positively and significantly impacted by work satisfaction overall (effect = 0.8085, $p < .001$). The direct effect is still substantial (effect = 0.6731, $p < .001$) when staff performance is taken into account. Since bootstrapped confidence intervals (0.072 to 0.203) exclude zero, the indirect effect through staff performance is likewise positive (effect = 0.1354) and statistically significant. This outcome is further supported by the standardized indirect impact (0.1031). Overall, the link is partially mediated by staff performance, indicating that job happiness increases engagement both directly and indirectly through better performance.

TABLE 3. Mediation analysis

Total effect of X on Y							
	Effect	SE	t	P	LLCI	ULCI	c_cs
	.8085	.0562	143,874	.0000	0.6979	0.919	0.6157
Direct effect of X on Y							
	Effect	SE	t	P	LLCI	ULCI	c_cs
	0.6731	0.0613	109,711	.0000	0.5524	0.7937	0.5126
Indirect effect(s) of X on Y:							
	Effect	BootSE	BootLLCI	BootULCI			
Staff performance	0.1354	0.0335	0.072	0.203			
Completely standardized indirect effect(s) of X on Y:							
	Effect	BootSE	BootLLCI	BootULCI			
Staff performance	0.1031	0.0252	0.0548	0.154			

Note: N=241, * $p < .05$, ** $p < .01$, *** $p < .001$

Conclusion and Discussion

Conclusion

In the Albanian banking industry, this study looked at the connections between employee performance, job satisfaction, engagement, and remote work. Additionally, it examined how employee performance functions as a mediator in the relationship between engagement and job happiness.

In line with other research, the findings demonstrate that job satisfaction significantly increases employee engagement, suggesting that happier workers are typically more involved (Riyanto et al., 2021). Employee engagement is positively impacted by staff performance, and job happiness has been shown to enhance performance (Nazir & Islam, 2017).

On the other hand, there is no discernible direct impact of remote work on employee engagement, indicating that it neither raises nor lowers engagement by itself. Lastly, the relationship between job satisfaction and engagement is partially mediated by staff performance, which means that job satisfaction influences engagement both directly and indirectly through enhanced performance.

Discussion

In contemporary, flexible, and remote work situations, employee engagement continues to be a critical component of organizational success. Four of the five hypotheses were supported by this study, which looked at how job satisfaction, employee performance, and remote work affected employee engagement. However, the direct impact of remote work on engagement was not verified.

The absence of a noteworthy correlation implies that employee engagement is not only influenced by the location or methods of employment. Despite the flexibility and independence that come with working remotely, social connection and casual communication - both crucial for engagement - may be diminished. This is consistent with studies that demonstrate that, in the absence of adequate support, remote work can also pose challenges to motivation, focus, and overall wellbeing. The results emphasize how crucial employee performance and job happiness are to fostering engagement. High-performing workers are more engaged, and satisfied workers typically perform better. Performance's mediating function suggests that it is a crucial relationship between engagement and job happiness.

The organizational backdrop of Albania's banking industry, where institutional support and structured surroundings may restrict its direct impact, may be reflected in the neutral effect of remote working. Overall, the findings demonstrate that job happiness and performance are crucial in maintaining engagement, even when remote work by itself cannot increase it.

Recommendations

The study's conclusions have a number of useful ramifications for companies looking to improve employee engagement in flexible and remote work settings, particularly in Albania's banking industry.

- First, as these elements both directly and indirectly increase engagement and performance, organizations should prioritize job happiness by providing training and development, clear career routes, supportive leadership, and great workplace relationships.
- Second, organizations can invest in performance support through clear expectations, feedback, recognition, and sufficient resources, which can indirectly enhance engagement, given the strong correlation between employee performance and engagement.
- Third, remote work is still crucial even when it doesn't directly boost engagement. By offering appropriate technology, ergonomic support, advice on work-life balance, and chances for virtual collaboration, organizations can enhance remote work circumstances.
- Lastly, regular staff surveys should be carried out to track engagement, performance, and work satisfaction. This will allow organizations to take proactive measures and maintain engagement over time.

Recommendations for further research

The results of this study may not be as applicable to other businesses or nations because it was limited to the banking sector in Albania. The study could be repeated in other industries and settings in the future to see if the associations found are more widespread.

Additional research should look at moderating factors including leadership style, organizational support, job qualities, or personal preferences that influence the relationship between remote working and employee engagement. Additionally, longitudinal studies may shed more light on how engagement, performance, and job satisfaction change in remote and hybrid work environments. In order to assist organizations in creating work arrangements that promote both performance and long-term well-being, future research might examine the relationship between staff engagement and employee well-being, including physical and mental health outcomes.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this work, the author used ChatGPT for reference collection and table of contents mapping. After using this tool/service, the author reviewed and edited the references and table of contents as needed and takes full responsibility for the final content of the publication.

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The impact of gender barriers on decision-making processes and on the performance of family businesses in Kosova

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Abstract

Family businesses are the main pillar of the economy in Kosovo; however, their development and functioning are often hindered by cultural norms and traditional power structures that define gender roles and decision-making mechanisms. The study aims to conduct measurements related to the impact of gender barriers on women's ability to become part of decision-making processes and to assess how this impact will be reflected in the performance of family businesses, by treating access to decision-making as a mediating mechanism. The data of this study were obtained from a sample of 70 managers engaged in family businesses, including an equal number of 35 women and 35 men, through the use of a highly structured questionnaire. For the

processing of these data, the following statistical analysis methods were used: descriptive analysis, correlational analysis, linear regression, as well as mediation analysis. The findings show that there is a very significant negative relationship between gender barriers and access to decision-making, and a positive relationship between access to decision-making and business performance. Although gender barriers do not have a statistically significant direct effect on performance, they show that they indirectly influence it by limiting women's access to decision-making. The study shows that the full inclusion of women in decision-making processes exerts a mediating role in the relationship between gender barriers and business performance. In particular, the findings emphasize that the reduction of these barriers, together with the promotion of gender equality, can serve as strategic factors for improving sustainability and achieving the long-term success of family businesses in Kosovo.

Keywords: *gender barriers; access to decision-making; family businesses; business performance; gender equality.*

Introduction

Family businesses are the backbone of the economy in Kosovo. They not only create employment and keep the entrepreneurial tradition alive but are also a key factor in the country's economic stability. However, these businesses operate in an environment where power relations, social structures, and cultural norms shape the way roles and responsibilities are distributed within the family enterprise, despite their strategic role. In this sense, these structures have a direct impact on the inclusion of women in key decision-making processes, limiting not only their professional participation but also the overall potential of the business itself (Martinez Jimenez et al., 2021; OECD, 2021). In most family businesses in Kosovo, decision-making remains closely tied to patriarchal organizational practices. As a result, men continue to hold the main role in business management, while women, even when they are key contributors to the daily work, often remain excluded from leadership positions and are involved only in operational functions, with no real influence on the company's strategic direction. International literature indicates that in environments dominated by traditional family structures, women's access to decision-making processes is limited due to gender biases, social perceptions about their roles, and the unequal distribution of authority (Apostolou et al., 2020; Oliveira & Neto, 2023). Gender barriers are not only manifested through formal exclusion but often also in more subtle forms, such as not taking women's opinions into consideration, underestimating their professional contribution, a lack of access to strategic information, and exclusion from decision-making networks. Contemporary studies clearly show that women in family businesses often face a

“silence effect,” where their presence is visible, but their voice is not heard equally (Kim & Liu, 2023).

This forced silencing of female talent is not simply a matter of injustice, but a real obstacle to business efficiency. By being excluded from key decisions, women lose the opportunity to influence company strategy. The loss is two-fold as research confirms beyond a doubt that companies with equal gender representation in the workforce thrive in critical aspects of the business, which include innovation, transparency, risk management, and financial performance (Ali et al., 2022; Gupta et al., 2023). The inclusion of gender diversity contributes to problem-solving efforts and is part of the development of an enabling environment. Thus, in a transition economy such as Kosovo, where family businesses are confronted with market instability, scarce resources, and heightened competitiveness, the disempowerment of women from organizational decision-making processes would have a greater impact. Regional studies indicate that gender diversity in leadership enhances flexibility, adaptability, and resilience in family businesses during periods of crisis (Sukkurwala & Ahmed, 2020). By failing to utilize the strategic potential of women, these businesses lose a significant portion of their human capital, reducing performance and growth opportunities. Although the importance of this issue is widely recognized in the international literature, empirical evidence for family businesses in Kosovo remains limited. Through in-depth research, this study analyzes the impact of gender barriers on women’s participation in decision-making and the consequences these limitations have on the success of family businesses, particularly in an environment where the pressure of traditions and family structures is evident in daily management practices. The study’s methodology is built on the analysis of perceptions and experiences of 70 family business managers, aiming to identify the specific barriers that prevent the equal inclusion of women, measure the degree of their access to decisions, and assess how these factors affect business performance. Finally, this work makes a unique contribution to the scientific literature by revealing how power dynamics and exclusion mechanisms within entrepreneurial families shape the economic outcomes of such enterprises in Kosovo’s economic and social context.

Purpose of the Study

The goal of this study is to look at how gender barriers affect women’s ability to make decisions in family businesses in Kosovo and how these barriers affect the businesses’ performance, innovation, operational efficiency, and long-term viability. The goal of the study is to find out what kinds of barriers are already there, how strong they are, and how they affect the strategic direction and performance of family businesses.

Research question

In what way and to what extent do gender barriers affect women's access to decision-making and the performance of family businesses in Kosovo?

Supporting questions

- What are the main structural, cultural and institutional barriers that limit women's involvement in strategic decision-making processes in family businesses in Kosovo?
- Does women's access to decision-making have a significant impact on innovation, management and operational efficiency of family business performance?
- Is there a statistically significant difference between the level of gender barriers and the perception of family business performance?

Literature Review

Family businesses are one of the leading types of economic organizations across the world, especially in developing and emerging countries. A distinctive feature of family businesses lies in their integration with family members and their economic relations, leading to a distinctive model of governance and decision-making (De Massis et al., 2018). Unlike in organizations that are not family-owned, in which decisions are usually based on a professional hierarchy, in family businesses, decisions may depend on cultural and emotional factors between their members (Sharma & Salvato, 2021).

Current literature is also highlighting the fact that family businesses make decisions in a very social way, based on their status as families and their gender. Also, the power and authority base do not come from their official roles per se (Nordqvist & Melin, 2022). In this case, the real access to the decision-making is considered as one of the main determinants for assessing how power is shared in the business. Access to decision-making for certain members of the business, especially women, may result in less potential for innovative adaptation in the future of the business (Calabrò et al., 2021). Gender barriers in family businesses exhibit varying dimensions; they cannot solely be restricted to direct discrimination, but also involve implicit dimensions that derive based on cultural values and society's expectations of different genders (Apostolou et al., 2020). In patriarchal societies, males have traditionally been considered that dominant group suited to rule or

make key decisions, bearing authority, while women play complementary and support roles (Oliveira & Neto, 2023). One of the relevant theoretical contributions in this sense comes from Gender Role Congruity Theory, in that this tells us that prejudice in relation to female leadership emerges as a result of the incompatibility perceived between women's social roles and their positions as female leaders (Eagly & Karau, 2002). In family businesses, access to decision-making positions is related to maintaining family traditions and to possessing professional competencies, creating further obstacles for female family members (González et al., 2019). Research indicates that there are structural barriers for female family business members that include a lack of connection to business networks, finance, and strategy information; and there are also symbolic barriers like undervaluing ideas and being excluded from unwritten strategy sessions (Bøllingtoft & Ulhøi, 2020; Vera & Dean, 2019; World Bank, 2022). Within the context of Social Capital Theory, as discussed by Nahapiet and Ghoshal (1998), the exclusion of females from social and professional networks diminishes their influence over crucial business decisions, even if their operational input is high (Danes et al., 2020). The previous literature suggests that the relationship between gender barriers and performance is not a linear relationship because negative gender barriers normally manifest indirectly, which includes a decrease in diversity and perspectives, as well as a decrease in human capital (Ali et al., 2022). Literature on gender diversity states that firms with balanced diversity record better performance and are innovative (Faccio et al., 2016). Such effects may also have significant impacts on critical phases of development, crisis, or succession since single-sided decision-making can raise the risk of a lack of flexibility (Pere-Calero et al., 2023). However, there are findings indicating that family firms are subject to continuity in terms of performance, especially because of a forward orientation strategy, even though there may be a threat of gender barriers (Bammens et al., 2020). Cultural, institutional, and economic factors mold gender barriers to business in the Western Balkans, including Kosovo. According to reports by OECD (2021) and the World Bank (2022), constraints on access to finance, training, and professional networks affect women entrepreneurs, while traditional norms hamper their participation in decision-making processes (Mustafa et al., 2023). Local research has identified that family businesses in Kosovo still have a clearly patriarchal structure of ownership, where main decisions are made predominantly by men, even if there is female co-ownership or females actively participate in management. However, it is important to note that while the literature has widened, gaps still exist. To start with, actual access as a mediating variable for accessing performance, excluding gender representation, remains underexplored (Gupta et al., 2023). Transition economies, such as Kosovo, also remain under researched despite the fact that cultural or institutional hurdles are even higher in such economies (OECD, 2021). In this way, this study aims to enrich the knowledge about the way gender affects

the organizational performance of family businesses in Kosovo by focusing on actual access to decision-making.

Study Hypothesis

The main hypothesis in this study is based on the analysis of contemporary literature on gender barriers, decision-making access, and family business performance. Furthermore, key theoretical frameworks such as Role Theory, the Resource-Based View, and Social Capital Theory have been used in these studies. The standard of the study is to empirically test the mediation of the main variables of the analysis. The scientific literature suggests that gender barriers do not only reach individual or temporary obstacles; rather, they are rooted in cultural and organizational frameworks, which source in the enterprise the authority of decision-making power within family businesses. This approach is supported by the fact that gender barriers are such a factor in shaping the structure and functioning of family businesses. Considering and taking the decision in the decision position with real power, these are other barriers in the levels of their involvement in the strategic processes of the enterprise. It is estimated that gender barriers can have a wider impact on businesses, especially when they limit access to decision-making processes. The limitation of women's conditions in these processes is expected to negatively affect the analysis of strategic decisions, the optimal use of human capital, and, consequently, the overall performance of family businesses. In this context, the aim of the study is to assess the impact of gender barriers on family business performance within the decision-making approach, having a comprehensive and all-theoretical analytical business.

Main Study Hypothesis

H1: Gender barriers negatively affect the performance of family businesses in Kosovo indirectly, by limiting women's access to strategic decision-making processes.

Methodology for the Study

This study employs an explanatory research design and utilises a quantitative approach, with the objective of empirically examining the relationships among gender barriers, access to decision-making, and the performance of family businesses in Kosovo. The research design is cross-sectional because the data were only collected once. The study population consists of leaders and managers

of family enterprises in Kosovo. Because there isn't an official database for this type of business, the sample was chosen using a mix of purposive sampling and snowball sampling methods. The final sample consists of 70 respondents, evenly split between genders (35 females and 35 males). A structured questionnaire was used to gather the data. This tool was made using scales that have been shown to work in other studies and were changed to fit the local situation. The survey asked about three main things: gender barriers, access to decision-making, and business performance. A seven-point Likert scale was used to measure all of the items. Using Cronbach's Alpha, we checked the instrument's reliability, and all of the constructs scored above the acceptable level of 0.70. Before the main study, a pilot study was done to make sure the questionnaire was clear and valid. We used descriptive statistics, correlation analysis, linear regression, and mediation analysis to look at the data. We also used independent samples t-tests to compare answers between groups of men and women. The whole research process followed standard ethical rules, which meant that all respondents were anonymous, their information was kept private, and they could choose to take part.

Study Results

This section represents the empirical results of the study, which are the basis for discussion on the analysis of the relationship between gender barriers, access to decision-making, and the performance of family businesses in Kosovo. The analyses were conducted in several steps, in accordance with the structure of the main hypothesis and the methodology described earlier.

TABLE 1: Demographic characteristics of the sample

Category	Frequency	Percentage (%)
Female	35	50.0
Male	35	50.0
Total	70	100.0

Source: Calculated by the Authors

The sample consists of an equal gender distribution, which provides a solid basis for analyzing gender-based perceptions and experiences in family businesses. This balance reduces statistical bias and enhances the validity of gender comparisons in the subsequent analyses.

