e-ISSN **3041-2498**

Public Management and Policy

https://www.eu-scientists.com/index.php/pmap

Foreign Experience in Digitalization of Public Management of Higher Education

Nataliia Hoi [1]* • Inna Suray [2] • Olha Zhuk [3] • Nataliia Drabchuk [4]

[1] *Vasyl Stefanyk Carpathian National University (Ukraine). Associate Professor at the Department of Public Management and Administration, PhD in Economics, Associate Professor.*

[2] *Vasyl Stefanyk Carpathian National University (Ukraine). Professor at the Department of Public Management and Administration, Doctor of Science in Public Administration, Professor.*

[3] *Vasyl Stefanyk Carpathian National University (Ukraine). Head of the Department of Public Management and Administration, PhD in Economics, Associate Professor.*

[4] *Vasyl Stefanyk Carpathian National University (Ukraine). Assistant Professor at the Department of Public Management and Administration, PhD in Public Administration.*

* ***Corresponding Author,*** e-mail: nataliya.hoy@pnu.edu.ua

ARTICLE INFO

Research Article

DOI: 10.70651/3041-2498/2025.10.13

ABSTRACT

The article analyzes the current problems of the digitalization of public management of higher education. The mentioned relevance of the study is due to the need to increase the efficiency of public management of higher education by implementing modern digital technologies, adapting international experience and responding to the challenges of digital transformation of the educational space. The main goal is to analyze the foreign experience of digitalization of public management of higher education and determine the possibilities of its productive adaptation in Ukraine. The study aims to examine international practices of digitalization of public management of higher education, assessing their effectiveness and developing recommendations for applying best practices in the national education system. The work uses such methods as comparative analysis, content analysis of scientific sources and official documents, case studies of foreign practices of digitalization, as well as a systematic approach to assessing the effectiveness of management processes in higher education. The results of the study demonstrated that foreign practices of digitalization of public management of higher education increase the efficiency of management processes. The article defines concepts, models and key components in the context of higher education. The advantages and challenges of the digitalization of public management of higher education are identified. Foreign experience in digitalization of public management of higher education is studied, in particular, the practices of the EU, the USA, Canada, Japan, South Korea and China. The effectiveness of the use of digital technologies in public management of higher education is substantiated. An assessment of the state of digitalization of public management of higher education in Ukraine is given. The possibilities of adapting foreign experience to Ukrainian realities are identified. Recommendations are developed for adapting the best foreign practices of digitalization to increase the efficiency of public management of higher education in Ukraine. As a result, it was found that digitalization of public management of higher education significantly increases the efficiency of management processes, contributes to the integration of innovative practices and can be successfully adapted to the national education system. Future research should be aimed at developing effective models of digitalization of public management of higher education in Ukraine.

KEYWORDS

foreign experience, public management, public management of higher education, digitalization, digital technologies, digital transformation, higher education, education, management processes, world trends in education, globalization.

e-ISSN **3041-2498**

Публічне управління і політика

https://www.eu-scientists.com/index.php/pmap

Зарубіжний досвід цифровізації публічного управління вищою освітою

Наталія В. Гой [1]* • Інна Г. Сурай [2] • Ольга І. Жук [3] • Наталія Ю. Драбчук [4]

[1] *Карпатський національний університет імені Василя Стефаника (Україна). Доцент кафедри публічного управління та адміністрування, канд. екон. наук, доцент.*

[2] *Карпатський національний університет імені Василя Стефаника (Україна). Професор кафедри публічного управління та адміністрування, д-р держ. упр., професор.*

[3] *Карпатський національний університет імені Василя Стефаника (Україна). Завідувач кафедри публічного управління та адміністрування, канд. екон. наук, доцент.*

[4] *Карпатський національний університет імені Василя Стефаника (Україна). Асистент кафедри публічного управління та адміністрування, д-р. філософії з економіки.*

* ***Автор-кореспондент,*** e-mail: nataliya.hoy@pnu.edu.ua

СТАТТЯ

Дослідницька

DOI: 10.70651/3041-2498/2025.10.13

АНОТАЦІЯ

У статті проаналізовано актуальні проблеми цифровізації публічного управління вищою освітою. Згадана актуальність дослідження зумовлена необхідністю підвищення ефективності публічного управління вищою освітою шляхом впровадження сучасних цифрових технологій, адаптації міжнародного досвіду та реагування на виклики цифрової трансформації освітнього простору. Головною метою є розбір зарубіжного досвіду цифровізації публічного управління вищою освітою та визначення можливостей його продуктивної адаптації в Україні. Дослідження спрямоване на дослідження міжнародних практик цифровізації публічного урядування вищою освітою, оцінку їхньої результативності та розробку рекомендацій щодо застосування кращих практик у національну систему освіти. У праці застосовано такі методи, як порівняльний аналіз, контент-аналіз наукових джерел та офіційних документів, кейс-стаді іноземних практик цифровізації, а також системний підхід до оцінки результативності управлінських процесів у вищій освіті. Результати дослідження продемонстрували, що зарубіжні практики цифровізації публічного управління вищою освітою збільшують ефективність управлінських процесів. У статті, визначено концепції, моделі та ключові компоненти в контексті вищої освіти. Визначено переваги та виклики цифровізації публічного управління вищою освітою. Досліджено зарубіжний досвід цифровізації публічного управління вищою освітою, зокрема практики ЄС, США, Канади, Японії, Південної Кореї та Китаю. Обґрунтовано ефективність застосування цифрових технологій у публічному управлінні вищою освітою. Дана оцінка стану цифровізації публічного управління вищою освітою в Україні. Визначено можливості адаптації зарубіжного досвіду до українських реалій. Розроблено рекомендації щодо адаптації кращих зарубіжних практик цифровізації для підвищення ефективності публічного управління вищою освітою в Україні. У підсумках встановлено, що цифровізація публічного управління вищою освітою значно підвищує оперативність управлінських процесів, сприяє інтеграції інноваційних практик та може бути успішно пристосована до національної системи освіти. Майбутні дослідження мають бути спрямовані на розробку ефективних моделей цифровізації публічного управління вищою освітою в Україні.

