

Target model for the digital strategy transformation of Universities



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Abstract This article focuses on developing a target model for the digital transformation strategy of universities amid global challenges driven by the Fourth Industrial Revolution and the rapid spread of digital technologies. As key players in regional and national economic development, universities must radically transform their structures, management, and educational approaches. Modern universities cannot rely solely on traditional educational activities but must adapt to the digital age by integrating advanced technologies such as Big Data, artificial intelligence, blockchain, and interactive educational platforms. This study aims to establish a model for a university digital strategy that enables effective integration of digital technologies across all operational aspects. It examines existing university digitalization approaches, highlighting key challenges and opportunities. The paper analyzes digital technology's impact on education, university management, and research, proposing a novel approach to defining critical infrastructure that meets digital economy demands and ensures rapid adaptation to external changes. Additionally, the paper addresses access management to university resources, essential for digital-age functionality. The proposed digital strategy principles are designed to enhance competitiveness among global educational centers, emphasizing digital platform integration and the development of proprietary educational resources and platforms for collaboration with other institutions. The study concludes that a university's success in the digital era depends on its capacity to respond swiftly to emerging challenges and leverage innovative technologies to optimize its operations.

Keywords: digital university, artificial intelligence, digital transformation, educational platforms

1. Introduction

The Fourth Industrial Revolution, based on digital technologies, is fundamentally changing society, including the education sector. Universities, which have traditionally played the role of knowledge centers, research, and learning, are facing unprecedented challenges. They are expected not only to adapt to technological changes but also to transform into key drivers of regional and global development. Universities in developed countries are actively integrating the concept of academic entrepreneurship, which emerged in the 1980s as a response to the growing demand for innovation and economic efficiency of educational institutions (Copeland et al., 1999).

Academic entrepreneurship encompasses a wide range of activities: scientific cooperation with industry, patenting of innovations, creation of startups, and development of business incubators. For example, the growth in the number of university startups in the United States after the adoption of the Bayh-Dole Act demonstrates the potential of academic entrepreneurship for economic development. Universities are transforming into essential elements of regional innovation ecosystems, providing platforms for the generation of new ideas and increasing the competitiveness of the economy (Bramwell & Wolfe, 2008). The entrepreneurial university model, exemplified by institutions like the University of Waterloo, has demonstrated how universities can act as catalysts for regional economic growth by fostering close ties between academia, industry, and government (Brankovic, 2018).

The importance of strategic management in universities has also grown significantly. The Balanced Scorecard methodology, initially developed for businesses, has been successfully adapted for educational institutions, helping them align academic and financial goals with broader societal needs (Norton & Kaplan, 2003). Such tools enable universities to monitor their performance and adapt to the rapidly changing external environment, fostering innovation and maintaining competitiveness.

Alongside the development of academic entrepreneurship, digital transformation is accelerating, encompassing all aspects of university activities. Modern digital technologies such as big data, artificial intelligence, the Internet of Things, cloud computing, and open educational resources (OER) are becoming integral to the educational process. These technologies are revolutionizing teaching methods, creating adaptive educational platforms that enable personalized learning experiences. For instance, artificial intelligence can be employed for automated student assessments or the creation of individualized learning pathways (Belfield, 2003).



Digital innovations have become a crucial factor in transforming education, ensuring the right to education even during global crises. According to UNESCO, the COVID-19 pandemic underscored the importance of digital technologies in maintaining educational continuity. While countries with developed ICT infrastructures rapidly adapted to distance learning, significant portions of the global population faced disruptions in access to education (UNESCO, 2024). Approximately one-third of students worldwide were deprived of educational opportunities due to school closures, highlighting the urgent need to develop sustainable and inclusive digital education systems that integrate technology, human resources, and innovative learning models (Bok, 2004).

Moreover, global university rankings have increased competition among institutions, incentivizing them to embrace digital transformation and entrepreneurial strategies to maintain competitiveness and attract resources (Belfield & Levin, 2002). These rankings not only reflect academic performance but also emphasize the role of universities in economic and social development, creating a demand for strategic and innovative approaches to education (Copeland et al., 1999).