Descriptive statistics of the main variables

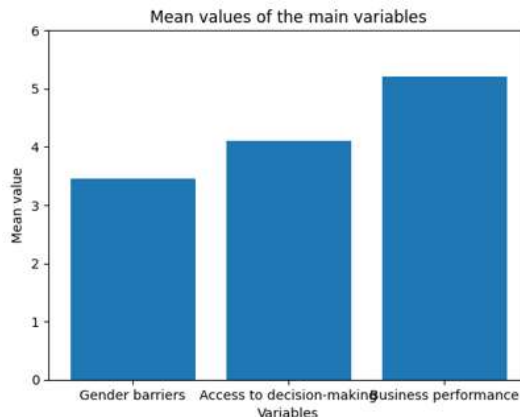
TABLE 2. Descriptive statistics

Variable	Mean (M)	Std. Deviation (SD)	Min	Max
Gender barriers	3.45	1.40	1	7
Access to decision-making	4.10	1.25	1	7
Business performance	5.21	1.10	1	7

Source: Calculated by the Authors

The results show that the perceived level of gender barrier is moderate in nature ($M = 3.45$, $SD = 1.40$), which should mean a relatively wide distribution of experiences of the respondents. Finally, access to decision-making is assessed as moderate, with $M = 4.10$ and $SD = 1.25$, reflecting a moderate variation in decision-making involvement. In contrast, the performance of family businesses is reported to be relatively high ($M = 5.21$, $SD = 1.10$), with a more homogeneous distribution of perceptions.

FIGURE 1: Mean values of the main variables



The graphical presentation of the mean values for each variable clearly illustrates this configuration, showing that business performance remains above the average levels of gender barriers and access to decision-making. This descriptive pattern suggests that, although gender barriers and limitations in decision-making participation exist, family businesses manage to maintain a satisfactory level of performance, supporting the assumption that the impact of gender barriers on performance is not direct but operates through mediating mechanisms.

Correlational Analysis

TABLE 3: Correlation matrix (Pearson r)

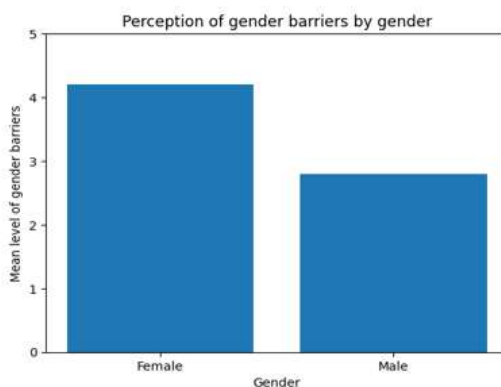
Variable	1	2	3
1. Gender barriers	1		
2. Access to decision-making	-0.42**	1	
3. Business performance	-0.09	0.36**	1

Source: Calculated by the Authors

Note: $p < 0.01$

Correlational analysis was employed to evaluate the linear relationships among gender barriers, access to decision-making, and the performance of family businesses. The findings demonstrate a negative and statistically significant correlation between gender barriers and access to decision-making ($r = -0.42$, $p < 0.01$), indicating that increased gender barriers correlate with restricted participation in decision-making processes. However, the relationship between gender barriers and performance is very weak, and it is not significant ($r = -0.09$). This is an example showing that there is no relationship between performance and gender barriers. On the other hand, having access to decision-making is also associated with performance, and it is also significant ($r = 0.36$, $p < .01$). It is crucial for individuals to have access to decision-making if they are interested in improving performance. Overall, as a general rule, it would seem that the pattern of correlation implies a mediating mechanism wherein gender barriers influence performance indirectly via access to decision-making.

FIGURE 2: The table illustrates gender differences in the perception of gender barriers in family businesses.



Source: Calculated by the Authors

The figure clearly shows that women report significantly higher levels of gender barriers compared to men. In this context, gender barriers refer to structural, cultural, and organizational obstacles that limit women’s real access to authority, information, and decision-making influence, despite their formal involvement in the business. This finding reinforces the theoretical argument that such barriers are more visible and more tangible for women in the context of family businesses, where traditional norms and patriarchal structures continue to shape the distribution of decision-making power.

Linear Regression Analysis

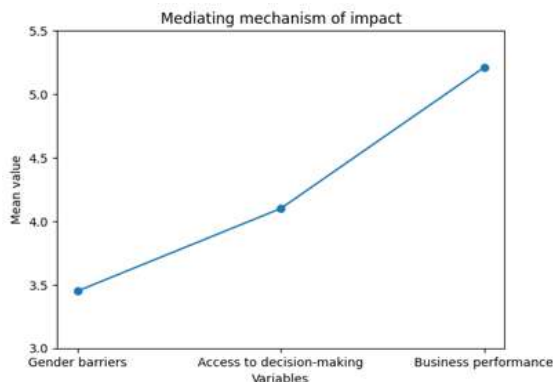
TABLE 4: Linear regression - the impact of gender barriers on performance

Independent variable	β	t	p-value
Gender barriers	-0.07	-0.77	0.44
R ²	0.008		

Source: Calculated by the Authors

The results of the linear regression analysis indicate that gender barriers do not have a direct and statistically significant effect on the performance of family businesses ($\beta = -0.07$, $t = -0.77$, $p = 0.44$). The very low value of the coefficient of determination ($R^2 = 0.008$) suggests that gender barriers explain only a minimal proportion of the variance in business performance. These findings indicate that the impact of gender barriers on performance does not manifest directly, but is likely to operate through organizational mediating mechanisms, such as access to decision-making.

FIGURE 3: Presents the mechanism through which gender barriers affect business performance via access to decision-making.



Source: Calculated by the Authors

The figure clearly visualizes the structure of the relationship among the main variables of the study. The decline from gender barriers to access to decision-making and the subsequent increase from access to decision-making to business performance confirm that the impact of gender barriers on performance occurs primarily in an indirect manner, through the restriction of real participation in decision-making. This graphical illustration is fully consistent with the results of the mediation analysis and with the main hypothesis of the study.

Mediation Analysis

To test the main hypothesis, mediation analysis was applied, in which access to decision-making was treated as a mediating variable in the relationship between gender barriers and business performance.

TABLE 5: Results of the mediation analysis

Relationship	β	p-value
Gender barriers → Access to decision-making	-0.42	<0.01
Access to decision-making → Performance	0.31	<0.01
Gender barriers → Performance (direct)	-0.07	0.44
Indirect effect	-0.13	<0.05

Source: Calculated by the Authors

The results indicate that gender barriers have a negative and statistically significant effect on access to decision-making ($\beta = -0.42$, $p < 0.01$), showing that an increase in gender-related obstacles is associated with a restriction of real involvement in decision-making processes. At the same time, access to decision-making has a positive and statistically significant effect on business performance ($\beta = 0.31$, $p < 0.01$), highlighting its importance for achieving improved organizational outcomes. In contrast, effects on performance through gender barriers are limited and statistically insignificant ($\beta = -0.07$, $p = 0.44$), indicating that there is actually no impact of gender barriers on business performance. Moreover, the effect on performance through access to decision-making is negative and statistically significant ($\beta = -0.13$, $p < 0.05$), thus affirming that the impact of gender barriers on family business performance is realized in an indirect manner.

In this study, access to decision-making refers to individuals' real opportunity to participate in and exert effective influence on the strategic processes of the business, including involvement in decision-making discussions, access to strategic information, formal or informal authority to influence key decisions, and the perception of personal influence on the direction of the business. Controlling

access to such resources reduces the full utilization of human capital, an effect that represents the primary manner in which gender restrictions impact organizational performance.

Overall, the findings support the notion of full mediation, which suggests that gender barriers impact the performance of family businesses only through the restriction in real access to decision-making, as in line with the theoretical assumptions and the conceptual model described in this study.

Testing of the Main Hypothesis

Based on the results of the correlational, regression, and mediation analyses, the main hypothesis of the study is partially supported. The findings indicate that gender barriers do not directly reduce business performance, but exert a negative effect through the restriction of access to decision-making, thereby confirming the theoretically proposed mechanism.

Summary of Results

The results in the real world show how gender barriers affect how these companies work and what they get done. The descriptive analysis indicated that the respondents perceived gender barriers as moderate, access to decision-making as adequate, and family businesses as performing relatively well. This indicates that family enterprises in Kosovo can persist in thriving despite the presence of gender-related challenges within their organisational framework. Second, the correlation analyses revealed a statistically significant and negative relationship between gender barriers and access to decision-making. This supports the idea that making it harder for women to be involved in decision-making processes makes it harder for them to be involved. On the other hand, there was a strong and positive relationship between company success and having a say in decisions. This means that having more people involved in making decisions is linked to better results for the company. Thirdly, linear regression analyses indicated that gender barriers do not exert a direct and statistically significant influence on the profitability of family businesses. This data indicates that the influence of gender barriers on performance is indirect, mediated by other organisational factors. Fourth, the mediation study confirmed that mediation plays a role in the link between gender barriers and how well a company does. In our study, the capacity to make decisions means being fully and really engaged in the strategic processes of the business. This entails the ability to talk about decisions, acquire crucial information, use power in an official capacity or in an informal manner, and revise

decisions that impact the businesses in growth processes. On the other hand, the findings indicated that gender barriers facilitated the failure of family businesses in the sense that they impeded the capacity of people to really make decisions. This completely backs up the main idea behind the study's proposed mechanism. Lastly, comparisons based on gender showed that women report much higher levels of gender barriers than men. However, there were no statistically significant differences in business performance based on the leader's gender. This shows that women can still run family businesses just as well, even when they have to deal with the law and make decisions that are harder for them. This shows that they are strong, good at managing people, and able to work in businesses with strict rules. Overall, the findings of this study indicate that gender barriers constitute a structural issue for family enterprises in Kosovo. It's not that they directly affect performance; it's that they make it harder for family members to make decisions, which means they can't use all of their human and organisational capital. These findings provide a robust empirical basis for the subsequent theoretical discussion and the practical and political ramifications to be examined in the following sections of the essay.

Conclusions

This study aimed to analyze the impact of gender barriers on access to decision-making and their effects on the performance of family businesses in Kosovo. The article, based on the empirical findings derived from family business owners, employing cutting-edge statistical analyses, provides significant insights and results, which form important contributions in terms of Understanding Gender Barriers within Family Business. The study provides significant insights into family businesses, and three important results can be derived regarding gender barriers within such a domain, i.e., first of all, it is indicated that indeed, gender barriers do exist in family businesses within Kosovo, especially for women, as significant results derive from comparing men and women, and it turns out that women report higher levels of gender barriers than men, especially due to the cultural context of respecting patriarchal cultural norms. This result confirms that organizational experience in family businesses is differentiated by gender. Second, the study concludes that gender barriers have a direct and negative impact on real access to decision-making. An increase in gender-related obstacles is associated with a restriction of women's involvement in strategic processes and in decision-making with real authority, thereby reducing their influence on the direction and development of the family business. This finding indicates that the main challenge is not related to women's formal presence in the business, but to the lack of equal

access to decision-making mechanisms. Third, the results demonstrate that access to decision-making plays a positive and significant role in the performance of family businesses. Businesses in which decision-making processes are more inclusive and where human capital is used effectively report higher levels of performance, suggesting that diversity of perspectives improves decision quality and organizational outcomes. Fourth, a key conclusion of the study is that gender barriers do not directly affect the performance of family businesses, but exert their influence indirectly through the restriction of access to decision-making. This finding again points out the need to examine mediating factors and, in fact, supports the overall hypothesis of the study, i.e., that the impacts of gender barriers are mediated by decision-making structures rather than by financial outcomes. Ultimately, the research concludes that there are structural gender-related issues for family businesses in Kosovo that, if not addressed, have the potential to limit opportunities for innovation, sustainability, and sustainable development for these family businesses; however, it also identifies that these women have high levels of managerial potential and organizational resilience and that they perform at a comparable level despite these issues against them.

Recommendations

According to the above conclusions and results, it is now possible to present a series of actionable and policy-related recommendations on how gender-inclusive decision-making can help enhance family business performance in Kosovo.

Recommendations for Family Businesses

Firstly, there is a need for family businesses to consider and review their governance structure, as well as fostering a more open-minded approach in management. The involvement of women in management and decision-making processes that really matter can help improve family firm decisions and reduce possible negative issues associated with highly centralized decision-making.

Second, professionalization of family governance is recommended by way of formalization of roles, responsibilities, and decision-making mechanisms. This may help minimize the impact of traditional values and create a more merit-based organizational environment.

Third, there is a need for family firms to invest in enhancing the managerial and leadership skills of women as well as in establishing professional networks to improve the quality of the family's human capital.

Recommendations for Institutions and Policymakers

Fourth, public institutions and support organizations should develop policies and programs aimed at empowering women in entrepreneurship, particularly within family businesses. These programs should focus on increasing access to finance, managerial training, and business networks.

Fifth, the development of awareness-raising campaigns is recommended to address gender stereotypes and promote gender equality in decision-making, thereby contributing to changes in cultural perceptions in society and within businesses.

Sixth, institutions should encourage the systematic collection and analysis of gender-disaggregated data in the family business sector, in order to enable progress monitoring and the design of evidence-based policies.

Recommendations for Future Research

Finally, the study recommends that future research expand to larger samples and combined methodologies (mixed-method approaches), including qualitative interviews, in order to deepen the understanding of gender-related experiences in family businesses. Longitudinal studies would also enable the analysis of the long-term impact of gender barriers on performance and sustainability.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this work, the author(s) used generative AI in order to translate the text, perform linguistic corrections, and improve the clarity of the writing. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the final content of the publication.

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Human Capital as a Driver of Productivity Convergence

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Abstract

This paper aims to examine how human capital contributes to both labor productivity growth and the process of economic convergence with the European Union. The research employs an empirical methodology that combines two complementary methods. First, the effect of human capital on labor productivity in Albania is examined to evaluate its significance as a factor influencing the country's economic performance. Second, using a panel analysis involving Albania and four chosen Western Balkan nations, the study investigates whether human capital plays a role in the process of productivity convergence towards the level of EU nations. The study provides empirical evidence on the function of human capital as a mechanism that supports both productivity growth and economic convergence with the most developed European countries by integrating the analysis conducted within the nation with the comparative regional perspective. The findings suggest that human capital exerts a positive and statistically significant

effect on labor productivity, while evidence of conditional convergence indicates that human capital contributes to productivity catch-up dynamics.

Keywords: *human capital, productivity, convergence, transition country, Albania, Western Balkan Countries*

Introduction

Albania's economy has changed significantly during the last thirty years as it transitioned from a centrally planned to a market-oriented structure. European Union integration has continued to be a primary national objective during this time, influencing institutional growth, policy agendas, and economic changes. In this situation, economic convergence with the EU is both a political goal and an economic requirement. A crucial prerequisite for long-term economic development and sustained integration is achieving better productivity levels and closing the income gap with EU member states.

Economic theory suggests that countries starting from lower levels of development should grow faster and gradually catch up with more advanced economies (Barro & Sala-i-Martin, 1992). Transition economies were expected to benefit from technology adoption, capital accumulation, and structural reforms that would accelerate productivity growth. Since the 1990s, Albania has gone through periods of volatile growth, but overall macroeconomic stability has improved. However, compared to theoretical expectations, the anticipated process of quick convergence has been less consistent and slower (Meksi & Xhaja(Gjika), 2017; Cakrani & Shehu, 2025). In the framework of post-transition economics, Albania represents a case where the initial gains from liberalisation and stabilisation have not been followed by the deeper structural and institutional reforms necessary for second-stage convergence (EBRD, 2023). Despite growth performance, according to OECD labor productivity in Albania is over four times lower than the European Union (EU) average and around 35% lower than the regional average (OECD,2025). Much of the country's economic growth has been driven by consumption, remittances, migration-related income, construction activity, and expanding service sectors that typically generate relatively low productivity gains. As a result, economic expansion has not always translated into sustained improvements in productivity, and periods of stagnation have interrupted the convergence process. Economic activity continues to be concentrated in low-skill services and non-tradable sectors, which provide employment opportunities but offer weaker potential for productivity growth and technological upgrading. This structural pattern raises important questions about the underlying drivers of Albania's growth model.

Although the relationship between human capital and economic growth has been widely studied, limited research has examined how this relationship

operates within Albania's post-transition context. This paper seeks to fill this gap by exploring whether improvements in human capital have contributed to productivity convergence and by analyzing the structural conditions that shape this relationship. Although Albania has increased tertiary education, the country's productivity is still low. The question of whether human capital translates into actual productivity is thus brought up.

Therefore, the purpose of this study is to investigate the effect of human capital on labor productivity in Albania as a factor influencing the country's economic performance. On the other hand, in order to assess whether human capital acts not only as a determinant of productivity growth, but also as a mechanism that plays a role in the dynamics of catching up with the most advanced economies of the EU, we have included in the analysis, along with Albania, 4 other Western Balkan countries North Macedonia, Bosnia and Herzegovina, Montenegro, and Serbia. These countries were selected because they have similar institutional and structural traits, are transition economies with comparable levels of economic development, and want to join the EU.