КЛЮЧОВІ СЛОВА

зарубіжний досвід, публічне управління, публічне управління вищою освітою, цифровізація, цифрові технології, цифрова трансформація, вища освіта, освіта, управлінські процеси, світові тенденції в освіті, глобалізація.

1. Introduction

The digitalization of public life has turned into one of the deepest transformations of the twenty-first century. It radically changes ways of thinking, management models and social practices, in particular in the field of education. Higher education, which forms the intellectual potential of the nation, can no longer exist within the framework of traditional management structures. Today, it finds itself at the center of a global process of rethinking the role of knowledge, data and technology in human development.

Higher education management is gradually turning into a system where efficiency is determined not by the number of documents or orders, but by the quality of digital processes and the speed of response to changes. Digital tools – from electronic document management systems to integrated educational platforms – provide transparency and accountability that seemed unattainable a decade ago.

Modern education enters a phase when the quality of management is determined not so much by the number of standards and procedures as by the ability of the system to work in a digital environment. The growth of data volumes, the emergence of artificial intelligence and analytical platforms put forward new requirements for the organization of the educational space. World universities are gradually turning into "digital campuses", where the educational process, administration and communication are brought together into a single ecosystem.

Ukraine is moving in the same direction, but with a noticeable time lag. The higher education reform launched after 2015 has created the basis for updating governance mechanisms, but the digital component remains fragmented. In practice, this is manifested in the lack of unified information systems, insufficient level of digital literacy of managers and weak analytical support for decision-making. The effectiveness of education sector reforms without a digital component is "limited and short-lived", because modern education policy should be based on data, not on intuition or administrative experience.

The successful experience of foreign countries shows that the key to efficiency is in the comprehensiveness of the approach: technical innovations should be accompanied by a change in management culture, training of personnel and the creation of a unified digital architecture. Ukraine is just beginning this journey, and the pace and effectiveness of further reforms in the field of education depend on how quickly it manages to bridge the gap between technological capabilities and organizational readiness.

2. Literature Review

The analysis of scientific works on the digitalization of public management of higher education demonstrates a wide range of approaches. Thus, in [1, p. 727] focus is on the current aspects of digitalization of public management of higher education in modern conditions of uncertainty. O. Shelomovska [2, p. 47] studied the current state of the introduction of information and communication technologies into the system of public management of higher education in Ukraine. E. Sokolova [3, p. 183] devoted her work to solving the problem of determining the leading directions of reforming the higher education system and the peculiarities of the process of adaptation of public management activities to the European educational system. O. Zasimovych [4, p. 79] considered the key information and digital systems used by modern educational managers for the effective management of general secondary education institutions. M. Rostoka [5, p. 3] emphasized the expediency of applying innovative approaches to the management of educational environments and the development of new models of education management in the context of digitalization of the educational and scientific space. V. Umanets [6, p. 321] studied the impact of the results of the use of these services on management processes in educational institutions, and their prospects for use. I. Verbovskyi [7, p. 59] analyzed the components that ensure the functioning of the process of digitalization of the management of educational activities of a higher education institution as a single cyclical system. M. Slobodianin [8] studied the foreign experience of digital transformation of public management. D. Antoniuk and T. Vakaliuk [9, p. 75] analyzed the foreign experience of using digital educational resources in higher education. Attention is drawn to the scientific achievements of such foreign scientists in education management as C. Dede [10] studied models and types of educational systems, design and study of

educational environments, and e-learning management. F. Pucciarelli and A. Kaplan [11, c. 7], S. Hennessy et al. [12] investigated the features of digital transformation management in education management (MOOC, SPOC, AI, EdTech).

Despite the diversity of approaches, some aspects remain insufficiently researched. In particular, there is a lack of a comprehensive assessment of foreign experience in the digitalization of public higher education.

3. Problem Statement

The purpose of this study is a comprehensive analysis of foreign experience in the digitalization of public governance by higher education, the identification of effective models and tools of digital governance, as well as the development of recommendations for their adaptation in the Ukrainian education system to increase its efficiency, transparency and innovation potential.

4. Methods and Materials

At the heart of the study is an attempt to comprehend how digital transformation is changing the logic of higher education management, and which models of this process have proven to be the most successful in the world. The work was based on a comprehensive study of scientific publications and analytical reports on digital governance, reforms of educational systems and the use of innovative technologies in knowledge management.

The analysis covers the experience of countries with different models of educational management – from the centralized system in France to flexible platform solutions in Canada or Singapore. The comparison showed that the most effective are those states that have combined digital services with big data analytics, making education management not just automated, but intelligent.

The analysis covered a wide range of solutions, from national digital education strategies to local monitoring systems, electronic document management, and educational data management platforms. The material base of the study was made up of regulatory documents and strategies of the countries of the European Union, the United States of America, Great Britain, Canada, Singapore and South Korea, which determine the principles of digital transformation of educational management. Particular attention is paid to the analysis of programs and policies aimed at developing e-governance, digital educational platforms, open information and online services for universities and applicants.

With the help of content analysis, key documents and measures of digitalization were studied, which made it possible to determine the main directions and tasks of digital policy in the field of higher education. The method of comparative cases was also applied, which allowed us to consider in detail specific examples of digital governance.

The use of these materials and methods provided a comprehensive study of the international practice of digitalization of public governance in the field of higher education, which creates the basis for the formation of recommendations for adapting the most successful approaches to Ukrainian realities.

5. Results and Discussion

Higher education today is on the verge of a large-scale reformatting, caused not just by the introduction of new technologies, but by a profound change in the very logic of the educational process. The global wave of digitalization, which has covered almost all spheres of public life, is forcing universities to rethink approaches to management, learning and communication.

Ukrainian higher education is entering this phase of change not from scratch, but also not from the position of a leader. It is possible to notice the growing readiness of management structures to innovate, but without a systematic rethinking of management practices and the creation of a unified digital strategy, the reform will remain fragmented. The new decade sets universities the task not only to “digitize” existing processes, but to build an intelligent educational system in which data, analytics and technologies work as a single mechanism for development.

The digitalization of education has long ceased to be a fashionable slogan – it has become a basic condition for effective management of educational systems. A modern university cannot function without the prompt exchange of information, real-time analytics and openness of management

processes. Transparency of decisions is not just a requirement of society, but a guarantee of trust between the administration, teachers and students. According to OECD (2024) estimates, institutions that have integrated digital control and reporting tools have reduced the average time for managerial decision-making by almost 45% [3, p. 183].

