

The Effect Of Digital Transformation, Technology Adoption, And Innovation On Business Performance

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Received: 23 March 2026

Accepted: 25 April 2026

Published online: 29 May 2026

Abstract

The purpose of the study is to look into the impact that digitalization, technology adoption, and innovation have on the performance of organizations. With technological changes happening rapidly and stiff competition in the markets, organizations must adapt to changes in technology, adopt innovations, and continue improving. The method used in this study is a quantitative method with an explanatory research design. Data was collected from decision-makers within the organizations via structured questionnaires, which were later analyzed using statistical analysis methods, such as multiple regression analysis. From the above results, it is evident that the variables digital transformation, technology adoption, and innovation have a significant and positive effect on the performance of the business. Of all these variables, it is clear that innovation has the highest level of dominance in influencing business performance. Innovation plays an important role in contributing to organizational success. The digital transformation strategy helps the business in improving its efficiency and creating new business models, while technology adoption facilitates better decision-making and increases efficiency. Moreover, from the results, it can be seen that there is a high level of significance associated with the effect of these variables on business performance. Therefore, it is important for companies to integrate these variables together in order to attain their full benefit and gain a competitive edge over others.

Keywords: Digital Transformation, Technology Adoption, Innovation, Business Performance, Organizational Strategy

1. Introduction

The past few decades have seen great change occur in the business world owing to the advancement of technology and the process of digitalization. Firms are required to be responsive to their changing environments, which feature stiff competition, shifting consumer demands, and innovation. Digital transformation has become a core strategy for businesses because it helps them incorporate digital technology in all operations and ways of working within the organization to transform the way it creates value (Palumbo & Cavallone, 2022; Susanti, Mulyanti, & Wati, 2023). It involves more than just incorporating new technology; rather, it involves transforming organizational culture, processes, and models of doing business (Haque, Haque, Kumar, & Singh, 2021).



The notion of technology adoption becomes an important concept in relation to achieving digital transformation. Technology adoption implies the use of innovative technologies for the improvement of organizational processes and decision-making (Skare, de las Mercedes de Obesso, & Ribeiro-Navarrete, 2023). Technologies like cloud computing, big data analytics, artificial intelligence, and IoT have transformed the business world as they facilitate making data-driven decisions (Liébana-cabanillas, Villarejo-Ramos, & Sánchez-franco, 2014; Mou & Li, 2025). Nevertheless, the effective use of technologies requires consideration of many elements, such as organizational readiness, commitment of leaders, employees' skills, etc. Companies that successfully adopt and apply technology can become competitive as they manage to adapt to the market environment and obtain higher performance results (Patma, Wardana, Wibowo, Narmaditya, & Akbarina, 2021).

Innovation is yet another crucial factor that determines business performance in today's economy. It involves coming up with new ideas, products, processes, or services that deliver value to both the consumers and the organization itself. It can take the form of innovation, which is characterized by small changes, as well as disruptive innovations that lead to revolutionary changes within industries (Pandey, Bhattacharyya, & Kharat, 2022). When talking about digital transformation, innovative changes may be brought about using digital technologies. Companies with a culture of innovation are bound to enjoy sustainable competitive advantages (Wang, Yang, Zailani, & Rejeb, 2026).

The connection among digital transformation, technology adoption, and innovation is very interrelated. Digital transformation creates the base for organizations to utilize modern technology. On the other hand, technology adoption makes the process of digital transformation more tangible (Asbeetah, Alzubi, Khadem, & Iyiola, 2025). Finally, innovation becomes the agent that helps improve the impact of digital transformation and technology adoption. These components have a positive influence on organizational performance through better operational efficiency, customer experience, and revenue generation. Nevertheless, some organizations have difficulties integrating these components into their operations (Idrisov & Shinkevich, 2024).