To achieve these objectives, the study addresses two main research questions: (i) whether human capital has a statistically significant effect on labor productivity in Albania, and (ii) whether human capital contributes to productivity convergence toward European Union standards.

By providing empirical data on the role of human capital on labor productivity and productivity convergence, this study contributes direct implications for public policy. This study investigates whether improvements in education boost productivity and encourage convergence toward productivity levels within the European Union, in contrast to prior research that mostly focuses on macroeconomic growth indicators. By analyzing Albania as a post-transition economy, the study sheds light on the structural components that could lessen the productivity advantages of building human capital.

The paper is organized into five sections as follows: Section one presents the research problem, research questions, and the study's significance. In the context of the study, the second section reviews the theoretical and empirical literature, outlining the various conclusions on human capital and productivity convergence. Section three of the study discusses the research methodology and model estimation, while section four offers empirical results, analyses, and results. The conclusions are shown in section five.

Literature review

Human capital is broadly defined as the combination of individuals' innate abilities, education, skills, and accumulated experience, as well as the ongoing process of learning and personal development throughout their lives, according

to (Laroche, M., & Mérette, M., 1999). The first authors of modern human capital theory (Schultz, 1961) and (Becker, 1962) argued that education and training are investments that enhance individuals' skills, productivity, and earnings over time. According to them, a more skilled workforce leads to higher production capacity and economic growth. (Spence, 1973) contributed with his signaling theory, suggesting that education may not only increase productivity directly, but also act as a signal to employers about an individual's ability or productivity. Furthermore, recent studies have underscored the importance of education as a fundamental factor in economic growth. (Nikolli, E., & Shehu, E., 2022)

Many economists have developed a wide range of theories to explain the process of economic growth and the impact of human capital on it. Early contributions from classical economists such as (Smith, 1776) ,(the first classical economist to explicitly include human capital in the definition of capital) and (Ricardo, 1817) emphasized the importance of capital accumulation, labor, and specialization as key drivers of economic growth. These theories primarily focused on long-term expansion of output and the role of productive efficiency, but they treated labor as largely homogeneous and did not explicitly account for differences in skills or education.

The development of the neoclassical growth model by (Solow, 1956) and (Swan, 1956) introduced a more formal framework in which economic growth is driven by capital accumulation, labor growth, and exogenous technological progress. The model also implies the concept of convergence, whereby economies with lower levels of capital per worker tend to grow faster and gradually approach a steady-state equilibrium. In this framework, sustained long-run growth in output per capita can only be achieved through continuous advances in technological progress, as capital accumulation alone is subject to diminishing returns.

A significant extension of the neoclassical growth framework was provided by (Mankiw, N. Gregory, Romer, David, & Weil, David N., 1992), who augmented the traditional Solow model by incorporating human capital as an additional factor of production. Their model demonstrates that differences in human capital, alongside physical capital and population growth, help explain variations in income levels and growth rates across countries, thereby improving the empirical performance of the neoclassical growth model.

To overcome the shortcomings of neoclassical growth theory, particularly its inability to fully explain the long-run drivers of economic growth, endogenous growth models emerged in the mid-1980s. Pioneering contributions by (Lucas, 1988) and (Romer, 1990) introduced the idea that technological progress is not exogenous but rather the result of intentional economic decisions within the model, emphasizing the critical role of investing in technological progress as a key driver of human capital accumulation.

Unlike the neoclassical framework, endogenous growth theory emphasizes that economic growth is influenced by a broader set of internal factors, not solely by technological change. In particular, variables such as human capital play a

central role. (Lucas, 1988) explicitly incorporates human capital as a distinct input in the production function, highlighting its formation through education and on-the-job training. In his model, the accumulation of human capital is identified as a key determinant of productivity growth and long-term economic performance.

These models argue that human capital contributes not only to individual productivity but also to broader economic performance through positive externalities. Such spillover effects include innovation, knowledge diffusion, and the adoption of new technologies, all of which enhance overall economic efficiency. In this context, the quality of education becomes particularly important. Empirical evidence provided by (Hanushek, E. A., & Woessmann, L., 2012) shows that cognitive skills, rather than merely years of schooling, play a decisive role in explaining differences in economic growth across countries. Their findings suggest that higher-quality education systems foster stronger skill formation, which in turn supports long-term economic development. Over the past few decades, economic development has been increasingly shaped by structural changes linked to technological innovation, global integration, and the expansion of knowledge-intensive sectors. In this evolving context, human capital has emerged as a fundamental source of productivity and competitive advantage. Rather than being viewed solely as a supporting factor, it is now considered a central element influencing countries' capacity to adapt, innovate, and sustain economic growth. Institutions such as the (World Bank, 2020) emphasize that the quality of education systems, health outcomes, and workforce skills play a decisive role in determining long-term development prospects.

A similar perspective is reflected in the development agenda promoted by the (United Nations Development Programme, 2020), where human capital is positioned at the core of sustainable development strategies. The focus on improving education and health conditions highlights the idea that economic progress cannot be separated from broader social outcomes. In this sense, strengthening human capital is not only a means to increase productivity but also a pathway toward more inclusive and resilient economies. However, despite its recognized importance, the accumulation of human capital remains uneven across countries. Limited access to quality education and healthcare continues to constrain economic performance in many developing and transition economies, reducing their ability to converge toward higher productivity levels. These challenges have become even more pronounced in the aftermath of the COVID-19 pandemic. (World Bank, 2021), which disrupted schooling, weakened labor market outcomes, and exposed structural weaknesses in health systems.

Although human capital is a key determinant of productivity, trade openness and investment are equally important, as they promote technology transfer, capital accumulation, and more efficient resource allocation. In the long run, the benefits of trade are primarily realized through improvements in total factor productivity. These gains are closely linked to mechanisms such as technological diffusion,

learning, and innovation. (Kim, D. H., & Lin, S. C., 2009). Although trade openness creates opportunities for accessing new technologies and knowledge, as emphasized by (Lucas, 1988), The extent to which countries benefit from these opportunities depends on their absorptive capacity. This absorptive capacity is shaped by several structural factors, including the level of human capital, investment in research and development, financial sector development, and the quality of institutions. (Aghion, P., Howitt, P., & Mayer-Foulkes, D, 2005). In this regard, countries with stronger education systems, better governance, and more developed financial markets are better positioned to adopt and utilize new technologies effectively.

The relationship between trade liberalization and economic growth is closely linked to productivity dynamics and convergence processes. While short-term adjustments may involve transitional costs due to sectoral reallocation, long-term gains are primarily driven by improvements in total factor productivity. Trade openness facilitates access to foreign technologies, knowledge spillovers, and innovation, thereby creating opportunities for less developed economies to catch up with more advanced ones. However, the extent to which these gains materialize depends on a country's absorptive capacity.

In this context, human capital plays a critical enabling role, as a more educated and healthier workforce is better equipped to adopt and implement new technologies. At the same time, investment, particularly foreign direct investment, supports capital accumulation and accelerates the transfer of advanced production techniques. As highlighted by (Lucas, 1988) The interaction between human capital accumulation and external factors such as trade and investment is essential for sustaining productivity growth. Therefore, productivity convergence is not driven by a single factor but by the combined effects of human capital, trade openness, and investment. For a transition economy such as Albania, these elements are particularly important, as integration into European and global markets increases exposure to technological diffusion while simultaneously requiring sufficient domestic capacity to absorb these benefits. Without adequate levels of human capital and supportive institutional conditions, the potential gains from trade and investment may remain limited, slowing down the convergence process.

Human capital plays a crucial role in facilitating structural transformation within an economy, particularly in the shift from agriculture to more productive industrial and service sectors. A workforce equipped with higher levels of education and skills is more adaptable and capable of meeting the demands of these sectors, thereby supporting economic diversification and productivity growth. (Lewis, 1954). In this regard, the experience of China illustrates how sustained investments in education and vocational training can enable large-scale labor reallocation from low-productivity agricultural activities to higher value-added manufacturing and services, contributing significantly to long-term economic development (Abrha, T; Weldeyohans, B, 2025). (Moro, 2015) analyzes how the sectoral composition of gross domestic product influences cross-country differences in growth performance and

macroeconomic stability. The study finds that a higher share of the service sector in GDP is associated with lower growth in total factor productivity (TFP), as well as reduced volatility. As a result, economies with a larger service sector tend to experience more stable but comparatively slower GDP growth.

Empirical evidence on GDP per capita dynamics suggests that convergence across countries tends to occur more rapidly in economies where production is increasingly concentrated in sectors that require higher levels of human capital, such as industry and services. These “modern” sectors, as emphasized by (Rodrik, 2013) They are more conducive to productivity growth compared to traditional agricultural activities. Furthermore, lower-income countries—typically characterized by larger agricultural shares often undergo structural transformation by reallocating resources toward non-agricultural sectors. This transition, which is closely linked to rising human capital requirements, appears to be an important mechanism supporting convergence in per capita income. In this context, the accumulation of human capital enhances the ability of these economies to shift toward more productive activities, thereby accelerating the catch-up process. In addition to structural change, financial development also plays a significant role in facilitating convergence. Well-functioning financial systems improve the allocation of resources, support investment, and enable firms to expand into more productive sectors. Taken together, the reallocation of economic activity toward higher value-added sectors and improvements in financial development provide strong evidence for the persistence of convergence trends over time.

Research on economic convergence in the Balkan region has drawn some scholarly attention, though studies specifically examining convergence between these countries and the European Union remain relatively scarce. Among the key contributions, (El Ouardighi, J., & Somun-Kapetanovic, 2007) investigate both β - and σ -convergence using a limited sample of countries over a period that predates the Great Recession. Their findings indicate the presence of convergence, although it fluctuates over time.

In a similar vein, (Szeles, M.R., & Marinescu, N., 2010) and (Eftimoski, 2020) analyze convergence across a broader group of Central, Eastern, and Southeastern European (CESEE) countries, including several Balkan states. Their results suggest exhibited convergence toward European benchmarks between 1997 and 2016, identifying democracy and foreign direct investment (FDI) as important drivers of this process.

Further contributions support these conclusions. (Gockov, G., & Antovska, A., 2019) stress that, to speed up convergence, Balkan countries should prioritize structural reforms, particularly in the agricultural and banking sectors. Likewise, (Šiljak, D., & Nagy, S.G., 2023) underline the importance of increasing trade openness and improving macroeconomic conditions by reducing inflation, unemployment, public debt, and corruption.

More recently, (Grodzicki, T., & Jankiewicz, M., 2024) examining the period from 1997 to 2020, provide additional evidence pointing to a gradual—albeit slow—process of convergence toward the European Union. A cohort-based indicator of expected human capital can be defined as the number of years lived between ages 20 and 64, adjusted for educational attainment, quality of education, and functional health status, covering a large sample of countries over the period 1990–2016. The evidence shows that greater improvements in human capital are associated with faster economic growth (Lim et al., 2018).

(Dańska-Borsiak, 2023) findings indicate that European regions are converging in terms of human capital, although the speed of convergence differs significantly across regions. Evidence points to the existence of multiple steady states rather than a single common equilibrium, with outcomes strongly influenced by structural factors—particularly the distribution of employment across sectors. Regions with higher shares of employment in agriculture tend to experience slower human capital convergence, likely due to the outflow of skilled labor or inefficiencies such as over-education. In contrast, a greater concentration of employment in the service sector—especially in knowledge- and technology-intensive activities—supports faster human capital accumulation and convergence. Overall, the results suggest that sectoral composition plays a crucial role in shaping both the pace and the long-term equilibrium of human capital convergence across European regions.

Research Methodology

Research approach

The aim of this analysis was twofold: to empirically test whether human capital has a statistically significant effect on labor productivity in Albania, and second, by complementing Albania with other Western Balkan economies, the study investigates whether human capital promotes the process of productivity convergence toward the European Union. If human capital boosts domestic productivity, in the Albanian case, it might also help economies converge toward more developed ones. To accomplish these objectives, the study used a two-step empirical strategy that integrates time-series and panel-data approaches. This two-fold approach allows the research to capture both country-specific dynamics and regional convergence tendencies.

Human Capital and Labor Productivity in Albania

In order to address the first empirical study question, we employed an Autoregressive Distributed Lag (ARDL) approach stranded in the Cobb–Douglas production

function. Given that it allows for the analysis of both long-term equilibrium relationships and short-term dynamics without the requirement for all variables to be integrated of the same order, the ARDL approach is especially useful in this situation. Also, the ARDL methods are very useful and efficient since they have advantages over other methods even when sample sizes are modest (Pesaran & Shin, 1999). We used a sample of 25 observations of annual macroeconomic data of Albania, ranging from 2000 to 2024, obtained from the World Bank and the United Nations Development Programme databases. Additionally, the ARDL framework supports in capturing the delayed effects of macroeconomic variables on labor productivity, which is crucial in developing and transitional economies where policy effects frequently take time to manifest.

The model assumes that labor productivity is influenced by investment activity, economic openness, and education and skills, all of which have an impact on efficiency improvements and technological adoption.

The empirical specification is as follows:

$$\ln(PROD_t) = \alpha_0 + \alpha_1 HCI_t + \alpha_2 GFCF_t + \alpha_3 OPEN_t + \varepsilon_t$$

Where:

$PROD_t$ = labour productivity (measured by GDP per employed person)

HCI_t = human capital indicator

$GFCF$ = gross fixed capital formation as a proxy variable for investment intensity

$OPEN_t$ = trade openness

ε_t = error term

Human Capital and Productivity Convergence

To address the second empirical study question, we employed a convergence model (Western Balkans – panel data analysis). The study investigates whether human capital promotes the process of productivity convergence toward the European Union for Albania and four selected Western Balkan countries. This study uses a convergence framework based on the neoclassical growth model to examine the contribution of human capital in the process of productivity convergence.

Labor productivity growth is modeled as a function of initial productivity and human capital accumulation:

$$Growth_t = f(PROD_{t-1}, HC_t)$$

Convergence occurs when economies in less productive nations grow more quickly than those in more productive nations.

The convergence equation estimated using panel data is:

$$Growth_{i,t} = \beta_0 + \beta_1 PROD_{i,t-1} + \beta_2 HC_{i,t} + \mu_i + \lambda_t + \varepsilon_{i,t}$$

Where:

$Growth_{i,t}$ = productivity growth rate in the country

$PROD_{i,t-1}$ = initial productivity level (lagged)

$HC_{i,t}$ = human capital indicator

μ_i = country fixed effects

λ_t = time effects

$\varepsilon_{i,t}$ = error term

Albania and four other Western Balkan nations are included in the panel dataset over a shared observation period. By combining cross-country and time variance, panel estimates provide a more comprehensive understanding of convergence dynamics than single-country analysis. Panel analysis helps capture both the similarities and the country-specific impacts driving productivity convergence because Western Balkan countries differ in terms of institutional development, education systems, and economic performance while also sharing several shared transition issues. Additionally, by increasing the number of observations, panel data improves the dependability of the results. This is particularly crucial when researching relatively small economies with little annual data. Lastly, this approach enables us to more clearly see if advancements in human capital enhance the process of catching up to EU productivity levels over time and accelerate productivity growth. Together, these empirical methods capture different facets of the productivity-human capital link, strengthening the conclusions' robustness.

Results and Findings

Time series ARDL Approach, Albania 2000-2024

We used a sample of 25 observations of Albania's yearly macroeconomic data from 2000 to 2024 that were taken from databases provided by the World Bank and the United Nations Development Program. This study uses an Autoregressive Distributed Lag (ARDL) framework based on the Cobb–Douglas production function to investigate whether human capital significantly contributes to labor productivity increase in Albania. This approach is particularly useful and efficient since they outperform other methods even when sample sizes are modest (Pesaran et al., 2001).

Stationary tests

Most co-integration techniques begin by pre-testing the data series' stationarity in order to determine the best co-integration methodology. According to the ARDL method of co-integration, none of the variables can be integrated in the second order, and they must all be I (0) or I (1). In summary, the results of the stationary tests are shown in Table 1.

TABLE 1. Unit root test Results

Series	ADF Test statistic (p-value)		Order
	Level I (0)	First difference I (1)	
Labor productivity	-2.381	-3.847**	I (1)
Human capital index	-3.164**	-1.710	I (0)
Gross Fixed Capital Formation	-1.767	-3.258*	I (1)
Trade Openness	-2.341	-4.693***	I (1)

Source: Author's calculation

Table 1 shows that the Human Capital Index is stationary at level, and the ADF test shows that all other variables are stationary following initial differencing.