Digital technologies not only increase the efficiency of administration, but also create a new culture of educational management built on analytical data. As I. Suray notes, "the digital transformation of public management is the transformation of public management as a system (and not individual elements or processes), which took place as a result of digitalization processes and manifests itself in paradigm changes in the entire public management system" [13].

An equally important consequence of digital modernization is the increase in the availability of resources. Online platforms, electronic libraries, and cloud services for collaboration between teachers and students are blurring the boundaries between the classroom and the virtual environment. Education is gradually moving into a format of continuous interaction, where knowledge becomes mobile, and the learning process becomes personalized. In a number of European universities, after the introduction of digital solutions, the number of active users of educational portals increased by 60-70% during the first two years.

The experience of leading countries proves that the digital modernization of higher education is not limited to process automation – it creates a new knowledge management architecture. Where universities have moved to complex digital ecosystems, there is not only an increase in the efficiency of administrative decisions, but also the emergence of innovative learning formats, interactive educational platforms, open scientific databases and analytics systems. According to the European Commission (2024), in EU countries that have fully integrated digital education management tools, the level of operational efficiency has increased by an average of 42%, and the cost of paper document management has almost halved.

An important element is the creative import of ideas – the adaptation of international practices that have proven their effectiveness in the systems of the Netherlands, Singapore, or Canada. In practice, this means the formation of our own national model of digital education management, where innovative solutions are meaningfully integrated into the local context.

The key components of digitalization of public management of higher education are (Table 1).

Table 1. Main components of digital management of higher education

Components	Appointment	Tools
Information systems and platforms	Automation of administrative processes, management of curricula and student data	LMS (Moodle, Canvas), ERP systems of universities
Analytical tools and monitoring systems	Data collection, processing and analysis to evaluate the effectiveness of management decisions	BI platforms, KPI systems, analytical panels
Electronic services for students and teachers	Providing distance learning, document submission and communication	Electronic journals, student portals, and online course enrollment
Integration mechanisms	Ensuring interoperability between different systems and platforms	APIs, Data Integration Platforms, Unified Digital Environment
Digital tools for managing processes and resources	Schedule planning, personnel management, and budgeting	Resource planning systems, personnel management modules
Data security and cyber protection	Protection of personal and administrative information	Data encryption, access control systems, antivirus and firewall solutions

Source: Formed by the authors based on [14; 15, p. 222].

Digital management of higher education at the global level today shows a huge variety of approaches that reflect not only technological development, but also the peculiarities of the organizational culture and social context of individual countries. If we compare different systems, it becomes noticeable that the differences are often determined by the level of digital readiness of universities, the integration of innovative platforms and the degree of autonomy of academic structures.

Let's consider the main models and trends in the digitalization of higher education:

1. Integrated models of digital transformation.

Many universities are developing integrated digital transformation strategies that cover all aspects of activities: teaching, management, research and public engagement. For example, the Digital Maturity Model of Higher Education (HEDC) offers four main areas: People & Systems, Demand &

Discovery, Digital Design & Experience, Work & Lifelong Learning. These areas include more than 70 competencies that allow you to assess the readiness of the institution for digital changes [16].

2. Models of digital management of higher education.

Therefore, digital governance in education is not limited to technical aspects: it is a comprehensive model where technology, organizational culture, and analytical infrastructure interact to create a flexible, safe, and adaptive educational environment. In a global context, it can be seen that institutions that actively invest in such integration demonstrate higher efficiency and competitiveness compared to traditional management models [17].

3. Digital maturity models.

Digital indicators cover not only technical aspects – the availability of platforms, software, and integrated services – but also organizational and cultural components: the level of competence of teachers, the readiness of the administration to innovate, the effectiveness of communications, and the degree of personalization of the educational process.

Institutions that systematically measure their digital maturity better predict the needs of students and staff, optimize curricula, and respond faster to changes in the labor market [18].

4. Models of digital management of higher education in Ukraine.

In Ukraine, the digital transformation of higher education is becoming strategically important today, especially in the context of military conflict and rapid socio-economic changes. It goes far beyond the introduction of new technologies: the very approaches to learning, management structures and organizational culture of universities are changing.

The digitalization of higher education in Ukraine opens up opportunities for effective resource management, continuous updating of the educational process and the formation of a competent specialist capable of acting in an unstable and rapidly changing environment. In practice, it can be seen that those universities that strategically implement digital systems demonstrate much greater resilience and efficiency compared to traditional management models [19].

5. Models of digital management of higher education in the international context.

The global practice of higher education management demonstrates that digitalization is not only the introduction of new technologies but also the restructuring of organizational culture and strategic approaches. In a number of countries, one can see systematic work on the development of digital competencies among students and teachers. This includes work with analytical platforms, integration of adaptive educational technologies into the daily educational process and automation of administrative procedures [20, c. 24].

6. Models of digital management of higher education in wartime.

In the context of the military conflict, the digitalization of higher education is becoming not just a tool for modernization but a vital mechanism for supporting the educational process. In Ukraine, it allows universities to continue working even in situations where traditional classrooms and laboratories are not available. Online platforms, virtual courses, and digital labs are turning into key tools to ensure the continuity of education and the adaptability of curricula.

Let's consider Table 2, which summarizes the main advantages and challenges of the digitalization of public higher education management. This will allow us to visually assess the potential and risks of implementing digital solutions in higher education institutions.

Table 2. Advantages and Challenges of Digitalization of Public Higher Education Management

Criterion	Advantages	Challenges
Management efficiency	Automation of routine processes (registration, document flow, planning)	The need to integrate different systems and platforms; Technological limitations
Accessibility and inclusivity	Distance learning, online courses, adaptation for students with special needs	Risk of digital divide due to unequal access to the internet and devices
Transparency and accountability	Tracking administrative decisions, financial flows, evaluation of results.	Ensuring data security and confidentiality; Cyber threats
Analytics and Decision Making	Using data for forecasting, optimizing curricula, improving the quality of education.	Lack of qualified specialists, the complexity of processing large amounts of information.
Communications and interaction	Fast information exchange, interactive platforms, mobile applications, chatbots	Low level of digital competencies of staff; resistance to change
Financial and organizational aspects	Optimization of resources and processes	High costs for implementing and maintaining digital systems; the need for new governance structures

Source: Formed by the author based on [21, p. 529; 22, p. 36].