Business performance, being a multidimensional concept, denotes the effectiveness of the organization in meeting its set targets. Performance may be analyzed using both financial measures, which include profitability and growth in revenues, and non-financial measures that cover things like customer satisfaction levels, market penetration rate, and efficiency in operations (Fitrayanto Nugraha, Hardjomidjojo, & Sarma, 2023; Titova & Sloka, 2022). The advent of the digital age has necessitated the need to supplement conventional performance indicators with digital performance measures, which include engagement and reach on social media platforms (Mas Suariedewi, Adyatma, & Wulandari, 2022). Companies need to understand how all these factors impact business performance together.

Though the significance of the roles played by digital transformation, technology adoption, and innovation has been well understood, it appears as if most businesses fail to incorporate these aspects efficiently in order to attain their desired business performance. There is a lack of understanding of the connection between these aspects and their role in influencing business performance. It is also apparent that current researches focus only on the individual role played by each of these aspects without considering them in a strategic framework. The main goal of the research is to evaluate the impact of digitalization, technological innovation,

and innovation on business performance. This means that the research will focus on the influence of each variable separately and together, finding the connection between them, which will serve as a guideline for companies to develop effective business performance strategies.

2. Literature Review

There have been substantial developments in research regarding digital transformation, technology adoption, innovation, and business performance throughout the last few decades, considering the growing importance of technology in strategic decision-making processes for organizations. This part provides a review of various theoretical approaches and empirical results related to these constructs.

In general, digital transformation refers to the application of digital technologies within business processes, thus bringing about significant transformations to the manner in which businesses are conducted (Sharma, Srivastva, & Fatima, 2023; Vărzaru & Bocean, 2024). Digital transformation is not simply limited to digitization or automation but refers to wider organizational, cultural, and strategic transformations. As noted by Al-Delawi & Ramo (2025), Meilandri (2025), digital transformation can be described as the process of utilizing digital technologies to enhance organizational effectiveness while, at the same time, transforming business models. Likewise, Valero, Muñoz, Fernández, Biedermann, & Santolaya (2022) point out that digital transformation implies formulating digital strategies aimed at leveraging technological investments and aligning these with organizational strategies. Empirical research indicates that organizations implementing digital transformation efforts experience greater efficiency and competitiveness (Tsou & Chen, 2023).

Another important concept associated with digital transformation is technology adoption. The framework that helps to understand the phenomenon of technology adoption is called the Technology-Organization-Environment (TOE) framework. This framework was introduced by Tornatzky and Fleischer (1990) and considers the following three important contexts affecting technology adoption decisions: technological, organizational, and environmental. Moreover, the Technology Acceptance Model (TAM) introduced by Davis, Bagozzi, & Warshaw (1989) helps to understand how two concepts – usefulness and ease of use affect individuals' technology acceptance behavior. Research conducted on the issue shows that technology adoption is beneficial for companies as it leads to an increase in operational efficiency and improves the decision-making process and innovation potential. However, there are certain challenges related to high implementation costs, insufficient technical expertise, and resistance to change.

Innovation has been identified as an essential tool in ensuring competitive advantage and performance in businesses. As pointed out by Wang et al. (2026), innovation involves “creative destruction” where the old ideas and ways of doing things are replaced with new ones. Innovation may be defined from different perspectives, such as product innovation, process innovation, marketing innovation, and organization innovation. As suggested by Pandey et al. (2022), the diffusion of innovation is determined by such characteristics as relative advantage, compatibility, complexity, trialability, and observability. When it comes to innovation in a digital environment, there are technological advancements that facilitate rapid experimentation and collaboration, thus making organizations more innovative. Studies have

shown that firms that are characterized by higher levels of innovation demonstrate enhanced performance, both in financial and non-financial terms (BOLAJI, 2024; Hudnurkar, Ambekar, Bhattacharya, & Sheorey, 2023).