Therefore, the impact of digital technologies goes beyond changes in the educational process. They are also transforming the way research results are commercialized, contributing to the creation of university startups, and strengthening the interaction between universities and society. The use of big data, for example, allows universities to analyze the needs of students and employers, adapting their programs to meet real market demands.

The main idea of this study is that digital technologies create a new model of academic entrepreneurship based on the integration of innovations into all aspects of university activities. This model allows universities not only to adapt to modern changes but also to form new economic and social approaches to the development of the knowledge society.

The purpose of this article is to develop a conceptual model of the digital transformation of universities in the context of their adaptation to the digital economy and the Fourth Industrial Revolution, considering the principles of entrepreneurship, innovative technologies, and institutional support. The objectives of the study are:

- to analyze the impact of digitalization on the functioning of modern universities, determining its role in the formation of the knowledge economy and innovation ecosystems;
- to research key challenges in the process of digital transformation of universities, including infrastructure adaptation, managing access to resources, and considering stakeholder interests;
- to define the basic principles of developing the critical infrastructure of a digital university, including its components, functions, and impact on the university's competitiveness in the global environment;
- to develop a model of an entrepreneurial university with a focus on the role of university culture, innovative technologies, and a reward system to stimulate entrepreneurial activity among members of the academic community.

To offer recommendations on the integration of digital educational platforms, advanced technologies (Big Data, artificial intelligence, blockchain), and international scientific collaborations to strengthen the innovation activities of universities. Particular attention is paid to the analysis of technologies such as big data, artificial intelligence, and adaptive learning platforms. These technologies are forming new approaches to managing the educational process, promoting interaction between universities and public organizations, and creating conditions for effective work in the global digital economy (Khomeenko et al., 2024).

Therefore, the study aims to create a comprehensive framework for the effective digital transformation of universities. The developed model will allow universities not only to adapt to modern changes but also to contribute to their leadership in the formation of an innovative society.

2. Materials and Methods

In this study, we used a comprehensive approach, including an analysis of scientific literature, a comparative analysis of existing approaches to the digitalization of higher education, and structural modeling.

The analysis of the scientific literature was based on publications for the period 2020-2024 related to the implementation of Big Data, artificial intelligence, digital educational platforms, and other innovative technologies in higher education institutions. The time range was chosen because of the active phase of digital transformation, in particular under the influence of the COVID-19 pandemic and military aggression in different countries, which has significantly affected educational processes. The main criteria for including publications were thematic relevance (study of digital technologies in the context of higher education), assessment of the impact of innovations on educational processes, and availability of comparative data on the implementation of digital solutions in different regions of the world. Both international and local studies were considered to ensure the completeness of the analysis.

The comparative analysis of approaches to the digitalization of universities was based on benchmarking. The main criteria for the analysis were the level of development of digital infrastructure, the use of innovative technologies such as artificial intelligence and adaptive platforms approaches to access management and data privacy, and also the degree of integration of digital platforms into the educational process. The analysis allowed us to identify the main challenges and opportunities related to digital transformation based on a comparison of the experience of universities in different countries.

Structural modeling was conducted to develop a target model of the university's digital transformation strategy. During the work, we identified the main components of the model, including critical infrastructure, stakeholder interests, and the challenges of the Fourth Industrial Revolution. The analysis of the relationships between these components was carried out to ensure synergy in the educational ecosystem. The conceptual model was created using specialized software (MATLAB), which made it possible to assess its viability by simulating scenarios for the implementation of digital strategies.

The publications, we used in the study, were selected based on the high activity of research in the field of digitalization caused by the COVID-19 pandemic and military aggression in different countries. The main sources were articles from international scientific journals, UNESCO reports, and research from leading universities around the world. Only those papers that covered digital technologies in higher education, presented empirical data or successful cases of digital transformation were included in the analysis. Papers that dealt only with the basic use of ICTs without analyzing their impact on educational processes were not considered.