Digital governance in higher education is undergoing a holistic transformation, enabling institutions to increase efficiency, expand service availability, and create sustainable, adaptive educational environments. The experience of international universities in the digitalization of education management demonstrates a multidimensional approach to the integration of information and communication technologies into all areas of institutions.

In the countries of the European Union and North America, the emphasis is on improving the efficiency of administrative processes and transparency of management, while in Japan, South Korea and China, special attention is paid to the standardization of digital platforms and the development of competencies of students and teachers in working with modern technologies.

The digitalization of higher education transforms the classical administrative system into a flexible, adaptive and transparent network of interactions, which ensures a more holistic inclusion of students in the educational process and opens up new opportunities for cooperation between universities and the socio-economic environment.

The digital transformation of education in the EU takes place within the framework of the European Digital Education Strategy, adopted in 2018 and updated in 2021 in the form of the Digital Education Action Plan (2021–2027). The document identifies two key strategic areas [23]:

1. Development of a highly effective digital ecosystem of education.
2. Increasing the level of digital competencies of all participants in the educational process – from public administrators to students.

Institutional model of digital governance.

The European system of higher education management operates on the principle of multi-level interaction [24]:

- The European level determines political priorities, develops standards for data exchange, coordinates the creation of interstate digital platforms.
- The national level is responsible for the legislative framework, the creation of state platforms for the administration of education and the coordination of the actions of universities with EU requirements.
- The institutional level (universities) implements digital solutions in its activities: implements electronic document management, automates the management of the educational process through LMS (Learning Management Systems) systems, and ensures data exchange with national registers.

Let us consider the practical experience of individual EU countries.

Estonia is often cited as an example of how a state can build an almost seamless digital ecosystem in the field of education. Its national platform X-Road unites universities, central ministries and other government agencies into a single data exchange network, which allows you to coordinate management processes at the level of the entire sector. Thanks to the electronic identification of e-ID, students get the opportunity to carry out most of the administrative procedures remotely: register for courses, upload certificates, draw up documents and sign contracts without any paperwork.

Finland has introduced the Studyinfo.fi platform. It has become a center of digital education administration at the national level. The Studyinfo.fi platform covers the entire cycle of the educational process: from applying for admission to registering diplomas and certificates. It creates a single integrated system for students, universities and government agencies. The platform combines data from all universities in the country and provides open access to them via API, which not only increases the transparency of information, but also greatly simplifies analytics and strategic planning.

In the Netherlands, the digitalization of education management is implemented through the DUO (Dienst Uitvoering Onderwijs) system, which has become the central button for the administration of financial and academic processes in higher education institutions. It coordinates student loans, oversight of university funding, and the accumulation of academic achievements, while gathering the statistical information necessary for strategic planning and decision-making at the state level.

In Germany, the Hochschulforum Digitalisierung initiative served as a platform for the comprehensive digital transformation of higher education, bringing together universities, government agencies and business organizations into a single network of cooperation. The main focus is on the application of educational data analytics, the development of distance programs and digital accreditation of courses, which makes it possible to improve the quality of education and quickly respond to changes in the requirements of the labor market.

In France, the digital transformation of education has been concretely implemented through the France Université Numérique (FUN) platform, which has become the core of the state system of

governance and online learning. It performs a number of key functions: it monitors the quality of education at the national level, coordinates the creation and delivery of distance courses, and promotes the development of open educational resources available to the general public.

In practice, FUN allows universities to quickly share learning materials, track course performance, and implement innovative learning approaches. According to the French Ministry of Higher Education, from 2016 to 2024, the number of users of the platform increased by almost 120%, demonstrating a significant increase in the digital activity of students and teachers. The integration of FUN forms a new management culture, where data becomes the basis of strategic decisions, and educational institutions become more flexible and transparent in their interaction with the state and society.

European states have achieved significant results in the digitalization of education management. More than 90% of EU universities use integrated management information systems. The introduction of uniform digital qualifications has simplified students' academic mobility. Open data portals are being developed, increasing the transparency of the use of budget funds and the effectiveness of educational policy. At the same time, cooperation between universities and the private sector in the development of technological solutions for education management is intensifying [25].

In the United States, the digitalization of higher education is considered not only as technological modernization, but as a tool of state policy for the development of human capital. Since 2010, the U.S. Department of Education has been implementing the National Education Technology Plan (NETP), which identifies digital learning and data analytics as key areas of state support. The updated version of the strategy (2022) emphasizes three priorities [26]:

- integration of digital tools into all levels of education;
- ensuring equal access to technology;
- increasing the digital competence of teachers and students.

In Canada, digitalization is part of the broader "Digital Canada 2030" policy aimed at building a digital state. Provincial ministries of education implement their own initiatives in cooperation with federal agencies, creating a unified infrastructure for managing educational data.

In Japan, government initiatives focus on creating national roadmaps and platforms for the use of educational data (education DX / Roadmap for Utilization of Educational Data), while leaving universities with considerable autonomy in the choice of technical solutions. The state is promoting standards for the processing and reuse of educational data and the gradual digitalization of administrative processes through common services (e-portal, shared CBT/platforms) [27].

South Korea has an active model, centrally coordinated support for digital learning with the participation of public platforms and private EdTech players; a strong focus on national MOOCs (k-moocs), national access infrastructure, and data analytics for policy decision-making. After COVID-19, the government has been even more active in promoting "smart learning" and supporting partnerships with global platforms [28].

China is characterized by a state-owned, large-scale, and centralized model: large national platforms of educational resources, strong funding for the digital infrastructure of universities, large-scale initiatives of MOOCs/national educational platforms, a targeted policy of "Education Informatization" and the promotion of Smart Education. The government forms a unified framework and promotes national platforms and conferences for coordination. The centralized model allows for rapid scale (large audiences, unified resources), but requires careful content quality management, data protection, and a balance between centralization and academic autonomy [28].

Table 3 summarizes the main practices of digitalization of public management of higher education in foreign countries, their key goals and results. This allows us to visually assess common trends, as well as differences in approaches to the digital transformation of educational systems in different countries.