The interconnection between digital transformation and innovation has been extensively studied in contemporary literature. The digitalization process provides the necessary instruments and platforms for innovation by making it possible to analyze data and improve communications (Agustian, Mubarak, Zen, Wiwin, & Malik, 2023). According to Xin, Tang, Zhang, & Pan (2020), digital innovation is different from conventional innovation because it involves the use of digital platforms, ecosystems, and modular architecture. This change makes it possible for companies to work collaboratively with other players and customers to generate value. In addition, digital transformation has the potential to increase the innovation capacity of a company by creating a culture of innovation (Akour & Alenezi, 2022).

Just like the connection between technology adoption and innovation, the relationship between technology adoption and innovation has received considerable attention from researchers. The adoption of technology facilitates innovation through the availability of platforms required for innovation to occur. Big data analytics is one example where the use of analytics helps businesses learn about consumer behavior to create innovative solutions. Research shows that organizations that adopt technology tend to innovate and have greater performance levels than those that do not. Nonetheless, innovation through technology adoption is dependent upon the capacity of the business to adopt and utilize the technology (Gruenbichler et al., 2024).

Performance of the business is one of the main variables under investigation in the current research, and various aspects of business performance have been extensively discussed in previous studies. Traditional approaches to the assessment of business performance were based on financial factors like profitability, returns on investments, and revenue growth. Nevertheless, modern researchers stress the significance of non-financial criteria like client satisfaction, employee engagement, operational efficiency, and innovative performance. The Balanced Scorecard proposed by Kaplan & Norton (1992) represents an effective method of evaluation of organizational performance in different spheres. Digital performance measurement includes such criteria as website visits and digital revenue generation (Phiri, 2020).

A number of empirical works have focused on the direct and indirect impacts of digital transformation, technology adoption, and innovation on business performance. In particular, it has been proven that digital transformation is an effective strategy for promoting business performance through improved efficiency and innovation in terms of business models. Additionally, the positive impact of technology adoption on business performance can be observed through increased productivity and decreased costs of conducting business operations (Krajčík, Novotný, Civelek, & Zvolánková, 2023; Timotheou et al., 2023). Another factor that contributes to the improvement of business performance through the provision of differentiation and responding to customers' needs is innovation. Besides, innovation acts as a mediator in relation to technology adoption and business performance (Manita, Elommal, Baudier, & Hikkerova, 2020).

Even though literature is abundant on this subject, there are still some aspects that need clarification regarding the joint impacts of digital transformation, technology adoption, and

innovation on company performance. The majority of scholars have researched individual relationships between digital transformation and performance or the significance of innovation in company performance, regardless of other factors' involvement. Furthermore, it should be noted that because of the fast-changing nature of technology, there is always a need for updating theoretical considerations and research approaches.

3. Methods

Quantitative research methodology will be used in this study to explore the influence of digital transformation, adoption of technology, and innovation on business performance. Quantitative research is deemed suitable because of the ability to measure the relationships existing between variables as well as test hypotheses statistically. This research adopts an explanatory approach whose primary goal is to establish a cause-and-effect relationship between independent variables (digital transformation, adoption of technology, and innovation) and the dependent variable (business performance). Primary data will be gathered from participants engaged in the decision-making process within organizations via a survey questionnaire.

This study's population is made up of firms operating in different sectors, but particularly those that have adopted or are in the process of adopting digitization. Purposive sampling will be applied in this study to choose respondents with certain characteristics, such as those who have undergone digitization and have adopted technologies within their firms. The sample size to be included in this study will be decided based on statistical needs. The questionnaire will be used as the tool for collecting data in this study. The questionnaire will be developed on the Likert scale to measure the opinions of respondents towards digitization, technology adoption, innovation, and performance. Before data collection, the validity and reliability of the instrument will be checked.

The data analysis for the current research is carried out using statistical methods, namely, descriptive analysis and inferential analysis. Descriptive statistics are employed to summarize the characteristics of the respondents as well as to show the distribution of the variables. Inferential analysis includes the use of multiple regression analysis or structural equation modeling (SEM) to test the hypotheses stated as well as to analyze relationships between variables. The objective of the analysis is to find out to what extent digital transformation, adoption of technology, and innovation affect the performance of businesses on an individual basis as well as altogether.