To ensure clarity and uniformity in the use of terms, we introduced key concepts in the study. Critical infrastructure is seen as a set of resources, including digital platforms, network services, and analytical systems that ensure the effective functioning of the university in the digital ecosystem. Access management is defined as the practice of ensuring data security and privacy within university platforms and networks. Digital education platforms are described as interactive systems that enable online learning, automate administrative processes, and create personalized learning paths for students.

The obtained results allowed us to formulate practical recommendations for the implementation of new principles of management and the development of digital infrastructure of universities that meet the challenges of the modern educational environment.

3. Results and Discussion

Digitization serves as a catalyst for innovation, presenting both opportunities and new challenges for the development of economic systems at all levels of complexity. As universities transition to digital models, it becomes essential to define and recognize new indicators for evaluating how effectively they utilize available resources. In the digital economy, digital resources and services have emerged as critical assets that play a decisive role in the functioning of modern universities (Skliarenko et al., 2024).

The COVID-19 pandemic significantly altered approaches to organizing the educational process in universities during the 2019--2020 academic year, underscoring the urgent need for the development and implementation of distance education. Consequently, remote learning, once considered an alternative, became the primary educational model amid quarantine restrictions (Bobro, 2024).

The Fourth Industrial Revolution and rapid digitization are significantly transforming the operations of modern universities, positioning them as key players in regional and global economic development (Yahodzynskyi, 2015). These changes present new challenges that necessitate swift adaptation to evolving conditions. A crucial aspect of this transformation is the integration of advanced technologies—such as big data, artificial intelligence, and blockchain—along with the development of digital educational platforms (Copeland et al., 1999). These innovations fundamentally alter management structures, the organization of educational processes, and research activities.

Despite the clear advantages of digital transformation, universities face several fundamental problems that hinder its effectiveness. These issues can be categorized into three primary areas that define the modern university model:

1. Requirements for the composition of critical infrastructure.
2. Consideration of stakeholder interests.
3. Adaptation to the conditions and demands of the Fourth Industrial Revolution.

This framework is graphically represented in Figure 1.

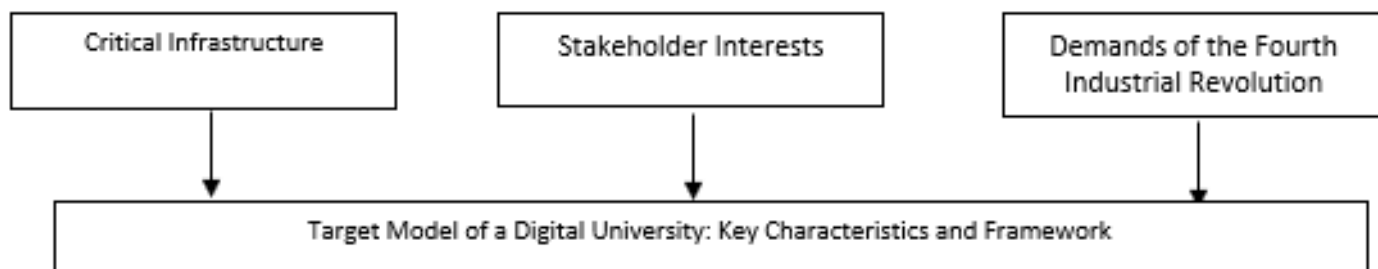


Figure 1 Main components of the target model for a Digital University.

Let us explore in more detail the components of the target model for a digital university. First, it is essential to clarify certain aspects related to the critical infrastructure of this type of institution. In the context of society's digital transformation, traditional university resources, such as campuses and physical buildings, are gradually losing their significance, while digital



resources are becoming vital for university operations. This shift necessitates the development of new infrastructure requirements that not only meet the demands of the digital economy but also facilitate the establishment of a digital university within virtual spaces.

To this end, we propose introducing a new concept—critical infrastructure—which refers to the portion of a university's infrastructure that identifies a specific institution within the external environment, essentially serving as the “face” of the university in modern society (Brankovic et al., 2018). The primary function of critical infrastructure is to enable the university to meet and respond effectively to emerging challenges in the external environment and to address the demands of the new economy.