In many countries, the digitalization of higher education management is taking the form of a strategic tool that changes traditional approaches to administration and the educational process. Despite the diversity of cultural and organizational models, there is a clear common trend: digital platforms allow for the optimization of processes, making them faster and more transparent, and students and teachers receive tools for more flexible and interactive learning [35].

International practice shows that the successful digital transformation of higher education involves a simultaneous combination of innovative platforms, systemic growth of human capital and strategic revision of management processes. In fact, this is manifested in the ability of universities to quickly adapt to changes, effectively analyze data and make informed decisions regarding academic programs and resource provision [21, p. 529].

Table 3. Foreign Experience of Digitalization of Public Higher Education Management

Country/ region	Key Digitalization Practices	Objectives and results
EU	Digital Education Plan 2020–2025. Supporting the digital competencies of teachers and students. Development of digital infrastructure. Integration of digital technologies into curricula and management	Increasing equal access to education. Preparing students for the digital future. Reducing the digital divide
USA	Infrastructure modernization and data security. Use of cloud technologies. Data analytics for student experience and research.	Improving management efficiency. Improving the quality of education. Accelerating research processes
Canada	Hybrid learning models (online + offline). Using generative AI. Public and private partnerships. Preparation of digital competencies	Adaptation of educational processes to modern requirements. Development of skills in the digital environment
Japan	Lifelong learning and lifelong learning. Digital technologies to improve learning and access to resources. Integration of new technologies into traditional structures	Preparing students for the digital economy. Modernization of educational programs
South Korea	Global competitiveness of human resources. Localization of educational programs. Continuous professional training. Use of digital platforms.	Improving the quality and accessibility of education. Supporting the professional development of teachers and students
China	Development of digital infrastructure and open educational resources. Integration of digital technologies in university management. Creation of digital transformation centers. Improving the digital literacy of staff	Modernization of the higher education system. Improving the efficiency of management processes. Training specialists with digital competencies

Source: Formed by the author based on [21, p. 529; 22, p. 36].

Assessing the effectiveness of digital solutions in public higher education management requires a systematic approach that combines a clear outline of success indicators and constant monitoring of their changes. The main indicators reflect the level of development of digital competencies among teachers and applicants, ensure transparency and accountability of management decisions, and, in addition, demonstrate the ability of the institution to implement innovations and support the dynamics of change.

Observation methods provide data collection, analysis and evaluation for making informed management decisions and adjusting digital strategies. Below is Table 4, which summarizes key indicators and relevant methods for monitoring the effectiveness of digitalization of public management by higher education.

Table 4. Foreign Experience of Digitalization of Public Higher Education Management

Key Indicators (KPIs)	Monitoring methods	Appointment
Operational efficiency	Analysis of electronic control systems (LMS, ERP, CRM). Measuring the processing time of administrative processes	Assessment of process automation and reduction of administrative burden
Quality of educational services	Survey of students and teachers. Analysis of the use of online courses and digital resources	Determining User Satisfaction and Effectiveness of Learning Platforms
Digital Competence of Staff and Students	Surveys, tests for digital skills.	Measuring the level of readiness of staff and students to work in a digital environment
Transparency and accountability	Audit of systems and processes. Monitoring compliance with legal requirements (GDPR, local standards)	Ensuring openness, control and compliance with regulations
Innovation and analytics	Use of analytical platforms and Big Data. Assessment of the implementation of innovative technologies (AI, VR/AR, adaptive learning)	Assessment of the institution's ability to implement new technologies and make management decisions

Source: Formed by the author based on [36, p. 1053; 37].

Assessing the effectiveness of digitalization of higher education management turns out to be a complex, multidimensional process that covers not only the administrative but also the academic activities of universities. It provides for systematic monitoring of key indicators that can reflect changes

in the organization of management processes, improving the quality of educational services and developing digital competencies of students and staff.

Digital platforms are becoming not just an accounting or administration tool, but the core of a dynamic educational ecosystem, where every decision is based on data and analytics, and the university can quickly respond to changes in the requirements of students, the labor market, and state standards of education.

The integration of key performance indicators into the higher education management system opens up the possibility of a comprehensive assessment of digital transformations. KPIs allow you to measure how implemented technologies increase the operational efficiency of institutions, improve the quality of educational services, develop the digital skills of students and teachers, and ensure transparency and accountability of management decisions.

The combination of performance indicators with regular analytical monitoring creates conditions for strategic management: universities adapt curricula faster, allocate resources more efficiently and respond more flexibly to external challenges.

The introduction of well-defined performance indicators together with systematic monitoring methods becomes the foundation for increasing the effectiveness of university digitalization. This approach allows not only to assess the impact of technologies on administrative and educational processes, but also to create conditions for strategic management of educational resources and innovations [31].

The assessment of the level of digitalization of public management of higher education in Ukraine allows us to outline how deeply information and communication technologies are integrated into the work of universities, how effectively they are used, and what systemic problems need to be addressed as a priority. In modern conditions, especially under the influence of martial law, digital tools are becoming not just an additional resource but a critical basis for ensuring the continuity of the educational process, optimizing administrative procedures, and increasing the transparency and accountability of higher education institutions.

Table 5 summarizes the current state of digitalization of higher education in Ukraine. The main problems are identified and priority areas of development necessary to increase the efficiency of public management in the educational sphere are outlined.

Table 5. Assessment of the State of Digitalization of Public Management of Higher Education in Ukraine

Evaluation criterion	Current state	Challenges and problems	Priority areas of development
ICT integration	Using LMS, ERP, and other digital platforms to manage universities	Uneven implementation in different institutions, insufficient funding	Scaling of platforms, standardization of processes, connection of all establishments
Digital literacy of students and staff	Online courses and training on digital competencies; Initial increase in the level of digital education	Insufficient training of teachers, low level of skills in working with modern technologies	Development of comprehensive training programs, regular training, certification
Monitoring and analytics	Partial electronic reporting and document flow	Lack of centralized control platforms, low level of data openness	Implementation of centralized platforms for reporting and open data
Transparency and accountability	Partial electronic reporting and document flow	Lack of centralized control platforms, low level of data openness	Implementation of centralized platforms for reporting and open data
Innovation and modern technology	Initial implementation of distance learning and online courses	Limited use of AI, VR/AR, adaptive learning	Active implementation of AI, VR/AR, modern innovations to optimize management and educational processes

Source: Formed by the author based on [2, p. 47; 38].