ARDL Bounds Test to Cointegration

To find out whether LP, HCI, GFCF, and TO have a long-term relationship, the border test is employed. By calculating the statistic F-value and comparing it to the upper and lower boundary values, we are able to choose cointegration (Pesaran et al., 2001).

TABLE 2. ARDL Bounds Cointegration Test

F-statistic=129.42	Critical Value Bounds for K=4					
	significance 1%		significance 5%		significance 10%	
	I(0) Bound	I(1)Bound	I(0) Bound	I(1)Bound	I(0) Bound	I(1)Bound
	5.61	5.06	4.35	3.23	3.77	2.72

Source: Author's calculation

F = 129.42 exceeds the upper bound critical value at all significance levels (1%, 5%, 10%). This indicates that there is a long-run cointegrating relationship between labor productivity, human capital, gross fixed capital formation, and trade openness in Albania.

Results for ARDL Short and Long-run Models

The results verify that our variables have a long-term cointegrating relationship based on the ARDL bounds testing method. Table 3 displays the long-term estimated coefficients of the ARDL model. At the 1% level, the coefficient ln(HCI) is statistically significant. Accordingly, there is a 1.30% improvement in labor productivity for every 1% increase in the Human Capital Index score. This outcome is in line with the critical part that human capital plays in developing countries like ours and also with theories that highlight how human capital facilitates technological adoption and innovation, in addition to being a direct input.

TABLE 3. Estimated long-run Coefficients ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intercept	1.5829	1.7239	0.918	0.3689
Ln(HCI)	1.3000	0.2419	5.373	0.0000
Ln(GFCF)	-0.1282	0.1893	-0.677	0.5056
Ln(TRADE)	0.6056	0.1864	3.249	0.0038
$Ln(LP_t) = 1.583 + 1.300 \cdot ln(HCI_t) - 0.128 \cdot ln(GFCF_t) + 0.606 \cdot ln(TRADE_t)$				

Source: Author's calculation

Furthermore, Table 3 demonstrates a robust and favorable relationship between labor productivity and trade openness. This suggests that for every 1% increase in trade openness, labor productivity would rise by 0.6056%. However, physical capital formation (GFCF) is not statistically significant over the long term, which may be due to crowding-out dynamics or problems with investment efficiency in Albania.

The other step is to calculate the error-correction coefficient when variables have a long-term relationship.



TABLE 4. Estimated Short-Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.0545	0.0288	1.889	0.0743
$\Delta \ln(\text{HCI}_t)$	-1.0612	1.4346	-0.740	0.4685
$\Delta \ln(\text{GFCF}_t)$	-0.0193	0.1673	-0.115	0.9094
$\Delta \ln(\text{GFCF}_{t-1})$	-0.0193	0.1673	-0.115	0.9094
$\Delta \ln(\text{TRADE}_t)$	0.1560	0.1201	1.299	0.2096
ECT(-1)*	-0.2856	0.1439	-1.985	0.0617
$R^2 = 0.2709$	Adj. $R^2 = 0.1173$	DW = 1.5978		

Source: Author's calculation

At the 10% level, the ECT coefficient = -0.286 is negative and significant, meaning that every year, about 28.6% of the disequilibrium is corrected when the system deviates from its long-run equilibrium.

Diagnostic tests

We perform a few diagnostic tests to confirm the precision and dependability of the econometric analysis's conclusions. These tests are crucial since the model might not be suitable for analysis and prediction. Autocorrelation, heteroscedasticity, and long-term stability tests were all passed by our model.

Descriptive statistics for the Human Capital and Productivity Convergence: Panel Evidence from Western Balkans

According to Table 5, the sample's average GDP per capita is roughly 11,900 with a standard deviation of 3,200, indicating moderate fluctuation over time and between nations. The standard deviation (4.2) is rather large, indicating economic unpredictability, especially during times of crisis like 2009 and 2020. The average economic growth rate is approximately 3.6%. There is some degree of human development convergence across the Western Balkan countries, as indicated by the Human Capital Index, which has an average value of 0.765 with low dispersion. Bosnia and Albania fall behind Montenegro, which has the greatest GDP per capita and HCI among the nations. Over the period under observation, Serbia's growth performance has been comparatively constant. All five nations are forthcoming candidates to join the EU. The initial conditions are equivalent since all of these countries have similar structural starting points. Every economy is open and small with a service sector that dominates, a high reliance on tourists and remittances, and comparable degrees of economic informality.

TABLE 5. Descriptive statistics by countries — 2000–2022

Country	GDP Mean	Growth Mean	HCI Mean
ALB	10,800	3.70%	0.76
SRB	12,900	3.80%	0.79
MNE	14,800	3.50%	0.82
MKD	11,500	3.00%	0.755
BIH	10,900	3.40%	0.75

Source: Author's calculation based on data from the WBI and UNDP

Convergence Model

The dataset, which consists of 120 observations, covers Albania, Serbia, Montenegro, North Macedonia, and Bosnia and Herzegovina from 2000 to 2023. Growth in labor productivity is the dependent variable, and the lagged logarithm of GDP per capita in terms of purchasing power parity (PPP) is the primary explanatory variable. Pooled OLS and fixed effects estimations are used in this analysis, which is based on the neoclassical growth model. The results of convergence are presented in Table 6.

TABLE 6. Regression results – convergence model

Variable	M1: OLS Absolut	M2: OLS Conditional	M3: Fixed Effects	M4: Random Effects
Constant (α)	0.3618*** (0.1177)	0.5096*** (0.1047)	—	—
$\ln(\text{GDPpc})_{t-1}$ (β – Beta-Convergence)	-0.0355*** (0.0129)	-0.0913*** (0.0225)	-0.1335** (0.0564)	0.0001 (0.0193)
HCI (Human Capital – γ)	—	0.4836** (0.2192)	0.9506* (0.5326)	0.0391 (0.2359)
Model Statistics				
R ² (Within / Total)	0.0793	0.123	0.1241	0.465
F-statistic	7.59	11.53	7.65	—
Observations (N)	115	115	115	115
Countries (i)	5	5	5	5
Years (t)	23	23	23	23
Method	Pooled OLS	Pooled OLS	FE	Random Effects
Robust Error Rate (HC)	(HC1)	(HC1)	robust	robust

Source: Author's calculation

The beta convergence hypothesis is supported by the regression results, which demonstrate a strong negative impact of the starting GDP per capita (PPP) level on labor productivity growth. In the Fixed Effects paradigm, this effect is more powerful and reliable. Productivity growth is positively and significantly impacted by the Human Capital Index (HDI), particularly in the Fixed Effects model. This suggests that enhancing human capital aids in the region's nations' process of economic convergence.

Convergence speed and half-life comparison

We assess the speed of convergence to determine how quickly less developed economies catch up with more developed ones. Additionally, the “half-life” measurement illustrates how long it takes to cut the gap in development between them in half, which aids in determining the true rate of economic advancement and the efficacy of development initiatives, as is shown in Table 7.

TABLE 7. Convergence speed and half-life

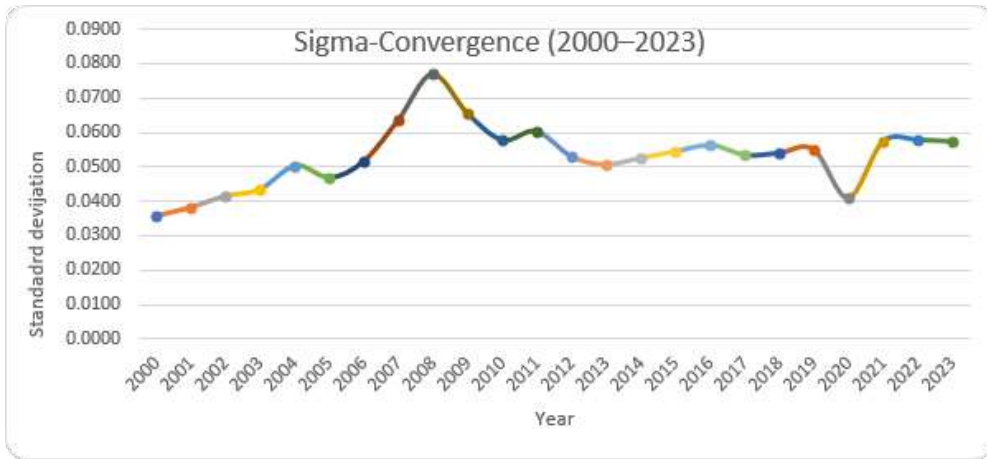
Parameter	M1 (OLS Abs)	M2 (OLS Cond)	M3 (FE)
Beta Coefficient (β)	-0.0355	-0.0913	-0.1335
λ – Convergence Speed	0.0361	0.0957	0.1433
$\lambda \times 100$ (%/year)	3.6105	9.5712	14.3278
Half-life (years)	19.1982	7.242	4.8378
Effect Of Human Capital (HDI) On Convergence			
Coefficient HDI (M2 OLS)	0.4836	$p = 0.027$	
Coefficient HDI (M3 FE)	0.9506	$p = 0.077$	

Source: Author's calculation

In all three models, the coefficient β is negative and statistically significant. This coefficient confirms that there is economic convergence: countries with lower initial productivity grow faster, although this convergence is gradual. The rate of convergence is consistent with data from international organizations, which show an annual speed of 2–10%. However, the model does not account for elements like sectoral composition, migration, and institutional quality, which could restrict the degree of convergence.

Further, Figure 1 demonstrates that convergence has not been linear. The Western Balkan countries have also been negatively impacted by events like the 2002 energy crisis, COVID-19, and the global financial crisis of 2008. The standard deviation of relative productivity shows fluctuations, so convergence is not linear.

FIGURE 1. Standard Deviation of Relative Productivity



Source: Author's calculation based on data from the World Bank Indicators

Also, according to the findings of Table 7, it takes 5 to 19 years to close half of the income disparity. Convergence is actually a long-term process that necessitates institutional and political stability, among other factors. This is illustrated by the fact that, despite economic growth, incomes and benefits still diverge significantly from those in the EU.

Additionally, the HCI results demonstrate that it is both statistically significant and positive. This supports the fact that Human capital is a crucial component of convergence. Furthermore, the beneficial effects of human capital demonstrate that advancements in education, health, and general human development, in addition to economic growth, are what promote convergence.

Conclusions

Through the integration of national analysis with a comparative regional perspective, the study offers empirical evidence on the role of human capital as a mechanism that supports both productivity growth and economic convergence with the most developed European countries. The outcomes of the ARDL approach were consistent with theories that emphasize the importance of human capital as a driver of productivity. These results offer support to policies that enhance healthcare, lower skill emigration, increase vocational training, and invest in high-quality education—all of which contribute to the stock of human capital and, consequently, sustainable productivity growth.

On the other side, the analysis of panel data for the 5 Western Balkan countries reveals a clear process of labor productivity convergence, positively influenced by human capital. These results underline the importance of development policies

that focus on investing in education and improving social conditions to boost regional economic growth and narrow the development gap between countries. One of the main drivers of convergence is investments in human capital (training, health, and education). The quality of human resources should be a priority in addition to raising GDP per capita. All these findings may help address policy implications for the countries under consideration. First, they suggest that governments in the Western Balkans should consider a long-term human capital development strategy to improve labor productivity and increase competitiveness. The results of this paper also show that in order to maintain productivity growth, these countries should aim for policies to both prevent brain drain and retain skilled and qualified people. The longer such measures and policies are postponed, the more the pace of convergence towards EU productivity levels will be delayed.

At the same time, the results of this paper suggest that GDP growth or physical capital accumulation alone cannot lead to productivity convergence. It must be supported by measures that affect the quality of the institution, the efficiency of their work, innovative capabilities and equal access to education.

However, elements that can have a big impact on the degree of convergence, like sectoral composition, migration, and institutional quality, are not included in the model. These elements would allow for more thorough research and in-depth analysis of the convergence process.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this work, the author(s) used Google Gemini for proofreading purposes. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the final content.

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Exploring User Technology Acceptance of the GOBIS (Golek Bis) Suroboyo Application Using the UTAUT Model _____

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Abstract

Digital transformation is driving drastic changes in the transportation sector by enabling the development of effective services through the implementation of e-government. However, the adoption of app-based public services still faces challenges related to user interest and digital trust at the local level. This study was conducted to identify the factors that influence users' adoption of e-government service apps, with a focus on GOBIS (Golek Bis) Suroboyo. This study employed a quantitative approach by surveying 154 respondents who live or work in Surabaya, East Java, Indonesia. The collected data were analyzed using Variance-Based Structural Equation Modeling (VB-SEM) and the GSCA Pro software. The results indicate that performance expectancy has a significant positive influence on attitude, and that attitude, in turn, has a significant positive influence on behavioral intention to use. On the other hand, social influence was found to have no effect on attitude, followed by trust in the internet and trust in the government, neither of which had a significant effect on behavioral intention to use. In its application, this study enriches the literature on the development of the Unified Theory of Acceptance and Use of Technology (UTAUT), where this model was intentionally modified by adding trust variables (in the internet and the government) in the context of smart public transportation. Since this study focuses specifically on GOBIS (Golek Bis) Suroboyo, the findings will provide guidance and recommendations to the Surabaya City Transportation Department as a benchmark for future service optimization plans by improving the app's functionality, thereby maximizing user satisfaction. Future research could compare the results of this study with those of studies examining other e-government applications in a broader context.

Keywords: UTAUT, GOBIS (Golek Bis) Suroboyo, Performance Expectancy, Attitude, Behavioral Intention, E-Government.

Introduction

The rapid development of information technology has driven major transformations across all sectors of life, underscoring that technology today is an integral part of people's daily lives down to the smallest detail (Jonathan & Rusu, 2018). The foundation of this change lies in communication technology, which enables more efficient data exchange, such as interacting without the constraints of distance and time. The utilization of this technology has initiated the development of smart apps, digital platforms that offer numerous features for interaction, learning,

and adaptation for their users to the point where their prevalence is increasingly supplanting conventional applications.

The widespread use of smart apps is driven by public expectations for fast, convenient services that also offer individual benefits, such as saving users significant time and effort (Unal et al., 2017). By successfully meeting these needs, smart apps have become the primary communication medium for users and an essential tool supporting daily activities (Wang et al., 2024). The ease of accessing numerous smart apps today plays a major role in our daily efficiency, while also driving the growth of the digital economy. Regardless of the circumstances, the public sector must continuously keep pace with the times to ensure the digital economy remains in optimal condition, thereby fostering continuous renewal and innovation in public services (Wong et al., 2006).

In Indonesia, digitalization is being realized through the concept of smart cities, which maximizes various forms of information technology to manage cities optimally. One of the steps taken by the Surabaya City Government to achieve this is the launch of the GOBIS (Golek Bis) Suroboyo app, a digital public transportation service app focused on bus transportation. This app falls under the category of smart mobility, which has completely transformed how the public interacts with and uses the city bus services provided by the government. Within a single app, users have direct access to four bus routes operating in the Surabaya area, supported by key features ranging from integrated maps to quick payment options. The four bus services accessible through this app are Suroboyo Bus, which serves three routes in the Surabaya area; Wirawiri, which offers eleven route options for travel within the Surabaya area; TemanBus, with two routes operating in Surabaya; and TransJatim, which provides service to seven cities in East Java with five route options. To be more specific, Appendix A describes examples of the features available in the GOBIS (Golek Bis) Suroboyo application. Although the Surabaya City Government has implemented digital-based services in the local transportation sector, public acceptance of this new system remains a challenge that needs to be studied more deeply to ensure operational success.

An in-depth analysis is necessary because the number of Suroboyo Bus passengers has fluctuated significantly since the digital service app was launched in April 2018. The surge in passenger numbers in 2019, which was followed by the COVID-19 pandemic, highlights issues regarding the effectiveness of the app's features as well as the public's low trust in the government's digital systems, which quickly became the main obstacle in this case (Ratnawati et al., 2024). To the best of our knowledge, by the end of 2018, the total number of passengers was 513,142, which surged dramatically to 1,123,177 passengers a year later. A year later, there was a 26.71% decline due to the impact of COVID-19, but in 2021–2022, the number continued to rise from 926,971 passengers to 1,611,415 passengers per year, setting a new record of 176,459 passengers in December 2022. This surge

continued through the end of 2023, with total passengers reaching 1,729,758 (Ratnawati et al., 2024; Warastuti, 2021; Yuliawati et al., 2023). Unstable passenger numbers indicate that the availability of technology alone cannot guarantee the success of mass adoption. In fact, information technology is now indeed a crucial part of people's lives, but its successful adoption depends heavily on users' perceptions of the system's functionality and accessibility, especially if the app is relatively new (Jonathan & Rusu, 2018). Individuals who are highly aware of future consequences tend to be better prepared to adopt systems that support their long-term well-being (Shehu & Molishti, 2022; Rapo & Demaj, 2024).