Understanding critical infrastructure also necessitates a shift in perceptions regarding the role and place of the university in a rapidly changing world and within the national innovation system. In the digital age, the requirements for management and infrastructure are undergoing radical transformations, which must:

- provide the university with the means to compete for various positions;
- accommodate incoming streams in terms of quantity and quality, aligning with established requirements;
- ensure a prompt response to both external and internal changes, thereby fundamentally enhancing the university's flexibility and adaptability in the new digital era.

Therefore, it is not merely the construction of this infrastructure that is important but rather the formulation of the principles and requirements that should guide the development of the university's infrastructure (Table 1).

Table 1 Principles for developing the university's infrastructure strategy.

Traditional Principles	Proposed Principles
Principle of Focus on Strategic Task Resolution	Independence in Forming a Scientific, Educational, and Innovative Agenda
Principle of Distinguishing Between Current Operations and Development Strategy	Focus on Global Challenges in Shaping the University's Strategy and Development Priorities
Principle of Control, Responsibility, and Incentivization	Involvement in Specialized International Scientific, Educational, and Innovative Networks
Principle of Operational Response	Participation in Collaborations and Communities
Principle of Reporting	Flexibility and Adaptability in Responding to Changes in Both Internal and External Environments

The principles proposed in Table 1 facilitate the enhancement of the communication system among university users and promote the achievement of shared cultural values, reflecting the presence of common values across different groups within the university community (Bok, 2004). These principles enable the provision of critical infrastructure for addressing scientific, educational, and technological challenges, ultimately contributing to the university's attractiveness and competitiveness.

Importantly, digitalization significantly simplifies the process of forming critical infrastructure by granting users access to resources. Digital technologies facilitate the dissemination of information about these resources, enable prompt online reservations, and support remote communication (Brankovic et al., 2018). Additionally, they allow for the virtualization of certain rare resources to ensure their safe use in scientific and educational processes. This underscores the necessity of creating and developing a university's critical infrastructure.

A distinctive feature of the infrastructure is how it reflects users' perceptions; critical infrastructure distinguishes the university and shapes its overall image. Therefore, when there is a need to transform a university, it is crucial to develop a new critical infrastructure that enables the institution to address new challenges, which can subsequently alter its perception as a whole (Huk & Skliarenko, 2022).

Another important component is access control. It is essential to recognize that critical infrastructure is closely linked to the concept of access management, which encompasses the management of access to the following university infrastructure objects:

- 1) campuses, buildings, facilities, premises;
- 2) Equipment and materials;
- 3) faculty and researchers;
- 4) Communications and networks;
- 5) Information resources and services;
- 6) other infrastructure facilities;
- 7) cultural values;
- 8) investments (the ability to mobilize resources for project implementation);
- 9) Other goods affect quality of life.



Culture, as a system of shared values and unique methods for the formation and development of knowledge, plays an increasingly significant role in access management and infrastructure development. Historically, universities focused primarily on property and resource management. In the modern era, however, they must also manage access not only to physical spaces, equipment, faculty, and researchers but also to information services, cultural assets, investments, and other resources that contribute to quality of life.

The unique configuration of these elements shapes the image of a modern university (Table 2).

Table 2 Comparison of modern university management methods.

Management Objects	Management of Resources	Management of Access to Resources
The range and limits of the composition of the university's infrastructure facilities and their capabilities	Limited by the university's property, infrastructure objects, material capabilities, budget, and financial resources	Not limited; it is anticipated that timely platform access will be provided to users for information services, cultural assets, investments, and access to other benefits in a networked form
Speed of access to infrastructure facilities	Limited by the deadlines for procurement competitions for new assets	Speed is increased through technology that allows access to existing freely available assets (timeshare)
The totality of human resources within the university	Limited by university personnel, staff, and external research teams	Includes access to external scientific and methodological developments from specialists, researchers, experts, and educators, enabling more flexible and effective communication schemes
Availability of opportunities to provide stakeholders with access to rare and expensive resources	Financial and infrastructure constraints	Access is expanded through digital technologies, allowing for the operational booking of resources (i.e., rare and expensive items) online, as well as the use of remote working methods and virtualization of certain types of rare and costly resources to ensure their safe use (or their virtual models, digital twins) in the educational and research process