The analysis of the current state of digitalization in the field of public management of higher education in Ukraine indicates an active stage of the introduction of digital technologies, which is especially important under martial law and the need to maintain the continuity of the educational process. Use of electronic platforms, educational management systems (LMS), and enterprise resource planning (ERP) systems helps to increase the efficiency of management functions. At the same time, the uneven implementation of digital tools in different educational institutions and the low level of personnel training remain significant obstacles to full digital transformation [37].

Despite the gradual increase in the level of digital literacy among students and teachers, which is largely achieved through online courses and training, this area still requires systematic development and unification. The integration of tools for monitoring and analytics of educational processes is at an early stage, which limits the opportunities for making effective management decisions. While the development of electronic document management partially contributes to ensuring transparency and accountability, the lack of centralized platforms makes it difficult to control processes. The use of innovative technologies, such as artificial intelligence, adaptive learning, and virtual reality and augmented reality (VR/AR), remains fragmented and limited.

Thus, to increase the efficiency of digitalization in Ukraine, it is necessary:

- Scale and standardize integrated digital platforms.
- Develop the digital literacy of staff and students through comprehensive training programs.
- Improve monitoring and analytics systems for making informed management decisions.
- Ensure transparency and accountability through centralized platforms and open data.
- More actively implement modern innovative technologies to optimize management and educational processes.

These measures will allow Ukraine to get closer to the world standards of digital governance in higher education and ensure the effective, transparent and flexible functioning of higher education institutions.

The Ukrainian system of digitalization of higher education demonstrates positive results, but is still clearly inferior to international experience in such aspects as the breadth of integration of digital platforms, standardization of processes, the development of digital competencies and the introduction of innovative technologies. The priority areas of improvement remain the centralization of functional digital platforms, the development of analytics tools and key performance indicators (KPIs), comprehensive training of specialists and the active implementation of advanced technologies. Appeal to international experience can increase the efficiency of management of higher education institutions in Ukraine, as well as bring the educational system closer to generally accepted world standards [40, p. 174].

The study of international approaches to the digitalization of public management in the field of higher education allows us to identify tools and methods that can potentially be adapted to the Ukrainian context. At the same time, the implementation of Such experience requires taking into account national characteristics, limited available resources and the specifics of the country's legal environment.

Fig. 1 systematization of key international practices, assessment of the possibility of their adaptation for Ukraine and identification of conditions necessary for the successful implementation of innovative approaches in higher education are presented.

The implementation of foreign experience in Ukrainian realities is possible under the condition of gradual implementation, which is based on the provision of appropriate financial and technical resources, the training of qualified cadres and the formation of an appropriate regulatory and legal environment. Among the main advantages of this approach are increasing the efficiency of management processes, developing digital competencies, optimizing educational procedures, as well as ensuring transparency and accountability of the system.

To achieve a high level of digitalization of the public management system in the field of higher education in Ukraine, it is advisable to implement a set of holistic measures based on priority areas.

1. Digitalization of management processes. Modern government bodies should actively implement integrated digital platforms (LMS, ERP, CRM) that will ensure the automation of administrative and financial operations in higher education institutions. It is necessary to unify procedures between different universities and gradually create centralized management systems. This will increase overall efficiency, reduce bureaucracy and establish better coordination between educational institutions.

2. Development of digital competencies of staff and students. It is necessary to develop comprehensive programs to improve digital literacy for both teachers and students. It is advisable to create certification courses, introduce incentive mechanisms, and conduct regular training and online learning. This will contribute to a more active use of digital technologies, improving the skills of personnel and improving the educational process.

3. Improvement of monitoring and analytics systems. It is important to introduce analytical tools based on Big Data technologies and KPI systems to assess the effectiveness of management decisions and plan resource needs. And by integrating analytical methods into the decision-making process and

regularly auditing digital systems, it is possible to achieve an objective assessment of results, increase the level of transparency and ensure prompt adjustment of digitalization strategies.