However, until now, research focusing on the implementation of e-government, specifically the GOBIS (Golek Bis) Suroboyo system has been conducted, the UTAUT model used by previous researchers was only able to explain a small portion of the public's intention toward this application, namely 35% of the variance in behavioral intention (Warastuti, 2021). This low figure indicates that there are still gaps between the methodology and the reality on the ground, meaning that many crucial factors regarding what actually drives public sentiment remain unaccounted for. Al-Kautsar Maktub et al., (2025) there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government suggest adding trust as a variable, because in the context of today's technology, users consider not only how easy an application is to use in their daily activities, but also the security and reliability of the system itself.

This study aims to address the shortcomings of previous research by identifying the strongest predictors underlying Surabaya residents' decisions to use GOBIS (Golek Bis) Suroboyo, by incorporating trust in the internet and trust in the government as external variables into the UTAUT framework, which has been modified to suit field requirements. This approach is relevant given the public's high concerns regarding data privacy and the reliability of government systems. Ultimately, the findings from this study are expected not only to serve as a resource for research on e-government in Indonesia but also to provide a foundation for enhancing the functionality and operational strategies of digital public service applications for the Surabaya City Transportation Department.

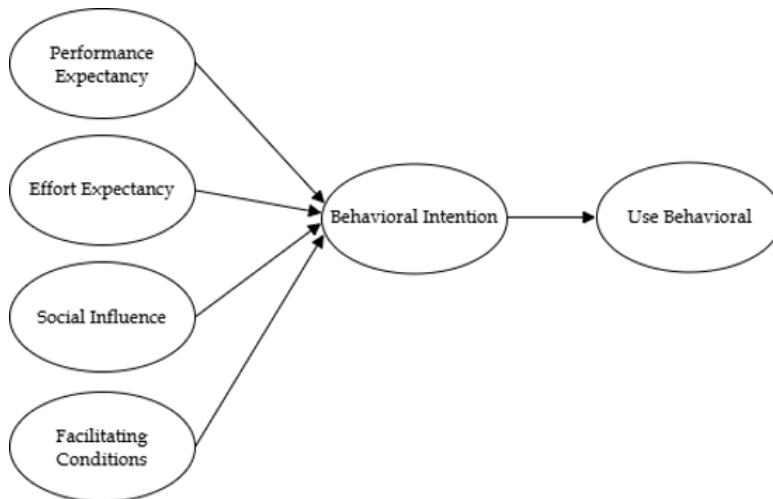
In an academic context, this study supports students' competencies in the fields of management information systems and excellent service by presenting real-world cases related to information management analysis and the implementation of excellent service strategies in digital systems. Thus, this study serves as a bridge between theory and the reality of public service implementation in the digital age to ensure that the technologies developed by the government can meet the needs and expectations of the public, particularly in the Surabaya.

Literature Review and hypotheses

E-government and Smart Mobility

E-government represents the adoption of digital tools aimed at simplifying access to information and modernizing service delivery mechanisms for the general public (Galván, 2019). The integration of this technology is not merely about digitizing documents, but also about fostering citizen engagement in decision-making processes, which in turn enhances bureaucratic accountability and efficiency. For developing countries like Indonesia, e-government holds great potential to overcome the hurdles of traditional bureaucracy (Malodia et al., 2021). At the local level, Surabaya has implemented this through GOBIS Suroboyo, a smart mobility platform that provides real-time information on schedules, routes, and the location of the bus fleet (Ramadhana & Fanida, 2020). Smart mobility itself is a key pillar of the Smart City concept, focusing on efficient, sustainable, and digitally integrated transportation.

FIGURE 1. UTAUT model (Venkatesh et al., 2003)



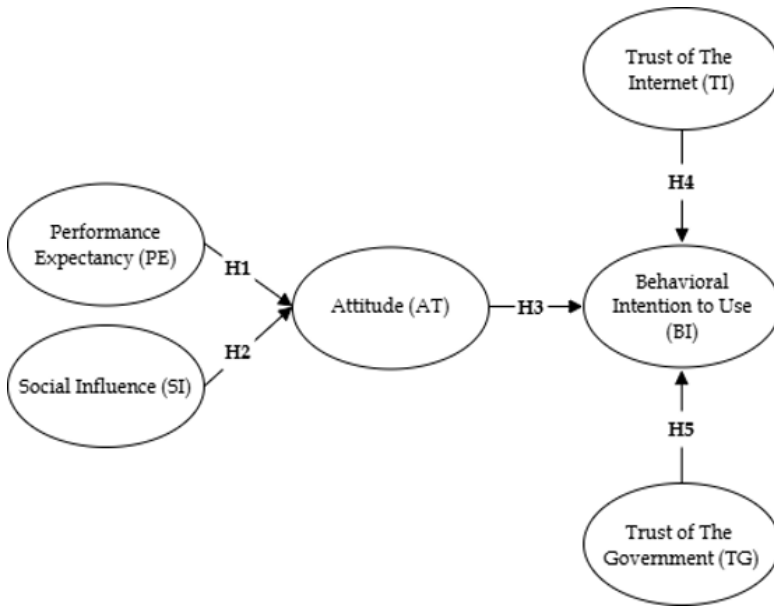
Source: Venkatesh et al., (2003).

Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT model developed by Venkatesh et al., (2003) is a synthesis of eight leading technology acceptance models. UTAUT has been shown to explain up to 70% of the variance in the behavioral intention to use technology (Misra et

al., 2023). The core constructs of UTAUT include performance expectancy (the extent to which the system helps complete tasks), effort expectancy (level of ease), social influence (influence of others), and facilitating conditions (infrastructure support). In the context of public transportation, UTAUT provides a robust framework for identifying whether an application is viewed as a beneficial solution or, conversely, as a technical barrier. This study modifies the model by including the attitude variable as a mediator and adding the trust construct to align with the e-government context in Indonesia.

FIGURE 2. Proposed research model



Source: A modification of the theoretical model by Al-Kautsar Maktub et al., (2025)there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government)

Performance Expectancy (PE)

Performance Expectancy is defined as the degree to which an individual believes that using the app is worthwhile if it makes life easier (Venkatesh et al., 2003). In the context of GOBIS, performance expectations reflect the belief that this app can reduce the time required to find the nearest bus stop, provide route transparency, and make it easy to obtain bus information based on the user’s destination. How users assess the benefits they receive from using the app will influence their decision to continue using and relying on it in the future (Candra et al., 2024).

If Surabaya residents feel that the routes offered truly help them reach their destinations, then their performance expectations will be met, which will directly encourage a positive attitude toward the app.

Social influence

Social influence refers to the extent to which people view others' opinions as assurance that a recommended system is safe and trustworthy, thereby influencing their intentions (Hakeem & Sulphrey, 2024). In academic theory, social influence is actually a modern adaptation of the subjective norm as found in theories such as the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB), which essentially involves social pressure or support (Yang et al., 2023). This social influence continues to have a significant impact regardless of gender, age, or experience, as users tend to be more influenced by narratives from people they know than manuals instruction (Molina-Maturano et al., 2021). In a socially hierarchical environment like the city of Surabaya, recommendations from trusted individuals or those in higher positions carry significant weight in persuading the public to accept new government initiatives.

Attitude and Behavioral Intention to Use

Attitude is defined as an individual's tendency to provide an evaluative response, whether positive or negative, toward an object (Alkhowaiter, 2022). In the modified UTAUT model, attitude acts as a catalyst linking cognitive perceptions (such as perceived utility) with behavioral intentions. Jum'a et al., (2024) emphasize that attitude encompasses cognitive, emotional, and conative elements. If users feel they like the idea of using GOBIS because it is considered sensible, their intention to continue using the app in the future will increase significantly.

Trust in the Internet and Trust in the Government

The integration of the trust variable into the UTAUT framework in this study is not merely to add an element to the theory, but rather a step toward addressing the fundamental need to analyze user behavior in the public digital ecosystem (Al-Kautsar Maktub et al., 2025)there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government. Trust is the willingness to take risks based on the expectation that others will act in our best interests (Mayer, 1995). Trust in the Internet relates to perceptions of digital infrastructure security, data privacy, and network reliability. On the other hand, Trust in the Government reflects citizens' confidence in the government's

capabilities, integrity, and good intentions as a service provider. Adoption of the GOBIS application depends heavily on the stability of network infrastructure in the city of Surabaya and confidence in the government's credibility as a service provider (Liu et al., 2024). Although the standard UTAUT model emphasizes the aspects of utility and ease of use, the variables within it are insufficient to explain psychological barriers in the realm of personal data security. Moreover, this application collects personal information and requires an internet connection that could at any time threaten the intention to use it if the risks involved are not grounded in strong trust (AbdulKareem & Oladimeji, 2024). When Surabaya residents believe that the government can be trusted to manage data and provide a good system, resistance to the technology can be minimized, even if there are technical complexities in using the application (Mirkovski et al., 2024).

Research hypotheses

The Relationship Between Performance Expectancy (PE) and Attitude (AT)

The first hypothesis in this study is formulated on the basis that performance expectancy plays a role as an antecedent in the formation of positive user attitudes. Users first conduct a functional assessment to determine whether the system is acceptable before providing feedback. Citing the argument by Upadhyay et al., (2022), a process is required to recognize the technical benefits of the application, which then leads to an emotional response because the application successfully achieves personal goals. When people realize that GOBIS features can indeed simplify daily life, they will view this application as a solution to urban mobility issues. GOBIS (Golek Bis) Suroboyo must consistently meet performance expectations to foster a deep perception of the significant benefits of using the application, as users will not develop interest or loyalty toward technology that fails functionally (Wiafe et al., 2020)there is inadequate empirical research on technology acceptance in the maritime industry especially in developing countries. Literature on how behavior and attitude influence technology acceptance is non-existent. This study therefore aims to augment existing literature on technology acceptance in developing countries with particular emphasis on the maritime industry. Design/methodology/approach: The study extended the unified theory of acceptance and use of technology (UTAUT).

H1: Performance Expectancy has a significant positive effect on Attitude.

The Relationship Between Social Influence (SI) and Attitude (AT)

The second hypothesis states that social influence is a process of emotional validation that influences decision-making regarding the adoption of new technologies. As social beings, people use the opinions of others as their first filter of information when considering something. External perceptions can become personal beliefs, not merely as advice, but as reliable facts that underpin the formation of a positive attitude (Abdalla, 2025). Social influence also has a significant impact through its role in shaping social norms, for example, when someone is seen as keeping up with trends by adopting new services in line with technological advancements. This validation encourages individuals to explore and embrace new technologies (Alkhowaiter, 2022). Thus, the greater the social support users perceive, the stronger the positive attitudes they will exhibit toward the GOBIS (Golek Bis) Suroboyo app.

H2: Social influence has a significant positive effect on attitude.

The Relationship Between Attitude (AT) and Behavioral Intention (BI)

The third hypothesis posits that attitude is the primary predictor of behavioral intention to use the app. A positive attitude toward GOBIS Suroboyo is not only related to proficiency in using it but also includes the belief that using this app is the right decision. When users believe that GOBIS's features align with their needs, a strong sense of liking emerges, fostering a consistent attitude toward continuing to use the app (Razi-ur-Rahim et al., 2024). More specifically, Hamid & Anwar (2019) argue that attitude can be likened to a filter that determines whether a person will continue to use a product or not. Attitude is a factor that ensures continued use, and it can be either positive or negative, depending on the user's experience.

H3: Attitude has a significant positive effect on Behavioral Intention to Use.

The Relationship Between Trust in the Internet (TI) and Behavioral Intention (BI)

The fourth hypothesis in this study posits that public trust in internet security has a positive effect on their intention to continue using the app. The digital world is vulnerable to real threats ranging from data breaches to hacking, the impact of which affects an individual's trust. If internet infrastructure is perceived as capable of protecting users, a sense of security will arise when accessing applications, which in turn fosters a desire to use the system (Bin-Nashwan, 2022). The assurance of internet security fosters users' curiosity to further explore the features offered and

increases their willingness to rely on the GOBIS application for daily activities (Al Halbusi et al., 2024). Therefore, assurances of internet security are considered a direct driver of behavioral intention.

H4: Trust in the Internet has a significant positive effect on Behavioral Intention to Use.

The relationship between Trust in the Government (TG) and Behavioral Intention (BI)

The fifth hypothesis states that trust in the government has a positive effect on behavioral intention. Sebagai aplikasi yang resmi dijalankan oleh Dinas Perhubungan Kota Surabaya, citra dan kredibilitas insitusi melekat pada segala bentuk layanan yang dinaungi. The public will be willing to accept new changes if they are confident that service providers are capable and can take full responsibility for any future risks, including ensuring the highest level of service delivery no matter what happens (Mensah et al., 2020). Trust of government provides a basis for the belief that this application was developed in the best interests of citizens, not merely as a formality (Wa & Zhang, 2023). Thus, a high level of trust in the government will correlate directly with high public interest in utilizing e-government services.

H5: Trust in the Government has a significant positive effect on Behavioral Intention to Use.

Research methods

Data collection and analysis

This study employs a quantitative approach with an explanatory research design to elucidate the causal relationships among variables. The study is conducted in the city of Surabaya, with the research subjects being users of the GOBIS (Golek Bis) Suroboyo app. The study population is open-ended but refers to the number of app downloads on the Google Play Store, which exceeds 500,000 users. The sampling technique used purposive sampling to ensure that respondents were active users who understood the app's features. The final sample size analyzed consisted of 154 respondents, which, according to Roscoe's (1975) guidelines, is sufficient for multivariate research, range 30–500 (Sekaran & Bougie, 2016). Primary data was collected via Google Forms distributed both online and offline at strategic locations such as bus stops and terminals in Surabaya during the period from July to December 2025.

Analysis methods

Data analysis techniques using Variance-Based Structural Equation Modeling (VB-SEM) with GSCA Pro software. This method was chosen for its ability to handle complex models with relatively small samples without strict assumptions of data normality (Henseler et al., 2015) such as partial least squares, the Fornell-Larcker criterion and the examination of cross-loadings are the dominant approaches for evaluating discriminant validity. By means of a simulation study, we show that these approaches do not reliably detect the lack of discriminant validity in common research situations. We therefore propose an alternative approach, based on the multitrait-multimethod matrix, to assess discriminant validity: the heterotrait-monotrait ratio of correlations. We demonstrate its superior performance by means of a Monte Carlo simulation study, in which we compare the new approach to the Fornell-Larcker criterion and the assessment of (partial. GSCA Pro allows for the simultaneous assessment of the measurement model (outer model) and the structural model (inner model). A model is considered to have a good fit if it meets the criteria of GFI > 0.90 and SRMR < 0.08. Hypothesis significance was tested using path coefficients and 95% confidence intervals.

Research instruments

The research instrument consists of a questionnaire with 24 items adapted from Al-Kautsar Maktub et al., (2025) there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government and Venkatesh et al., (2003). The questionnaire items were measured using a five-point Likert scale, ranging from “strongly disagree” to “strongly agree”. After collection, the data were coded, cleaned, and analyzed. A total of sixteen items were used to measure the UTAUT variable, consisting of four constructs (performance expectancy, social influence, attitude, and behavioral intention to use), adopted from Al-Kautsar Maktub et al., (2025) there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government. For the individual variables, which consist of two constructs, trust in the internet and trust in the government, eight items were used, referencing the studies by Al-Kautsar Maktub et al., (2025), Kurfalı et al., (2017), Verkijika & De Wet (2018) there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government. This questionnaire has undergone preliminary testing to ensure that the measurement tool is truly reliable and robust, with a Cronbach’s Alpha

value of 0.938. This score is considered high, above the standard threshold, confirming that all items are robust and valid for use in research.

Result

Respondent demographics

TABLE 1. Respondents' Demographic Summary

Variable	Item	n	Percentage
Gender	Male	32	20,8%
	Female	122	79,2%
Age	0-17 years old	13	8,4%
	18-24 years old	89	57,8%
	25-34 years old	27	17,5%
	35-44 years old	24	15,6%
Occupation	Students	15	9,7%
	College Students	82	53,2%
	Employees	50	32,5%
	Others	7	4,5%
Education	High School/Vocational School	88	57,1%
	D3/D4	24	15,6%
	Bachelor	32	20,8%
	Master	10	6,5%

Source: Data processed by the researcher, 2026

According to the table by Krejcie et al., (1996), the recommended sample size for this study was 384 respondents, however, data collection in the field encountered some difficulties, resulting in a final sample of 154 respondents or 40.1% of the initial target. These 154 respondents are highly valid and suitable for analysis based on the principles of multivariate statistics, with the primary reference being Roscoe's (1975) guidelines on sample size, which outline Rules of Thumb. The rules of thumb state that an appropriate sample size in most studies ranges from 30 to 500 respondents, with the additional requirement that the sample size must be at least ten times the total number of variables (Sekaran & Bougie, 2016). Since this study has six variables, multiplying this by ten yields 60 respondents. The number 154 falls within the specified range and is therefore safe and appropriate for analysis.