Therefore, new requirements for universities should focus on ensuring their competitiveness among the world's leading scientific and educational centers (Lopuschnyak et al., 2021). Importantly, many existing management systems and infrastructures were developed in a previous era and do not align with the modern demands of the external environment. As a result, contemporary education, science, the real sector, and society often struggle to clearly articulate the requirements for a university's development.

With respect to the concept of a digital university, we argue that the role of access management is increasingly significant. It extends beyond material resources such as premises and equipment to encompass access to specialists, scientists, experts, and educators, thereby facilitating effective communication schemes. In the new digital era, the most successful university will provide rapid access to a wide array of resources. A university's image and reputation are largely shaped by its ability to swiftly deliver access to these resources (Loi, 2015).

The critical infrastructure of a digital university must possess certain defining characteristics, among which the most important are as follows:

1. Own personnel potential ensures the ability to implement various scientific and educational projects and relies on having a sufficient number of qualified scientists. While network forms of interaction between universities are valuable, each institution should maintain its own personnel capable of independently executing diverse projects.
2. Own educational resources are crucial for the critical infrastructure, as they directly relate to the university's autonomy in shaping its educational programs. These resources can be utilized for both internal needs and as marketable educational products on a global scale.
3. Our own platform enables the digital university to transition all its business processes to a virtual environment, allowing for the unlimited generation of various scientific and educational projects in real time with institutions worldwide.
4. The speed of reactions ensures rapid responses to requests in educational projects and facilitates the creation of new educational pathways tailored to students' specific needs. Additionally, it provides access not only to the university's resources but also to those of partner institutions.

Therefore, digitalization serves as a tool that enables the university to operate in an online mode within the virtual space. Consequently, the critical infrastructure facilitates the digital university's organic adaptation to a changing external environment, empowering it to meet new challenges effectively.

The introduction of entrepreneurial practices in universities is closely linked to the development of an institutional environment that fosters entrepreneurial intentions among students, teachers, and researchers (Shams & Riad, 2019). In this context, the literature emphasizes the importance of developing an innovation-oriented university culture, supporting



entrepreneurial initiatives, and creating a favorable environment for generating new ideas. According to H. Etzkowitz, a university that successfully adapts to the challenges of our time is not only a source of knowledge but also an active player in the development of innovative entrepreneurship through support for startups, patenting, and commercialization of research results (Etzkowitz, 2017).

One of the key components of the formation of an entrepreneurial university culture is to stimulate members of the academic community to implement innovations. Research by D. A. Kirby emphasizes the importance of a reward system that promotes innovative thinking. For example, career development models that consider achievements in innovation or financial incentives for teams working on startups can be powerful tools to support entrepreneurship. A balanced reward system that focuses on both individual achievements and group efforts significantly increases the level of entrepreneurial activity (Kirby, 2006).

Digital technologies open up new opportunities for the realization of entrepreneurial intentions. In particular, the use of artificial intelligence, blockchain technologies, and collaborative platforms is helping to create new forms of cooperation between universities, businesses, and the public sector. Such platforms provide convenient access to resources, automate project management processes, and stimulate the development of entrepreneurial initiatives among students and teachers (Lyytinen et al., 2017).

Integration of entrepreneurship education into university curricula contributes to the development of competencies necessary for successful entrepreneurship. Studies show that the combination of theoretical and practical teaching methods significantly increases the level of students' preparation for the real challenges of entrepreneurship. The use of case studies, role models, and business simulations allows us to adapt knowledge to practical conditions and helps to develop entrepreneurial skills. Such approaches allow universities to create graduates who not only have theoretical knowledge but are also able to effectively apply it in practice (Williamson et al., 2020).