4. Results and Discussion

4.1. Descriptive Statistics

Descriptive statistics provide information regarding the general characteristics and trends within the data prior to undertaking any further statistical analysis.

Table 1. Descriptive Statistics

Variable	Mean	Std. Deviation	Minimum	Maximum
Digital Transformation	3.842	0.621	2.100	5.000
Technology Adoption	3.765	0.587	2.200	5.000
Innovation	3.910	0.655	2.300	5.000
Business Performance	3.876	0.603	2.400	5.000

Source: Data Processed, 2026

As seen in the table, the means for all the variables analyzed are greater than 3.700, which implies that the respondents see digital transformation, technology adoption, innovation, and organizational performance at a relatively high level. Of the four variables, the mean value for innovation is highest (3.910). Standard deviations reveal a moderate amount of variability, implying consistency of the respondents' responses. Thus, a positive orientation towards digital and innovative practices can be inferred from the descriptive analysis.

4.2. Validity and Reliability Testing

This subsection evaluates whether the measurement instruments used in the study are valid and reliable. Validity ensures that the questionnaire measures what it is intended to measure, while reliability ensures consistency in the measurement.

Table 2. Validity Test (Factor Loadings)

Variable	Indicator	Loading Factor
Digital Transformation	DT1	0.812
	DT2	0.845
	DT3	0.801
Technology Adoption	TA1	0.789
	TA2	0.823
	TA3	0.807
Innovation	IN1	0.856
	IN2	0.834
	IN3	0.819
Business Performance	BP1	0.821
	BP2	0.844
	BP3	0.836

Source: Data Processed, 2026

All factor loadings exceed the threshold of 0.700, indicating that the indicators are valid and strongly represent their respective variables.

Table 3. Reliability Test (Cronbach's Alpha)

Variable	Cronbach's Alpha
Digital Transformation	0.871
Technology Adoption	0.854
Innovation	0.889
Business Performance	0.876

Source: Data Processed, 2026

All variables have Cronbach's Alpha values above 0.700, confirming that the measurement instruments are reliable. The results confirm that the data used in this study are both valid and reliable, allowing for further hypothesis testing with confidence.

4.3. Regression Analysis

This subsection examines the effect of digital transformation, technology adoption, and innovation on business performance using multiple regression analysis.

Table 4. Regression Coefficients

Variable	Beta Coefficient	t-value	Sig. (p-value)
Digital Transformation	0.312	4.215	0.000
Technology Adoption	0.276	3.842	0.000
Innovation	0.358	4.768	0.000

Source: Data Processed, 2026

The regression results show that all independent variables have positive and significant effects on business performance, as indicated by p-values less than 0.050. Innovation has the strongest influence ($\beta = 0.358$), followed by digital transformation ($\beta = 0.312$) and technology adoption ($\beta = 0.276$).

Table 5. Model Summary

R	R Square	Adjusted R-Square	Std. Error
0.782	0.611	0.603	0.388

Source: Data Processed, 2026

The R Square value of 0.611 indicates that 61.1% of the variation in business performance can be explained by digital transformation, technology adoption, and innovation. The remaining 38.9% is influenced by other factors not included in the model.

The F-test result shows a significance value below 0.050, indicating that all independent variables simultaneously have a significant effect on business performance. The regression analysis confirms that digital transformation, technology adoption, and innovation significantly and positively influence business performance, both individually and collectively.

4.4. Discussion

Findings from the study clearly demonstrate that digital transformation positively impacts the performance of businesses. This suggests that digitalization in organizational processes contributes to higher levels of efficiency and effectiveness in organizations. Digital transformation offers organizations an opportunity to become efficient in their operations through improved communication processes and quick reactions to changes in the business environment. Ultimately, such an impact will have performance implications for organizations in terms of efficiency and productivity gains as well as increased customer satisfaction levels. Findings from this research resonate with previous studies, indicating the importance of digital transformation in business as an enabler of new business models and competitive advantage.