The results of the primary data collected during the study are presented in Table 1. Respondents' Demographic Summary, which shows that women accounted for the majority of respondents at 79.2%, compared to men at only 20.8%. This indicates that the GOBIS app tends to be used primarily by women who rely on transportation services to support their daily activities. It can also be

seen that the age group most active in using this app consists of respondents aged 18–24, accounting for 57.8%, indicating that digital service apps are indeed very popular among Gen Z, who have a lifestyle centered on convenience and speed, aligning with the services offered by GOBIS. This is directly proportional to the respondents' occupational profiles, where students dominate at 53.2%, forming the largest user base, which clearly demonstrates that this app is heavily relied upon by the working-age population.

Measurements models

TABLE 2. Construct Quality Measures

Construct	PVE	Alpha	Rho
PE	0.561	0.738	0.836
SI	0.691	0.849	0.899
TI	0.667	0.833	0.889
TG	0.827	0.93	0.95
AT	0.673	0.837	0.892
BI	0.671	0.835	0.891

Source: Data processed by the researcher, 2026

TABLE 3. Component Validity Assessment

Fornell-Lacker criterion values						
	PE	SI	AT	BI	TI	TG
PE	0.749					
SI	0.552	0.831				
AT	0.519	0.398	0.817			
BI	0.49	0.369	0.622	0.909		
TI	0.526	0.467	0.348	0.339	0.821	
TG	0.45	0.481	0.384	0.347	0.587	0.819
HTMT						
PE ↔ SI			0.712			
PE ↔ AT			0.657			
PE ↔ BI			0.586			
PE ↔ TI			0.67			
PE ↔ TG			0.572			
SI ↔ AT			0.475			
SI ↔ BI			0.425			
SI ↔ TI			0.564			



SI ↔ TG	0.573
AT ↔ BI	0.704
AT ↔ TI	0.412
AT ↔ TG	0.459
BI ↔ TI	0.384
BI ↔ TG	0.392
TI ↔ TG	0.697

Source: Data processed by the researcher, 2026

The evaluation of the measurement model revealed strong convergent validity. A summary of the test results is presented in Table 2. In the Construct Quality Measures, it is clear that the PVE values for all constructs range from 0.683 to 0.894. The highest value was found in the Trust in the Government variable at 0.827 (82%), followed by Social Influence at 0.691 (69%), Attitude at 0.673 (67%), Behavioral Intention at 0.671 (67%), and finally Performance Expectancy with a value of 0.561 (56%). These figures represent the extent to which each construct explains the variance of the existing indicators, meaning all indicators in this study successfully represent the measured variables. Furthermore, the questionnaire used in this study is highly reliable because each construct has Cronbach's Alpha and Rho values exceeding 0.70, which is considered good. This implies that the research questionnaire has no measurement error, and if the study were repeated using the same questionnaire, the results would remain unchanged. Discriminant validity was also assessed using the Fornell-Larcker and HTMT criteria to confirm the distinctiveness of the variables and minimize the likelihood of respondent confusion regarding the questionnaire. If we examine Table 3. Component Validity Assessment, all HTMT values do not exceed the minimum threshold of 0.90, thereby validating that no variables are too similar, let alone interchangeable.

Structural model and hypothesis testing

TABLE 4. Structural Model Fit Measures and R Square

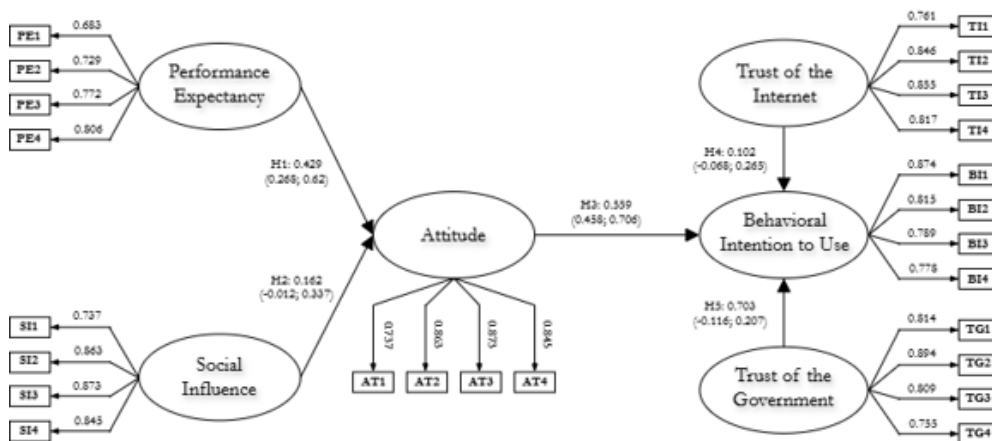
Structural Model Fit Measures					
FIT	AFIT	FITs	FITm	GFI	SRMR
0.569	0.562	0.116	0.682	0.965	0.076
R squared values of components in structural model					
PE	SI	TI	TG	AT	BI
-	-	-	-	0.287	0.407

Source: Data processed by the researcher, 2026

Implicitly, the structural model fit was assessed to determine how accurately the theoretical framework of this study reflects the reality in the field. Based on the data presented in Table 4, the structural model of this research is considered to fit well, as indicated by the GFI and SRMR values of 0.965 and 0.076, respectively. A higher GFI value indicates that the research theoretical framework fits the original field data very well, and a lower SRMR value suggests that the error rate of the research model is considered acceptable.

This was followed by an assessment of the model's predictive power using the R-squared test. In the same table, the Attitude variable yielded an R-squared value of 0.287, indicating that the exogenous variables in this model account for only 28.7% of users' attitudes toward using GOBIS Suroboyo. Meanwhile, the Behavioral Intention variable has a value of 0.407, meaning that 40.7% of users' intentions to use the GOBIS Suroboyo app are successfully explained in depth by this model.

FIGURE 3. Path Coefficient



Source: Data processed by the researcher, 2026

TABLE 5. Path Coefficients and Hypothesis Testing

Relationship	Coefficients	95% CI	Results
PE > AT	0.429	[0.268; 0.62]	Significant
SI > AT	0.162	[-0.012; 0.337]	Insignificant
AT > BI	0.559	[0.458; 0.706]	Significant
TI > BI	0.102	[-0.068; 0.265]	Insignificant
TG > BI	0.073	[-0.116; 0.207]	Insignificant

Source: Data processed by the researcher, 2026

Discussion

This study found that performance expectations directly influence users' attitudes toward using GOBIS Suroboyo by fostering a sense of satisfaction and the perception of the app's significant benefits. This is evidenced by a coefficient value of 0.429, meaning that every increase in perceived benefits will drastically boost users' positive attitudes. Given that the respondent profile is dominated by students and employees, their focus is on how much time they can save and how easy the features are to use. As shown in Figure 3. Path Coefficients, the PE indicators reveal that PE4 and PE3 received the highest perception scores, at 0.806 and 0.772, respectively. These scores reflect users' perception of the GOBIS (Golek Bis) Suroboyo app's performance and reinforce the view that this application is seen as a tool offering a relative advantage in simplifying daily life for the public compared to conventional methods. The high values of these two indicators can explain users' perspective on GOBIS Suroboyo, which is not merely seen as an ordinary digital app, but as a solution to navigating Surabaya's traffic-congested roads.

The results of Hypothesis 2 turned out to be far off the mark when it was found that the social influence variable did not affect users' decisions to adopt a positive attitude, as evidenced by its coefficient value of only 0.162, which falls into the very weak category. Unlike social media apps, GOBIS Suroboyo falls under the category of public service apps. Users consider using the app based on an urgent need to help them get around, not merely as a platform for self-promotion or to follow the latest trends. The people of Surabaya demonstrate a high level of digital autonomy, where they evaluate technology based on personal experience rather than following others' recommendations.

Attitude plays a dominant role in the decision to use the app, as evidenced by the highest coefficient value shown in Table 5: Path Coefficients and Hypothesis Testing. A coefficient value of 0.559 is considered high and directly confirms that the decision to continue using this app is a wise and enjoyable choice, underpinning satisfaction with the app's functionality and fostering digital loyalty. Meanwhile, in Figure 3, the AT3 and AT2 indicators had the highest values, indicating that the attitudes of GOBIS (Golek Bis) Suroboyo users are most strongly influenced by the affective dimension, specifically, a personal sense of liking as well as a deep cognitive evaluation of the appropriateness or wisdom of choosing this service.

The most surprising finding in this study is the fact that Trust in the Internet and Trust in the Government play no role in encouraging users to continue using GOBIS Suroboyo. These two variables have coefficient values of only 0.102 and 0.073, respectively values close to zero that are considered to have no effect. This result can be linked to the concept of digital habituation studied among urban residents, suggesting that users may overlook privacy risks and government

credibility in favor of the convenience of daily life (Liu et al., 2024). As long as GOBIS Suroboyo helps users achieve their goals, they will continue to use it in the future regardless of the circumstances, whether political sentiment or privacy risks. This distinguishes GOBIS Suroboyo from participatory e-government applications like JAKI in Jakarta, as studied by Al-Kautsar Maktub et al., (2025) there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government. GOBIS (Golek Bis) Suroboyo is a one-way service (information-based), so the risk of loss due to distrust in the government is minimal for users.

Implications

Theoretical Implications

This study offers a new perspective on the modified UTAUT theory, particularly in the field of digital public services in Indonesia. Users of the GOBIS Suroboyo app will exhibit positive attitudes as long as the app is beneficial to their lives. Users also do not consider validation from others to influence their decision to try new technology; as long as they feel it suits them and benefits them, they will disregard trends and recommendations. Simply put, this study challenges the assumption that all variables in the UTAUT model are universally applicable; in fact, users prioritize the app's utility over their trust in the internet and the government.

Managerial Implications

From a managerial perspective, the Surabaya City Transportation Agency needs to focus more on even the smallest improvements to the GOBIS Suroboyo app, such as providing descriptions and user guides for the app's features, as well as enhancing the user interface to foster a positive user experience. The recommended form of promotion is advertising that highlights the positive impacts users will experience when using GOBIS Suroboyo for mobility in Surabaya and its surrounding areas. Since factors such as benefits and utility dominate the formation of attitudes, the government needs to regularly verify that bus location data on the integrated map and bus availability on routes desired by users are accurately conveyed.

Sustainability and Future Research

GOBIS Surabaya must be able to adapt its services to meet the needs of the Surabaya community so that users continue to feel they can use the app on an

ongoing basis. The Surabaya city government needs to consider utilizing AI to predict traffic congestion, which frequently occurs during peak hours in Surabaya, in line with the smart city development concept. Future research should consider collecting a broader range of data and involving more respondents, taking into account other external factors such as bus conditions and the comfort of bus stops, since these directly impact the overall passenger experience.

Conclusion

This study successfully demonstrated that adoption of the GOBIS Suroboyo app is largely determined by its functional value and users' emotional perceptions. Performance expectancy was found to foster positive attitudes among the people of Surabaya; they are willing to adopt the app because they feel that GOBIS Suroboyo genuinely aids their daily commutes and is useful in their daily activities. This positive attitude motivates users to form the intention to use GOBIS Suroboyo on an ongoing basis. However, it was subsequently found that social influence, trust in the internet, and trust in the government play no role whatsoever in attitudes and intentions to use the app as a tool for daily activities. This means that the people of Surabaya prefer to evaluate new technology based on their own personal experiences, completely independent of current trends. This aligns with why trust-related variables do not influence users' intent to utilize GOBIS Suroboyo: as long as the app is useful, easily accessible, and equipped with advanced systems, users do not care about data privacy or who operates it. Because if an individual feels assisted, it means that everything else does not hinder their intent to use it.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this work, the authors used Gemini AI in order refine sentence syntax of the manuscript. After using this service, the authors reviewed and edited the content as needed and takes full responsibility for the final content of publication.

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Appendices

Appendix A: GOBIS (Golek Bis) Suroboyo

Features	Main functions
Suroboyo Bus & Wirawiri	Offers real-time and accurate tracking of bus locations, bus routes, and arrival schedules, operating exclusively within the city of Surabaya. This feature employs a bus identification scheme based on unique codes corresponding to the bus type and route served.
Trans Jatim	Offers real-time information regarding bus locations, bus routes, and arrival schedules across the widest operational area, covering five cities in East Java.
Peta Integrasi	An integrated visual map displaying all transportation routes, bus codes, and the locations of bus stops along the route.
Top Up	Facilitates in-app balance top-ups for efficient cashless payment transactions.
Pos Botol	Provides information on plastic bottle exchange points for environmental programs.
Gunakan Tiket	A dedicated service for users to activate and use their digital tickets for specific routes.
FAQ	A section designed to answer common user queries regarding GOBIS services and operations.

Appendix B: Research Instruments

Code	Measurement items	References
PE1	I would finish my various activities faster when using GOBIS (Golek Bis) Suroboyo	Al-Kautsar Maktub et al., (2025), Venkatesh et al., (2003)there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government
PE2	I find GOBIS (Golek Bis) Suroboyo would be useful in daily life	
PE3	I feel life would be easier using GOBIS (Golek Bis) Suroboyo	
PE4	My productivity would increase by using GOBIS (Golek Bis) Suroboyo	

SI1	People who are important to me think I should use GOBIS (Golek Bis) Suroboyo	Al-Kautsar Maktub et al., (2025), Venkatesh et al., (2003)there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government
SI2	People whose opinions I value would prefer me to use GOBIS (Golek Bis) Suroboyo	
SI3	People who are in my social circle think that I should use GOBIS (Golek Bis) Suroboyo	
SI4	I use GOBIS (Golek Bis) Suroboyo IS because other people are using it	
AT1	I think using GOBIS (Golek Bis) Suroboyo would be a good idea	Al-Kautsar Maktub et al., (2025), Venkatesh et al., (2003)there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government
AT2	I feel using GOBIS (Golek Bis) Suroboyo OBIS would be a wise idea	
AT3	I like the idea of using GOBIS (Golek Bis) Suroboyo	
AT4	I think using GOBIS (Golek Bis) Suroboyo would be fun	
BI1	I intend to use GOBIS (Golek Bis) Suroboyo in the future	Al-Kautsar Maktub et al., (2025), Venkatesh et al., (2003)there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government
BI2	I predict that I would use GOBIS (Golek Bis) Suroboyo in the future	
BI3	I will use GOBIS (Golek Bis) Suroboyo at least once a week	
BI4	I will recommend GOBIS (Golek Bis) Suroboyo to my friends or family	
TI1	I feel comfortable using the internet to access GOBIS (Golek Bis) Suroboyo because it offers sufficient protection	Al-Kautsar Maktub et al., (2025)there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government
TI2	I feel confident that legal structures and technology adequately protect me on the internet	
TI3	In general, the internet is now a robust and safe environment to exchange data using GOBIS (Golek Bis) Suroboyo	
TI4	I trust internet security and protection protocols, which increases my willingness to use GOBIS (Golek Bis) Suroboyo	
TG1	I can trust the commitment of the government in exchanging data online	Al-Kautsar Maktub et al., (2025)there are obstacles for certain community members to use e-government in Indonesia. This study is aimed to analyze the factors that influence users to adopt electronic government (e-government
TG2	I believe that the government always pays attention to my best interests	
TG3	I trust the government	
TG4	I trust the government's ability to provide effective and secure electronic services	

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Abstract

This study aims to analyze the factors influencing the adoption of the Mobile JKN application by users in Surabaya through the integration of the Technology Acceptance Model (TAM) and Information Quality from the Information Systems Success Model (ISSM). Using an explanatory quantitative approach, this study involved 160 respondents in Surabaya, whose data were analyzed using Structural Equation Modeling-Generalized Structured Component Analysis (SEM-GSCA). The findings indicate that Information Quality, Perceived Ease of Use, and Perceived Usefulness have a positive and significant influence on users' Attitude, which ultimately strongly drives the Intention to Use the Mobile JKN app. The analysis confirms that accurate information quality and ease of navigation are key determinants in shaping the perceived usefulness of the app among the public. The practical implications of this study emphasize the importance for BPJS Kesehatan to continuously update information content in real-time and simplify the application interface to address digital literacy barriers. Additionally, optimizing self-service features is expected to reduce physical queues at branch offices and healthcare facilities, thereby creating a social impact in the form of more equitable and efficient access to healthcare services. The originality of this study lies in the integration of information quality variables into the TAM framework to analyze the phenomenon of low app adoption in regions where JKN coverage is nearly 100% (Universal Health Coverage), thereby contributing new theoretical insights within the context of e-government health services in Indonesia.