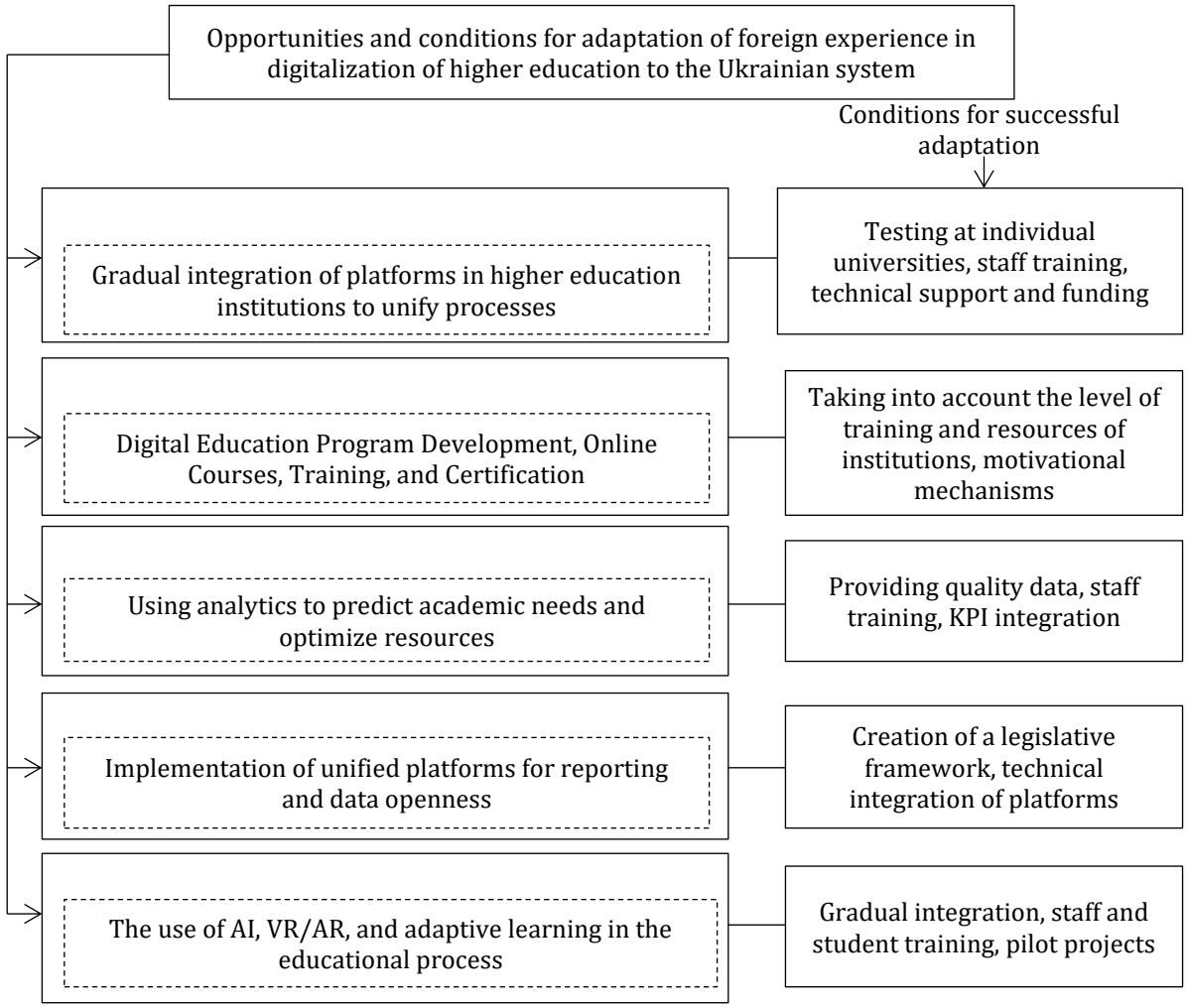

Figure 1. Possibilities of Adapting Foreign Experience in the Digitalization of Higher Education to Ukrainian Realities

Source: Formed by the author based on [38-39; 40, p. 174].

4. Ensuring transparency and accountability. To create an open and accountable system in the field of higher education, centralized platforms should be used that support transparent data and electronic reporting. Providing broad access to information to students, teachers, and, in combination with the improvement of regulatory and legal mechanisms, will strengthen trust in the education system and effectively control management processes.

5. Innovations in educational technologies. Implementing pilot initiatives using artificial intelligence, VR/AR, and adaptive learning is an extremely urgent step. The dissemination of best practices through national and regional platforms and the gradual introduction of innovations in the educational process will contribute to improving the quality of education, involving students and optimizing management processes.

The implementation of these practical recommendations will contribute to the construction of a modern, adaptive and effective higher education system in Ukraine. This will increase the level of digital competence among both employees and students, ensure transparency and accountability of educational institutions, as well as integrate innovative technologies into learning processes and management.

In order to achieve greater efficiency in the system of public management of higher education in Ukraine, it is necessary to introduce digital technologies and adopt international best practices. The experience of regions such as Europe, Southeast Asia and North America shows that the use of Integrated digital payment forms, electronic document management, data analytics, open portals and

mobile services significantly increases the level of transparency, efficiency of management processes and the quality of educational services.

Below, in Fig. 2, recommendations for the adaptation of these practices in Ukraine, including the expected results of their implementation, are presented.