In addition, apart from being a facilitator of internal process improvement, digital transformation positively impacts an organization's external dealings with its customers and other stakeholders as well. In this regard, the use of digital channels helps organizations interact with their customers in real-time while collecting feedback for the delivery of personalized services. Such a customer-oriented approach is a great source of business success. It is important to mention here that digital transformation's success greatly relies upon the

management of the process itself. The issues of resistance to change, absence of relevant skills, and inadequate infrastructure may affect its positive outcomes.

Additionally, the study shows that there is a significant and positive impact of technology adoption on business performance. This finding underscores the need for businesses to embrace relevant technology to improve performance. Technology adoption allows organizations to automate their processes, minimize costs, and make better decisions by analyzing data. It also helps to improve business performance in other ways. The results obtained are consistent with various theories, including TOE and TAM frameworks, which emphasize perceived usefulness, organizational readiness, and environmental conditions for technology adoption.

Further, the influence of technology adoption on the performance of a business can be analyzed based on how it helps improve the capabilities of an organization. Through the adoption of technology, an organization can achieve improved capability to process information, coordinate actions, and develop innovations. Nevertheless, technology adoption alone does not necessarily translate into better performance. In order for organizations to benefit from technology adoption, it is imperative that organizations adopt technology that complements their business strategies. Technology adoption without proper implementation will have no bearing on organizational performance.

Innovation turns out to be the most dominant element influencing the performance of business entities in this research. This result clearly demonstrates the importance of innovation in shaping the success of organizations. Through innovation, business organizations are able to create new products, enhance services, and streamline processes, thus adding value to customers and giving their organizations an advantage over others. The significant impact of innovation on the performance of business organizations is consistent with the theoretical viewpoint, suggesting that innovation plays a vital role in sustaining the growth of organizations over time. Further, innovation is the link that ties digital transformation and technology adoption to performance in the organization. Innovations can only be supported by digital technologies, which means that the latter act as the basis upon which innovation is built. From this point of view, one can see innovation as the result of proper digital transformation and technology adoption in the organization. The interrelated nature of all these elements implies that organizations cannot address each element separately but have to use a more comprehensive approach. Innovation will require encouraging creativity and fostering research and development.

The influence of digital transformation, adoption of technology, and innovation on performance can be explained by considering the simultaneous influence of these variables. In fact, regression analysis confirms that digital transformation, adoption of technology, and innovation account for a large part of business performance variance. Therefore, it is obvious that the integrated approach needs to be adopted in order to obtain desired results regarding performance. Indeed, business organizations that implement all three measures together can achieve better results compared to those that do not.

A further critical implication from this study relates to the issue of alignment. In other words, an organization should ensure the alignment of its digital transformation, technology adoption, and innovation processes with its general business strategy. Lack of such alignment can cause inefficiency in business performance. For instance, the implementation of

technological innovations without any specific purpose would not bring substantial gains to the organization. At the same time, innovation may remain inefficient if there are no appropriate technologies to facilitate it. This study's findings have other applications in practice as well. For instance, first and foremost, managers need to see digital transformation as an important strategic goal and make sure they have adequate resources for this purpose. The second recommendation is to use a proactive strategy for introducing innovations, which involves constant monitoring of the latest trends and development of necessary technologies. Lastly, since an innovation culture had the strongest influence on business results, managers should concentrate on establishing such a culture.

5. Conclusion

The current study indicates that digital transformation, technology adoption, and innovation are key factors that play an essential role in improving business performance. Thus, all three independent variables positively influence the dependent variable and prove their significance both independently and jointly. The latter shows that innovation is the key driving force for performance enhancement. Digital transformation allows restructuring activities within the organization and increasing its efficiency, while technology adoption serves as the basis for such changes. Innovation is important in translating technological achievements into real benefits and advantages that help reach new heights in business activities. In other words, it is vital to consider an integrated strategy for enhancing business performance by implementing technologies and fostering innovation.