Keywords: Mobile JKN, Technology Acceptance Model, SEM-GSCA, Information Quality, Technology Adoption, Surabaya.

Introduction

Modern technology has drastically transformed the world, prompting public organizations such as BPJS Kesehatan to adopt e-government. E-government is defined as an easily accessible, integrated, and evolving ICT platform designed to provide effective, transparent, and accountable government services (Bhatia et al., 2024; Malodia et al., 2021).

The Mobile JKN app was introduced by BPJS Kesehatan in 2017 to streamline the registration process, premium payments, and virtual consultations, thereby reducing the necessity for in-person visits to service facilities (JKN Mobile, 2025). Despite JKN-KIS coverage in Surabaya attaining 99.08% (2.47 million active

participants in 2025), app uptake was merely 435,651 users in 2024, attributed to inadequate information quality and restricted digital literacy (BPJS Kesehatan, 2025). This phenomenon aligns with findings from Western Balkan countries, where technological development has shown that unequal access to technology and skill-based inequality create significant gaps between those who can leverage digital services and those who cannot (Shehu & Qafa, 2024). As highlighted in the banking sector's digital transformation, the success of digital platforms heavily depends on consumer trust and digital literacy, where many users prefer traditional methods due to a lack of digital knowledge and concerns about security (Uku et al., 2025).

The Technology Acceptance Model (TAM) has been employed in previous research to evaluate factors such as Perceived Usefulness, Ease of Use, Attitude, and Intention to Use, as well as Information Quality from the ISSM (Gupta et al., 2023; Krisdina et al., 2022). Although the majority of these studies concentrate on national contexts or specific regions, such as Karawang and Semarang, there is a population gap for Mobile JKN users in Surabaya, a significant city with distinctive socio-digital characteristics. Moreover, there exists an empirical deficiency stemming from the limited research that thoroughly incorporates Information Quality as an external variable within the TAM model (Miles, 2017; Rahman & Chaniago, 2025). This study seeks to examine the factors affecting the adoption of the Mobile JKN app from the users' perspective in Surabaya. It is anticipated that this study will address a void in the literature, offer practical recommendations for BPJS Kesehatan, and contribute to the advancement of e-government in Indonesia by integrating the Technology Acceptance Model (TAM) and the Information Quality framework from the ISSM.

Literature Review

E-government

E-government denotes the utilization of information and communication technology (ICT), especially the internet, by governmental entities to deliver digital services and information to citizens. The objective is to enhance efficiency, openness, and accountability in public administration while augmenting citizen participation in the governing process (Malodia et al., 2021; Roztocky et al., 2024). While e-government offers numerous advantages, it also has its disadvantages particularly in less developed countries. Research by Abulhaija et al. (2025) in Jordan identified the primary obstacles to implementing this system as the digital gap, infrastructural limitations, insufficient digital literacy, and cultural resistance to change.

Mobile JKN

Organizations must persist in enhancing health services, as BPJS Kesehatan has achieved with the enactment of Presidential Regulation No. 82 of 2018 to guarantee the fulfillment of participants' fundamental demands (Putra et al., 2022). As one of the largest social insurance systems globally, JKN has provided coverage for over 278 million individuals, representing 98.89% of Indonesia's population, as of January 2025 (Dewan Jaminan Sosial Nasional, 2023; DJSN, 2025). The digital transformation was enhanced by the introduction of the Mobile JKN app in 2017, which streamlined online administration for participants and exemplified healthcare service digitization (Putra et al., 2022; Silvia & Gunawan, 2024). This software enhances accessibility and time efficiency for users through features like queue registration, doctor consultations, and real-time hospital bed availability information (JKN Mobile, 2025; Nadya, 2024).

Information System Success Model

System quality, service quality, information quality, intention to use, satisfaction, and net benefit are the six characteristics that make up the comprehensive framework known as the Information System Success Model (ISSM), which was created by DeLone and McLean and revised in 2003 (DeLone & McLean, 2003). This methodology does not assess performance in isolation but analyzes the comprehensive interconnections among factors (Krisdina et al., 2022). The revised ISSM has incorporated both individual and organizational impacts into Net Benefit for a more adequate evaluation, despite the initial version facing criticism (Rahi et al., 2021). Also, the Service Quality variable has been added. This model has been extensively utilized to evaluate the efficacy of systems like e-health (Krisdina et al., 2022; Rahi et al., 2021) and campus management systems (Al Naqbi, 2024). The researchers explicitly utilized the Information Quality (IQ) variable from this model in this investigation.

Information Quality

Information Quality (IQ) is intrinsically linked to the delivery of current, precise, and superior information (Rieh in Kanaan et al. 2023) governments of developing and developed nations must provide appropriate e-government services to assure confidence and effective and efficient usage among their citizens. The quality, security, and privacy of current e-government implementation have been impairing the trust and participation of users, in Jordan especially. Hence, this study examined the impacts of quality, security and privacy of e-government

services on the intention to use e-government services among Jordanian citizens. Questionnaires were used to gather data, and questionnaire items covered the constructs of quality factors (information quality, system quality, and service quality. Elevated IQ has been demonstrated to directly affect Attitude, Perceived Usefulness, and users behavioral intentions about the adoption of information technologies (Bamufleh et al., 2021; Gupta & Mathur, 2024; Kanaan et al., 2023) this study aims to analyse the impact of these factors on the adoption process. Design/methodology/approach: The study used convenience sampling procedure to collect the data from 431 citizens of India. Confirmatory factor analysis and structural equation modelling techniques were used to assess the validity of scale and test the hypotheses. Findings: The finding reveals that the information quality (IQ. In the realm of e-government and health applications, enhanced IQ markedly improves public trust and acceptance (Bamufleh et al., 2021; Kanaan et al., 2023) information system success model (ISSM. Considering that system usefulness is significantly influenced by the quality of its information, a comparable premise holds for mobile applications, wherein superior information quality will enhance users' propensity to engage with the system (Steininger et al., 2022; Zhai & Shi, 2020) as well as how students' perceived usefulness impacted their physics learning achievement. We examined 803 high school freshmen who used 20 specific functions of tablets in physics learning for five months. Based on pedagogical roles students and teachers played, 15 of the 20 functions were classified into three pedagogical categories: five for student-led, five for teacher-led, and five for collaborative functions (Journal of Science Education and Technology; Zhai, Li, & Chen, 28: 310–320, 2019. IQ not only affects usability and perceived advantages, but also positively increases user happiness and loyalty towards continued platform usage (Bamufleh et al., 2021; De Lima et al., 2021; Li & Shang, 2020) in the learning ecosystem, it is necessary to take into account the increasingly important role of learning platforms (LP. Thus, this study hypothesizes that:

H1a: Information Quality has a positive and significant effect on the Perceived Usefulness of Mobile E-Government applications among the public.

H1b: Information Quality has a positive and significant effect on the public's Attitude toward Mobile E-Government applications.

Technology Acceptance Model

The Technology Acceptance Model (TAM), developed by Davis in 1989, is a theoretical framework that elucidates the adoption of information technology, grounded in Fishbein and Ajzen's Theory of Reasoned Action (TRA) from 1975. TRA posits that individual conduct is determined by intention, which is influenced by attitudes and subjective norms (Fishbein & Ajzen, 1975). Perceived Usefulness (PU), which refers to the perception of performance improvement, and Perceived

Ease of Use (PEOU), which refers to the perception of minimal effort required to use the system, are two key constructs that Davis (1989) introduced to adapt this framework to the context of technology. User acceptance or rejection is a critical factor in information systems, and the Technology Acceptance Model (TAM) generally encompasses the factors of Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Attitude (ATTI), Behavioral Intention (INT), and external variables (Khan & Qutab, 2016; Venkatesh et al., 2012). In this study, the researcher employed the four primary TAM variables namely Perceived Usefulness, Perceived Ease of Use, Attitude, and Intention.

Perceived Usefulness

Perceived Usefulness (PU) is defined as the extent to which consumers perceive that a specific technology can enhance performance (Davis, 1989). The higher the perceived advantages in both professional and personal contexts, the greater the probability of adoption and continued utilization (Basuki et al., 2022; Davis, 1989; Toros et al., 2024). Empirical research indicates that PU substantially affects satisfaction, usage intention, and actual technological behavior (Denovan & Marsasi, 2025; Toros et al., 2024; Rapo & Demaj, 2024). Users typically demonstrate favorable attitudes and loyalty when technology provides concrete benefits for productivity and efficiency (Basuki et al., 2022; Denovan & Marsasi, 2025; Toros et al., 2024). Per Venkatesh et al. (2003), PU serves as a subjective evaluation that impacts the attitudes of diverse user demographics, such as older adults (Toros et al., 2024), m-government users (Eid & Selim, 2021), and individuals engaged in video conference-based learning (Aulia & Marsasi, 2024). Based on the above discussion, the following hypothesis is formulated:

H2: Perceived Usefulness has a positive and significant effect on the public's Attitude toward Mobile E-Government applications

Perceived Ease of Use

Perceived Ease of Use (PEOU) refers to an individual's conviction that utilizing a system necessitates minimal exertion (Davis, 1989). Intuitive technology enhances the probability of acceptance and continued utilization (Luo et al., 2024). Denovan & Marsasi (2025) assert that PEOU includes the absence of obstacles that improves both comfort and the efficacy of tasks. Users are more likely to be open and loyal when the technology is simple to operate (Denovan & Marsasi, 2025; Luo et al., 2024; Syafika & Antonio, 2024). Empirical research has shown that PEOU has a substantial impact on intention to use, perceived utility, satisfaction, and loyalty. PEOU is positively correlated with perceived usefulness in the e-commerce, healthcare, and education sectors (Budiyanto et al., 2024) and is also associated

with the decision-making process (Anjani & Fitria, 2023). The simplicity of use amplifies the perceived advantages of the system, hence reinforcing the intention to adopt it in everyday life (Liesa-Orús et al., 2023; Naatu et al., 2024). Ultimately, PEOU directly affects consumers' attitudes and indirectly influences their intention to use (T. H. V. Thi, 2024). As perceived usefulness rises, it affects attitudes toward mobile e-government (Prasalitiawan et al., 2021), whereas perceived ease of use indirectly influences an individual's propensity to utilize these services (T. Thi et al., 2024). Therefore, the following hypotheses can be concluded:

H3a: Perceived Ease of Use positively and significantly influences the Perceived Usefulness of the Mobile E-Government application

H3b: Perceived Ease of Use positively and significantly influences citizens' Attitude toward the Mobile E-Government application

Attitude and Intentions for Using the App

According to Davis (1989) and (Ajzen, 1991), attitude is a person's disposition or assessment, whether favorable or unfavorable, regarding a specific behavior. Naji et al. (2024) discovered that a favorable disposition markedly enhances the intention to utilize a mobile application, a correlation that remains consistent across diverse sectors including e-tourism, m-banking, IoT, and transportation (Barimbing & Astini, 2023; Hamouda, 2022; Mulyati et al., 2023; Naji et al., 2024). Behavioral Intention, as an indicator of behavioral inclination, is a crucial factor in technology adoption (Abdunool et al., 2024; Ajzen, 1991; Yuliani et al., 2024), with a strong intention correlating positively with the probability of adoption (Cesario et al., 2023; Sharma et al., 2022). The significance of positive attitudes in facilitating the adoption of e-government is determined by perceptions of the system's utility and user-friendliness, as per the concept of individual sentiments (Davis, 1989) and findings by Alalwan et al. (2018). Hasan et al. (2024); Naatu et al. (2024) and Naji et al. (2024) further underscore the robust association between ATTI and INT in digital public services. Intention signifies an individual's determination influenced by values and objectives (Ajzen, 1991), making Behavioral Intention a key predictor in consumer adoption choices (Eveleth & Stone, 2020; Upadhyay et al., 2022). Consequently, a strong intention to use is likely to enhance the probability of technology adoption (Kim & Kyung, 2023; Shaya et al., 2023). Therefore, the following hypothesis can be concluded:

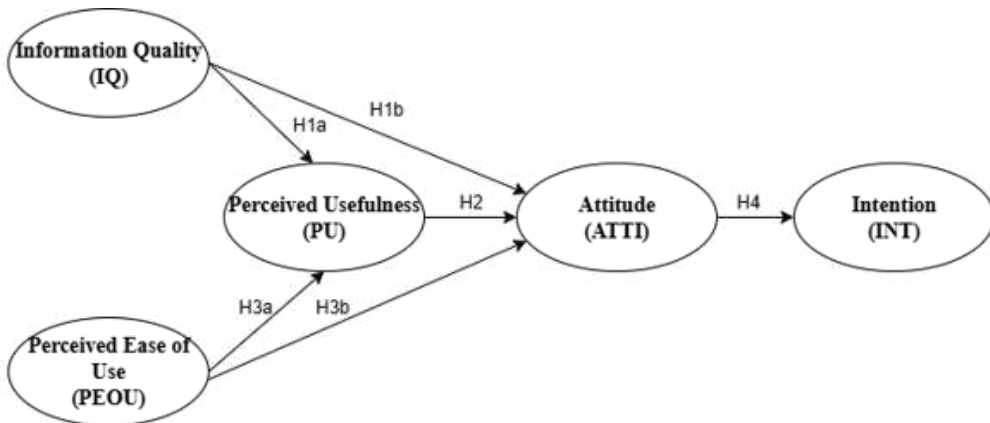
H4: The public's attitude toward the Mobile E-Government application positively and significantly influences the intention to use the E-Government application

Methodology

Instrument

The organized questionnaire comprises the following constructs: IQ, PU, PEU, ATTI, and INT. All individual pieces for each construct were sourced from pertinent literature, with certain items examined and slightly adjusted within the context of the Mobile JKN application. Five items from the IQ measurement scale were derived from the research conducted by Gupta & Mathur (2024) and Li & Shang (2020) this study aims to analyse the impact of these factors on the adoption process. Design/methodology/approach: The study used convenience sampling procedure to collect the data from 431 citizens of India. Confirmatory factor analysis and structural equation modelling techniques were used to assess the validity of scale and test the hypotheses. Findings: The finding reveals that the information quality (IQ. Four items assessing PU were modified according to Alhadid et al. (2022), Gupta & Mathur (2024) and Venkatesh et al. (2012) the goal of this study is to examine the various factors that influence the use of SANAD App As a health protection tool. The factors were adopted from well-established models like UTAUT, TAM, and extended PBT. Using survey data from 442 SANAD App from Jordan, the model was empirically validated using AMOS 20 confirmatory factor analysis, structural equation modeling (SEM. Four items assessing PEU were modified based on the works of Alhadid et al. (2022), Gupta & Mathur (2024), and Zeebaree et al. (2022) the goal of this study is to examine the various factors that influence the use of SANAD App As a health protection tool. The factors were adopted from well-established models like UTAUT, TAM, and extended PBT. Using survey data from 442 SANAD App from Jordan, the model was empirically validated using AMOS 20 confirmatory factor analysis, structural equation modeling (SEM. The authors ultimately assessed attitudes and behavioral intentions with four items, each derived from Gupta & Mathur (2024), Li & Shang (2020), and Venkatesh et al. (2012) this study aims to analyse the impact of these factors on the adoption process. Design/methodology/approach: The study used convenience sampling procedure to collect the data from 431 citizens of India. Confirmatory factor analysis and structural equation modelling techniques were used to assess the validity of scale and test the hypotheses. Findings: The finding reveals that the information quality (IQ. A five-point Likert scale, with 1 representing “strongly disagree” and 5 representing “strongly agree,” was utilized for all items in this questionnaire.

FIGURE 1. Research model



Data collection procedure and sample

This study is an explanatory research concentrating on users of the Mobile JKN application in Surabaya. Primary data was utilized to empirically evaluate the research hypotheses. A questionnaire was created to gather the primary data. The survey questionnaire was segmented into two components. The initial element of the questionnaire gathered demographic data and basic information concerning users' patterns of Mobile JKN app utilization. The second portion comprised inquiries concerning several factors influencing the adoption of the Mobile JKN application. The study population comprises all National Health Insurance (JKN) participants in Surabaya, amounting to 2.9 million individuals, which represents 99.08% of the entire population (DJSN, 2025). Due to the substantial population size, sampling was executed utilizing the convenience sampling technique, a method that selects a sample based on chance (Sugiyono, 2022). The criteria for this study included residents of Surabaya City who are registered as active JKN participants and users of the Mobile JKN app for the past four months. Hair et al. (2022) recommend that the sample size for this study be determined based on the rule of thumb or 10-times rule, which stipulates that the minimum sample size for multivariate Structural Equation Modeling (SEM) analysis should be 10 times the number of indicators in the overall research model. Based on a total of 21 indicators tested, the calculation yields 210. Therefore, the target sample size to be used by the researcher is 210 respondents.