The importance of digitalization for entrepreneurial universities lies in its ability to form global educational and innovation networks. The use of digital tools to create new forms of interaction between students, teachers, researchers, and entrepreneurs stimulates the search for innovative solutions (Kozhyna, 2022).

Therefore, we can state that today, universities play a key role in forming the new knowledge economy, which is based on the integration of research, educational initiatives, and innovative projects. In this context, the transformation of universities into digital educational centers contributes not only to the modernization of their internal infrastructure but also to strengthening their impact on regional economic development. According to the concept of the "second academic revolution" (Etzkowitz, 2017), universities are no longer exclusively educational and research institutions and are turning into entrepreneurial organizations that are actively involved in creating innovative ecosystems.

One of the key areas for further research is to study the relationship between the introduction of digital technologies and the formation of a university culture focused on innovation. University culture as a set of values, norms, and relationships is the basis for the effective implementation of digital tools. Studies show that forming entrepreneurial thinking among students and teachers promotes the development of startups and the integration of innovative solutions into local economies (Kubiv, 2020).

Digital technologies allow universities to reduce time and geographical barriers by providing quick access to information, material, and human resources. One of the most promising areas is the creation of university digital platforms that will serve not only as a tool for automating processes but also as a basis for forming global research collaborations. In particular, the use of artificial intelligence in such platforms can significantly increase the efficiency of university management and adaptation to the needs of students (Leiva, 2023).

The further development of digital universities involves enhanced integration with industrial enterprises and government structures. Creating joint research and educational projects with a focus on the practical application of technology is an important stage of transformation. The introduction of the concept of open innovation through mechanisms of cooperation between universities, businesses, and public organizations will help create new products and services that will have a significant impact on economic development.

4. Final Considerations

As a result of the conducted research, a target model of the university's digital transformation strategy was developed to address the challenges posed by the Fourth Industrial Revolution and the digitalization of educational processes. An analysis of existing approaches to digitalization revealed that the key elements for the successful transformation of universities include the integration of advanced digital technologies, such as Big Data and artificial intelligence, along with the establishment of new mechanisms for managing access to digital resources. This model enables universities to adapt to a changing environment and ensures their competitiveness on the international stage. Additionally, the study emphasized the necessity of revising traditional approaches to managing infrastructure and learning processes to leverage digital opportunities more effectively.

However, it is important to acknowledge that the study has certain limitations; in particular, it concentrates on conceptual aspects without testing specific models in real-world conditions. This presents opportunities for future research, particularly in the empirical testing of the developed model across various universities. In addition, further investigations could

focus on a more in-depth analysis of the impact of digital strategies on other dimensions of university activity, including research and international cooperation.

Ethical Considerations

Not applicable.

Conflict of Interest

The authors declare that they have no conflicts of interest.