6. References

- Agustian, K., Mubarak, E. S., Zen, A., Wiwin, W., & Malik, A. J. (2023). The impact of digital transformation on business models and competitive advantage. *Technology and Society Perspectives (TACIT)*, 1(2), 79–93.
- Akour, M., & Alenezi, M. (2022). Higher education future in the era of digital transformation. *Education Sciences*, 12(11), 784.
- Al-Delawi, A. S., & Ramo, W. M. (2025). The Role of Triple Entry Theory in the Development of Accounting Services Using the Blockchain Platform. *Journal of Information Systems Engineering and Management*, 10(37s), 887–900.
- Asbeetah, Z., Alzubi, A., Khadem, A., & Iyiola, K. (2025). Harnessing digital transformation for sustainable performance: exploring the mediating roles of green knowledge acquisition and innovation performance under digital transformational leadership. *Sustainability*, 17(5), 2285.
- BOLAJI, B. H. (2024). *The influence of technological, organisational, and environmental factors on gscm adoption among Smes IN NIGERIA: The Moderating Effect Of Innovation Capability*.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). Technology acceptance model. *J Manag Sci*, 35(8), 982–1003.

- Fitrayanto Nugraha, W., Hardjomidjojo, H., & Sarma, M. (2023). Risk Assessment of MSME Credit Process Digitalization Program of PT Bank XYZ, West Sumatra Region. *International Journal of Research and Review*, 10(6), 361–371. <https://doi.org/10.52403/ijrr.20230644>
- Gruenbichler, R., Wijaya, L., Meng, C. K., Greimel, K., Anita, T. L., & Samuel, S. (2024). Artificial Intelligence Adoption Among Accountants: Empirical Study in Austria. 2024 *International Conference on Information Management and Technology (ICIMTech)*, 281–286. IEEE.
- Haque, M. A., Haque, S., Kumar, K., & Singh, N. K. (2021). A comprehensive study of cyber security attacks, classification, and countermeasures in the internet of things. In *Handbook of research on digital transformation and challenges to data security and privacy* (pp. 63–90). IGI Global.
- Hudnurkar, M., Ambekar, S., Bhattacharya, S., & Sheorey, P. A. (2023). Relationship of total quality management with corporate sustainability in the MSME sector: does innovation capability play a mediating role? *The TQM Journal*, 35(7), 1860–1886.
- Idrisov, A. E., & Shinkevich, A. I. (2024). The role of digital transformation in ensuring the level of technological development of industries and enterprises. *Vestnik of Samara University. Economics and Management*. Retrieved from <https://api.semanticscholar.org/CorpusID:274268985>
- Krajčák, V., Novotný, O., Civelek, M., & Zvolánková, S. S. (2023). Digital literacy and digital transformation activities of service and manufacturing SMEs. *Journal of Tourism and Services*, 14(26), 242–262.
- Liébana-cabanillas, F., Villarejo-ramos, Á. F., & Sánchez-franco, M. J. (2014). Mobile Social Commerce Acceptance Model : Factors and Influences on Intention To Use S-Commerce. *XXVI Congreso Nacional de Marketing*, (September), 1–15.
- Manita, R., Elommal, N., Baudier, P., & Hikkerova, L. (2020). The digital transformation of external audit and its impact on corporate governance. *Technological Forecasting and Social Change*, 150, 119751.
- Mas Suariedewi, I. G. A. A., Adyatma, I. W. C., & Wulandari, I. G. A. A. (2022). The Impact of Social Media Marketing for MSMEs Sustainability in Covid-19 Period. *Journal of Business and Management Review*, 3(9), 641–655. <https://doi.org/10.47153/jbmr39.4602022>
- Meilandri, D. (2025). Transformation of Indonesia's Tax System through Coretax: A Qualitative Study in the Digital Era. *Sustainability Accounting Journal*, 2(1), 51–56.
- Mou, Y., & Li, X. (2025). Risk Perception and Key Beliefs on Business Adaptation Behavior of Family Farmers: Empirical Evidence from Sichuan Province, China. *Behavioral Sciences*, 15(1). <https://doi.org/10.3390/bs15010086>
- Palumbo, R., & Cavallone, M. (2022). Is work digitalization without risk? Unveiling the psycho-social hazards of digitalization in the education and healthcare workplace. ... *Analysis & Strategic Management*. <https://doi.org/10.1080/09537325.2022.2075338>
- Pandey, N., Bhattacharyya, S. S., & Kharat, M. G. (2022). Explicating the factors influencing