Data collection for this study was conducted online by distributing a questionnaire to the public in the city of Surabaya. The initial sample target set by the researcher was 210 respondents to obtain more comprehensive results. However, during implementation, technical challenges arose in the field, including limited access to directly meet active users of the Mobile JKN app, as well as a number of questionnaires that were not returned or were incompletely filled out

by respondents. After data verification and cleaning, the final valid sample size suitable for analysis was 160 respondents. Although this number is smaller than the initial target, the 160 respondents are still considered valid and representative because they meet the minimum sample size criteria according to Roscoe in Sekaran & Bougie (2016), which states that in multivariate research, a sample size of between 30 and 500 subjects is appropriate.

Data analysis procedure

The data analysis procedure in this study was conducted using inferential analysis techniques, specifically the Structural Equation Modeling-Generalized Structured Component Analysis (SEM-GSCA) method. Before further data processing, the validity of the instrument was evaluated using Pearson Product Moment correlation, while its reliability was tested using Cronbach's Alpha via the JASP software. After the questionnaire items were deemed valid and reliable, the data collected from 160 respondents were analyzed using the GSCA Pro application to test the measurement model and structural model simultaneously. This analysis aimed to evaluate model parameters, including FIT values to assess explained variance, as well as hypothesis testing via path coefficients to understand the relationships among the variables Information Quality, Perceived Usefulness, Perceived Ease of Use, Attitude, and Intention to Use. SEM-GSCA was chosen due to its flexibility regarding data distribution, stability with limited sample sizes, and provision of comprehensive model fit indices such as GFI and SRMR.

Results

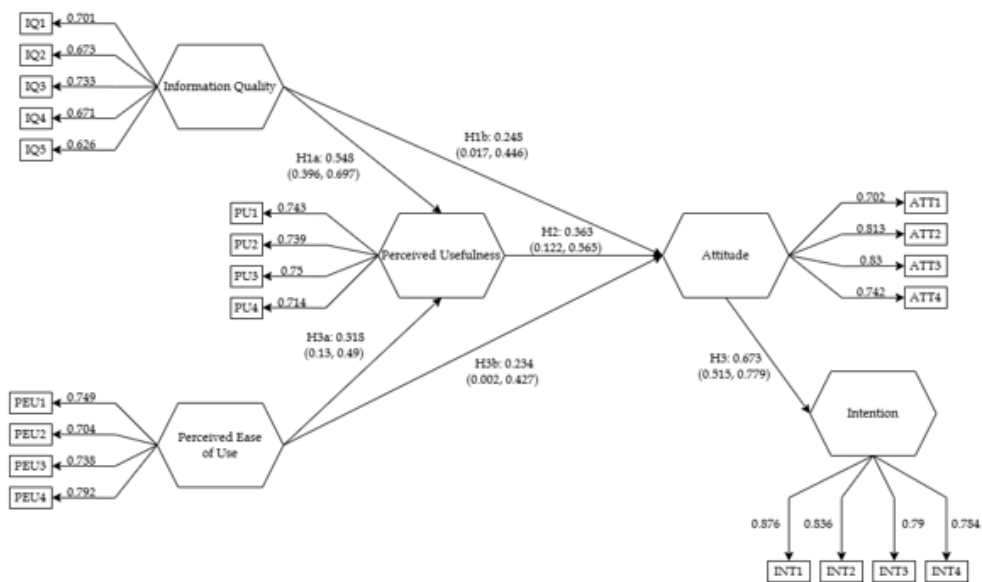
This study encompassed 160 active users of the Mobile JKN app in Surabaya, each having utilized the app for a minimum of four months. The demographic composition was predominantly comprised of adults aged 20–30 years (69%), females (73%), unmarried persons (53%), and those possessing a bachelor's degree (65%). According to usage frequency, the majority of respondents utilized this service on a monthly basis (46%). Primary data were gathered by a 5-point Likert scale questionnaire and processed with Structural Equation Modeling-Generalized Structural Component Analysis (SEM-GSCA) with GSCA-PRO software. The structural model showed acceptable fit with FIT=0.518 (51.8% variance explained), GFI=0.984 (>0.90), and SRMR=0.053 (<0.08), indicating acceptable model fit.

An assessment of the loading indicators revealed that all variables satisfied the adequacy requirement of above 0.5 (Chin, 1998)W. W., & Newsted, P. R. (1999), with the majority achieving the optimal level of 0.7 (Hair et al., 2019b). The INT1 indicator exhibited the greatest value at 0.876, while the IQ5 indicator recorded the lowest value at 0.626. Construct validity assessment verified convergent validity

and internal consistency, with Cronbach's Alpha and Composite Reliability (rho) exceeding 0.70 for all variables. The PVE value for the IQ variable (0.465) was somewhat below the 0.50 threshold, but the remaining variables exhibited satisfactory values (Hair et al., 2019). Discriminant validity was affirmed by the Fornell-Larcker criterion, as the square root of AVE surpassed the inter-factor correlation (Adu et al., 2020; Fornell & Larcker, 1981), but the HTMT ratio remained within acceptable psychometric boundaries (Hair et al., 2019; Henseler et al., 2015) yet concise, overview of the considerations and metrics required for partial least squares structural equation modeling (PLS-SEM).

The predictive capability of the structural model (R^2) demonstrates that the exogenous factors explain 62.2% of the variance in Perceived Usefulness (PU), 56.8% in Attitude (ATTI), and 45.3% in Intention (INT). Effect size analysis (f^2) indicated diverse impacts, from a tiny effect on the association between PEU and ATTI (0.058) to a very substantial effect on the association between ATTI and INT (0.827). All study hypotheses were accepted based on the evaluation of path coefficients with a 95% confidence interval (Hwang et al., 2021). Information Quality (IQ) demonstrated a favorable impact on Perceived Usefulness (PU) (0.548) and Attitude (ATTI) (0.248). Likewise, Perceived Usefulness exhibited a favorable influence on ATTI (0.363). Conversely, Perceived Ease of Use (PEOU) shown a favorable influence on Perceived Usefulness (PU) (0.318) and Attitude (ATTI) (0.234). Ultimately, Attitude demonstrated a significant positive effect on Intention (0.673), affirming that user attitude is an essential determinant in the intention to utilize technology.

FIGURE 2. Path Coefficient



Discussion

This study's findings demonstrate that IQ substantially affects the PU of the Mobile JKN application. These results are consistent with Bamufleh et al. (2021) information system success model (ISSM, who noted that an app is deemed beneficial if its information is accurate, timely, up-to-date, and relevant; Aswar et al. (2023), who claim that citizens view e-government as beneficial when information is complete, timely, and accurate; and Nguyen & Tran (2022), who clarified that perceptions depend on the experience of accessing information. IQ fosters trust, assuring users of the app's efficacy in healthcare management (Amanda & Layman, 2022); PU enhances with time savings (Jo & Park, 2023); and thus promotes public welfare (De Lima et al., 2021). Loading numbers indicate a significant distinction, IQ3 (The JKN Mobile App provides accurate information) is the highest, whilst IQ5 (In general, I can find the information I need regarding healthcare services in the Mobile JKN app) is the lowest. Users rely on the reliability of official sources but encounter difficulties in finding general health information due to navigation disruptions following updates. In PU, PU3 (Using the Mobile JKN app has improved my skills as a citizen) achieves the highest score, while PU4 (I find the Mobile JKN app useful in my daily life) attains the lowest score. Users recognize concrete advantages efficiency in time and cost, transparent access, and management of health rights yet not all necessitate daily oversight, as indicated by the monthly usage frequency among productive-age, highly educated individuals. Consequently, the application is regarded as a contextual civic instrument rather than an everyday essential.

IQ has a significant impact on the Mobile JKN app's ATTI, supporting the findings of Mensah et al. (2022), Mohammadi (2022), and Nookhao & Kiattisin (2023) this research fills the research gap by exploring the impact of website quality factors, trust factors, and technology adoption factors on intention to use e-government websites from the citizens' perspective in Afghanistan. This research also investigates the impact of factors on the adoption of governmental websites at three levels (information, interaction, and transaction that accurate, relevant, and accessible information fosters a positive initial disposition, enhances public understanding of the value of e-government, and increases satisfaction and intention. IQ amplifies enjoyment and fosters engagement by providing current, precise, and readily accessible information (Bamufleh et al., 2021; Kanaan et al., 2023) information system success model (ISSM. Users favor the application because of its intuitive navigation, straightforward menus, online queues that reduce wait times, and a user-friendly interface. Notwithstanding grievances over re-authentication following updates, the prevailing feedback remains favorable.

The precision of membership data is essential, although the ease of search fluctuates based on navigational proficiency. The highest ATTI loading was ATTI3, (I enjoy downloading the Mobile JKN app), while the lowest was ATTI1, (I prefer using the Mobile JKN app over other apps for informational purposes). Although their initial experience was satisfactory, not all users consider it their primary source of information. They continue to access other platforms, indicating strong early adoption but weak cross-app loyalty.

PU exerts a substantial impact on the ATTI of the Mobile JKN application. This corresponds with Toros et al. (2024), who propose that users perceive technology as advantageous, leading to a favorable attitude and readiness to utilize it, Basuki et al. (2022) discovered that positive perceived usefulness affects usage persistence. This finding, however, contradicts Denovan & Marsasi (2025), who contend that perceived usefulness may lack significance due to a disparity between learning duration and immediate advantages. In this context, perceived usefulness (PU) is expressed as positive attitude toward technology (ATTI) through satisfaction gained from user-friendliness (Ernawati et al., 2025), affects ATTI and the intention to adopt mobile government services (Eid & Selim, 2021), and is a vital element in technology acceptance (Fitrianingsih & Kusumapradja, 2025). The PU3 and PU4 gap endures, users appreciate the application for its prompt access to transparent health records, appointment schedules, remote consultations, and online referrals advantages that cultivate favorable attitudes toward technology for particular scenarios, despite their lack of integration into daily practices. Practical experiences that confirm membership, queue status, and facility information without physical visits elicit favorable emotions, nonetheless, not all individuals depend solely on Mobile JKN compared to alternative applications.

PEOU has a significant impact on PU in Mobile JKN. According to Bamufleh et al. (2021) information system success model (ISSM, the public views e-government health applications as user-friendly and supportive of improved outcomes. Venkatesh and Davis as cited in Jo & Park (2023) assert that PEOU reduces cognitive load by focusing attention on the activity rather than on the operation of the system. Intuitive applications foster seamless engagement with government services (Gupta & Mathur, 2024) this study aims to analyse the impact of these factors on the adoption process. Design/methodology/approach: The study used convenience sampling procedure to collect the data from 431 citizens of India. Confirmatory factor analysis and structural equation modelling techniques were used to assess the validity of scale and test the hypotheses. Findings: The finding reveals that the information quality (IQ; the belief that an application is user-friendly enhances the experience of fulfilling obligations (Ramdanis & Priyambodo, 2025) efficiency, and transparency of health services. However, the adoption of Mobile JKN is still constrained by the level of user acceptance. The research uses the Model of Technology Acceptance (TAM; accessibility correlates

with effectiveness, increasing awareness of functionality and the likelihood of reusing the application (T. Thi et al., 2024). In PEOU, PEU4 (Learning to operate the Mobile JKN application is easy for me) ranked highest, while PEU2 (It will be easy for me to become proficient in using this application) ranked lowest. Users of working age consider the app easy to understand using only their National ID number they can access all services, but they are less motivated to understand its aspects thoroughly due to infrequent use. Consequently, PU3 (using the Mobile JKN app enhances my capabilities as a citizen) surpasses PU4 (I find the Mobile JKN app useful in daily life), the app is perceived as a reliable guarantee of healthcare access, not as a daily companion. Users can update their data independently within 10 minutes without needing to visit an office, yet the benefits of healthcare coverage remain even with irregular usage.

PEOU has a significant impact on ATTI, which aligns with the findings of Prastiawan et al. (2021) regarding the influence of intuitive and user-friendly characteristics; Denovan & Marsasi (2025) regarding feature understanding that reduces psychological barriers to an enjoyable experience; and Syafika & Antonio (2024) regarding feature understanding that enhances overall perceived utility. PEOU fosters trust in the simplicity of the service (Al-rahmi et al., 2022), eliminates the need for training to facilitate adoption (Luo et al., 2024), and demonstrates a strong positive relationship with ATTI (Naatu et al., 2024). Easy navigation, direct access to simple features, positive Play Store reviews, fast and accurate data updates, and reduced need for in-person visits all foster positive perceptions. Regarding ATTI, ATTI3 (I am happy to download the Mobile JKN app) once again surpasses ATTI1 (I prefer to use the Mobile JKN app). Users found installation and registration easy, leading to satisfaction and perceived usefulness; however, they continued to use alternative search apps for general information, indicating that initial ease of use does not always drive cross-app preference.

Ultimately, ATTI significantly influences INT to use the Mobile JKN app, consistent with the findings of Hasan et al. (2024) that customer attitudes significantly drive e-governance adoption, Naji et al. (2024) the adoption of mobile applications has become a transformative force across various industries, significantly impacting the way businesses operate and manage their processes. One area where mobile applications are making a remarkable impact is in the realm of Occupational Health and Safety (OHS that a positive attitude (ATTI) influences intention (INT); and Kim & Kyung (2023) that a positive assessment of new technology adoption emphasizes internal behavioral control more than external suggestions. A positive attitude toward technology increases the intention to use it (Denovan & Marsasi, 2025); recognition of its usefulness and ease of use drives access to government services (Gupta & Mathur, 2024) this study aims to analyse the impact of these factors on the adoption process. Design/methodology/ approach: The study used convenience sampling procedure to collect the data

from 431 citizens of India. Confirmatory factor analysis and structural equation modelling techniques were used to assess the validity of scale and test the hypotheses. Findings: The finding reveals that the information quality (IQ; and positive intentions significantly influence actual usage as well as motivation to participate in e-government (Al-haddad et al., 2023). In the ATTI scale, ATTI3 is the highest and ATTI1 the lowest, indicating that practical needs influence usage more than emotional desires. In the INT scale, INT1 (I will continue to use the Mobile JKN app regularly) is the highest, while INT4 (I intend to continue using the Mobile JKN app in the future) is the lowest. Users assess their intentions concretely, focusing on urgent situational health needs such as online queues, membership verification, or data modification, rather than on abstract long-term commitments. This indicates that intentions are focused on the present and driven by urgent needs, not dependent on long-term planning. Positive initial experiences with intuitive and user-friendly services provide support, however, lasting intent is distinguished from abstract or situational intent based on the clarity of current benefits.

Conclusions

This study shows that all proposed hypotheses were affirmed, with IQ and PEU demonstrating a positive and significant impact on PU and ATTI. These findings validate that delivering precise information and a user-friendly system improves user ease, while promoting favorable attitudes toward technology to sustainably enhance intention for the Mobile JKN app. The successful adoption illustrates the essential function of the Mobile JKN app as an efficient e-government service in streamlining health administration in Surabaya, while concurrently advancing the third Sustainable Development Goal (SDG) of ensuring inclusive and quality health access for all individuals.

This study, while producing substantial results, has drawbacks related to its sample breadth, which is confined to the City of Surabaya, a respondent count that is below the initial aim, and the situational nature of app usage, which fails to adequately reflect long-term usage experiences. This study theoretically enhances the TAM framework by incorporating the IQ variable from ISSM and reinforces the significance of ATTI as a crucial mediator in public technology adoption. This indicates to BPJS Kesehatan that information transparency and interface optimization (UI/UX) are as vital as the development of new features, as the efficacy of digitalization is assessed by continued INT based on favorable user impressions.

In light of these findings, it is recommended that BPJS Kesehatan persist in enhancing IQ, specifically concerning data correctness, and streamline application

workflows to improve PEU and reduce technological obstacles. Local governments and healthcare institutions must engage in continuous education to synchronize digital information with practical service delivery, thereby preserving public trust. For educational institutions, these findings can act as an empirical reference in digital transformation studies. Future researchers are advised to broaden the geographic scope and sample size, as well as investigate additional variables to enhance the generalizability of insights concerning the dynamics of digital public service adoption in Indonesia.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

During the preparation of this work, the author used DeepSeek to search for references and refine the syntax. After using this tool/service, the author reviewed and edited the content as needed and assumes full responsibility for the final content of the publication.

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