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References

- Belfield, C. (2003). Economic principles for education. In S. Belfield (Ed.), *Theory and Evidence* (pp. 144–162). Edward Elgar Publisher, Cheltenham, UK. [https://doi.org/10.1016/S0272-7757\(01\)00061-9](https://doi.org/10.1016/S0272-7757(01)00061-9)
- Belfield, C. R., & Levin, H. M. (2002). The effects of competition on educational outcomes: A review of U.S. evidence. *Review of Education Research*, 72(2), 279–341. <https://doi.org/10.3102/00346543072002279>
- Bobro, N. (2024). Digital technologies in the context of economic systems development. *International Journal of Economics and Business Administration*, 12(2), 64–70. <https://doi.org/10.35808/ijeba/842>
- Bok, D. (2004). *Universities in the Marketplace: The Commercialization of Higher Education*. Princeton, Oxford: Princeton University Press.
- Bramwell, A., & Wolfe, D. A. (2008). Universities and regional economic development: The entrepreneurial University of Waterloo. *Research Policy*, 37(8), 1175–1187. <https://doi.org/10.1016/j.respol.2008.04.016>
- Brankovic, J., Ringel, L., & Werron, T. (2018). How rankings produce competition: The case of global university rankings. *Zeitschrift Für Soziologie*, 47(4), 270–288. <https://doi.org/10.1515/zfsoz-2018-0118>
- Copeland, T., Koller, T., & Murrin, J. (1999). *Company Valuation*. Panem – John Wiley & Sons.
- Etzkowitz, H. (2017). Innovation lodestar: The entrepreneurial university in a stellar knowledge firmament. *Technological Forecasting and Social Change*, 123, 122–129.
- Huk, P. V., & Skliarenko, O. V. (2022). Economic feasibility of modernization of enterprises using automated systems. *Ekonomika i Upravlinnia*, 2, 103–112. <https://doi.org/10.36919/2312-7812.2.2022.103>
- Khomenko, O. O., Paustovska, M. V., & Onyshchuk, I. A. (2024). The influence of interactive technologies on the learning process and the development of higher education students. *Naukovi Innovatsii ta Peredovi Tekhnologii*, 5(33), 1222–1231. [https://doi.org/10.52058/2786-5274-2024-5\(33\)-1222-1231](https://doi.org/10.52058/2786-5274-2024-5(33)-1222-1231)
- Kirby, D. A. (2006). Creating entrepreneurial universities in the UK: Applying entrepreneurship theory to practice. *The Journal of Technology Transfer*, 31(5), 599–603.
- Lin, L. (2020). An evaluation system and its model for educational competitiveness of universities. *International Journal of Emerging Technologies in Learning*, 15(11), 188–201. <https://doi.org/10.3991/IJET.V15I11.14521>
- Loi, M., & Di Guardo, M. (2015). The third mission of universities: An investigation of the espoused values. *Science and Public Policy*, 42(6), 855–870. <https://doi.org/10.1093/scipol/scv012>
- Lopuschnyak, H. N., Chala, O., & Poplavska, O. (2021). Socioeconomic determinants of the ecosystem of sustainable development of Ukraine. *IOP Conference Series: Earth and Environmental Science*, 915(1), 1–9. <https://doi.org/10.1088/1755-1315/915/1/012019>
- Lysenko, S., Bobro, N., Korsunova, K., Vasylyshyn, O., & Tatarchenko, E. (2024). The role of artificial intelligence in cybersecurity: Automation of protection and detection of threats. *Economic Affairs*, 69, 43–51. <https://doi.org/10.46852/0424-2513.1.2024.6>
- Lyytinen, A., Kohtamäki, V., Kivistö, J., et al. (2017). Scenarios of quality assurance of stakeholder relationships in Finnish higher education institutions. *Quality in Higher Education*, 23(1), 35–49. <https://doi.org/10.1080/1358311.2017.1294410>
- Norton, D., & Kaplan, R. (2003). *Balanced Scorecard. From Strategy to Action*. CISC "Olymp-Business".
- Safari, C., Kolach, S., Zhyvko, M., Volskyi, O., & Bobro, N. (2024). The impact of globalization on the formation and implementation of international investment strategies. *Economic Affairs*, 69(3), 64–70. <https://doi.org/10.46852/0424-2513.4.2024.25>
- Shams, R. S. M., & Belyaeva, Z. (2019). Quality assurance driving factors as antecedents of knowledge management: A stakeholder-focused perspective in higher education. *Journal of the Knowledge Economy*, 10(2), 423–436. <https://doi.org/10.1007/s13132-017-0472-2>
- Skliarenko, O. V., Yahodzynskyi, S. M., Nikolaievskyi, O. Iu., & Nevzorov, A. V. (2024). Digital interactive learning technologies as an integral part of the modern educational process. *Innovatsiina Pedagogika*, 68(2), 51–55. <https://doi.org/10.32782/2663-6085/2024/68.2.51>
- UNESCO. (n.d.). *Need to know: Digital education*. <https://www.unesco.org/en/digital-education/need-know>. Accessed on December 03, 2024.
- Yahodzynskyi, S. M. (2015). *Global information networks in a sociocultural perspective*. Ahrar Media Hrup.