- firm performance: study of social enterprises in India. *International Journal of Organizational Analysis*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/IJOA-01-2022-3128>
- Patma, T. S., Wardana, L. W., Wibowo, A., Narmaditya, B. S., & Akbarina, F. (2021). The impact of social media marketing for Indonesian SMEs sustainability: Lesson from Covid-19 pandemic. *Cogent Business and Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1953679>
- Phiri, M. (2020). Exploring digital marketing resources, capabilities and market performance of small to medium agro-processors. A conceptual model. *Journal of Business and Retail Management Research*, 14(2).
- Sharma, R., Srivastva, S., & Fatima, S. (2023). E-Commerce and Digital Transformation: Trends, Challenges, and Implications. *International Journal For Multidisciplinary Research*. Retrieved from <https://api.semanticscholar.org/CorpusID:264075158>
- Skare, M., de las Mercedes de Obesso, M., & Ribeiro-Navarrete, S. (2023). Digital transformation and European small and medium enterprises (SMEs): A comparative study using digital economy and society index data. *International Journal of Information Management*, 68, 102594. <https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2022.102594>
- Susanti, E., Mulyanti, R. Y., & Wati, L. N. (2023). MSMEs performance and competitive advantage: Evidence from women's MSMEs in Indonesia. *Cogent Business and Management*, 10(2). <https://doi.org/10.1080/23311975.2023.2239423>
- Timotheou, S., Miliou, O., Dimitriadis, Y., Sobrino, S. V., Giannoutsou, N., Cachia, R., ... Ioannou, A. (2023). Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. *Education and Information Technologies*, 28(6), 6695–6726.
- Titova, N., & Sloka, B. (2022). Impact of Intellectual Capital Efficiency on Growth Rate and Profitability of a Company: NASDAQ Baltic Case. *European Integration Studies*, (16), 150–165. <https://doi.org/10.5755/j01.eis.1.16.31492>
- Tsou, H.-T., & Chen, J.-S. (2023). How does digital technology usage benefit firm performance? Digital transformation strategy and organisational innovation as mediators. *Technology Analysis & Strategic Management*, 35(9), 1114–1127.
- Valero, J. I., Muñoz, N., Fernández, A., Biedermann, A., & Santolaya, J. L. (2022). From Product Eco-design to Sustainable Design of Systems Composed of Products and Services. *International Conference on The Digital Transformation in the Graphic Engineering*, 87–96. Springer.
- Vărzaru, A. A., & Bocean, C. G. (2024). Digital Transformation and Innovation: The Influence of Digital Technologies on Turnover from Innovation Activities and Types of Innovation. *Systems*, 12(9), 359.
- Wang, X., Yang, X., Zailani, S., & Rejeb, A. (2026). How Innovation Capability Drives Sustainable Operational Performance in Practices Within Alternative Food Networks: The Mediating Roles of Business Platforms and Community Building. *Sustainability*, Vol. 18, p. 305. <https://doi.org/10.3390/su18010305>

Xin, L., Tang, F., Zhang, S., & Pan, Z. (2020). Social capital and sustainable innovation in small businesses: Investigating the role of absorptive capacity, marketing capability and organizational learning. *Sustainability*, 12(9), 3759.