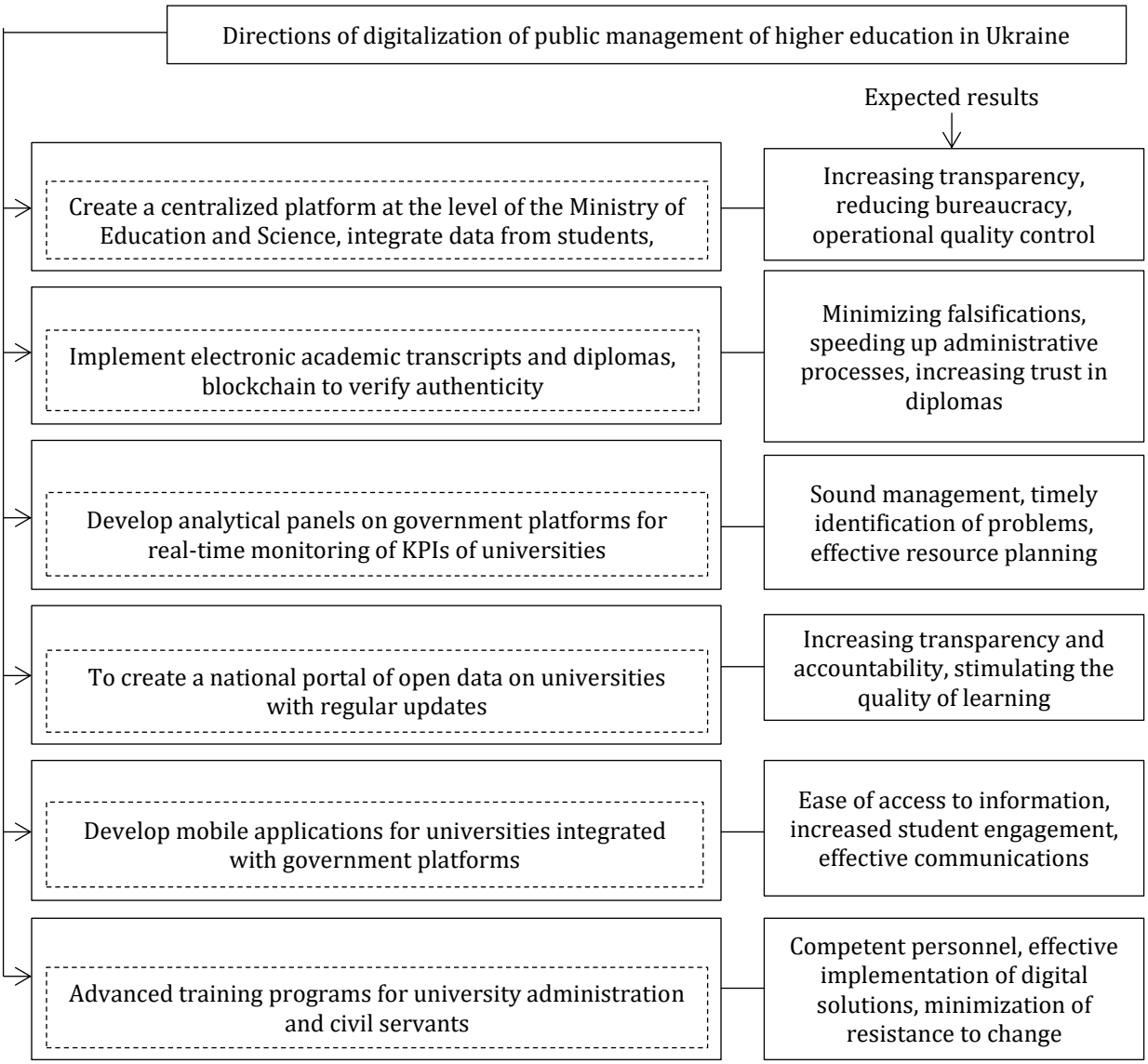

Figure 2. Adaptation of the Best Foreign Practices of Digitalization to Increase the Efficiency of Public Management of Higher Education in Ukraine

Source: Author's development.

The study of the world's best practices in the field of digitalization of higher education management shows a significant potential for their adaptation to improve public management processes in Ukraine. The integration of digital platforms, electronic document management systems, data analysis tools, open portals and mobile services can ensure the transparency of management processes, the efficiency of decision-making and the growth of the quality of educational services. At the same time, the formation of digital competence of personnel is a key factor in the effective implementation of technological innovations, and also helps to reduce the level of resistance to change. The implementation of these measures creates conditions for the formation of a competitive, open and modern higher education sector in Ukraine.

6. Conclusions

The analysis of foreign experience in the digitalization of higher education indicates a significant increase in the efficiency of public management due to several key factors: data centralization, automated document flow, implementation of analytical platforms and ensuring the openness of

information to the public. The use of mobile and remote services contributes to increasing student engagement, as well as optimizing the internal processes of functioning in higher education. The effective use of digital technologies in higher education institutions in different countries demonstrates the ability to ensure transparency of management processes, modernization of administrative activities and improving the quality of educational services. Integrated platforms, data analysis systems and electronic document management allow you to quickly monitor the functioning of educational institutions, as well as increase the level of their accountability to government agencies and society.

The study of foreign practices of digitalization in the field of public management of higher education confirmed the effectiveness of the use of integrated digital platforms, electronic document management, data analytics, open portals and mobile services for communication between students and teachers. The main advantages of the introduction of these technologies are determined increasing the transparency of management procedures, the speed of administrative decision-making, the accountability of educational institutions to state structures, optimizing the use of resources and improving the quality of educational services provided.

Key areas of digitalization that can be successfully adapted to Ukrainian conditions are summarized, including centralized data management, automation of document flow, expansion of the functionality of analytical platforms, implementation of open data and development of mobile services. successful implementation of the latest technologies in higher education. The need for personnel training and improving the digital competence of the administration of educational institutions and officials of state governing bodies has been identified.

For the effective implementation of digital solutions, it is recommended to ensure the phased implementation of the measure through the launch of pilot projects. This provides for the formation of specific key indicators of effectiveness, as well as attracting funding from state and international sources.

Adaptation of the best foreign practices can create a modern, transparent and competitive system of higher education in Ukraine, which will meet international standards of management and educational services.

Further research focuses on improving digital management platforms in higher education, integrating big data analytics to predict students' academic performance, increasing the level of digital competence of teachers and administration.

References

1. Suray, I. H., Zhuk, O. I., & Hoi, N. V. (2025). Aktualni aspekty tsyfrovizatsii publichnoho upravlinnia vyshchoiu osvitoiu v suchasnykh umovakh [Current aspects of digitalization of public administration of higher education in modern conditions]. *Uspikhy i dosiahnennia v nautsi – Successes and Achievements in Science*, *7*(17), 727–740. https://doi.org/10.52058/3041-1254-2025-7(17) (in Ukrainian).
2. Shelomovska, O. (2021). Tsyfrovizatsiia publichnoho upravlinnia vyshchoiu osvitoiu v Ukraini na suchasnomu etapi derzhavotvorennia [Digitalization of public administration of higher education in Ukraine at the current stage of state formation]. *Aspekty publichnoho upravlinnia – Aspects of Public Administration*, *9*(1), 47–51. https://doi.org/10.15421/152161 (in Ukrainian).
3. Sokolova, E. (2022). Napriamy reformuvannia publichno-upravlinskoi diialnosti u systemi vyshchoi osvity Ukrainy v umovakh voiennoho stanu [Directions of reforming public administration in the higher education system of Ukraine under martial law]. *Baltic Journal of Legal and Social Sciences*, (2), 183–188. https://doi.org/10.30525/2592-8813-2022-2-30 (in Ukrainian).
4. Zasimovych, O. I. (2024). Relevantnist informatsiino-tsyfrovykh system kriz pryzmu upravlinnia zakladom osvity v umovakh voiennoho stanu [The relevance of information and digital systems through the prism of educational institution management under martial law]. *Zbirnyk naukovykh prats Umanskoho derzhavnoho pedahohichnoho universytetu – Collection of Scientific Papers of Uman State Pedagogical University*, (3), 79–90. https://doi.org/10.31499/2307-4906.3.2024.312963 (in Ukrainian).
5. Rostoka, M. L. (2025). Tsyfrova paradyhma osvitnoho menedzhmentu [Digital paradigm of educational management]. *Analitychnyi visnyk u sferi osvity y nauky: dovidkovyi biulleten – Analytical Bulletin in the Field of Education and Science: Reference Bulletin*, (22), 3–52. https://lib.iitta.gov.ua/id/eprint/746327/1/Rostoka%20ML_ar_AH_22-2025.pdf (in Ukrainian).
6. Umanets, V. (2023). Tsyfrovizatsiia osvitnikh ta upravlinskykh protsesiv u zakladakh profesiinoi (profesiino-tekhnichnoi) osvity [Digitalization of educational and management processes in vocational (vocational and technical) education institutions]. *Nauka i tekhnika sohodni – Science and Technology Today*, *2*(16), 321–336. https://doi.org/10.52058/2786-6025-2023-2(16)-321-336 (in Ukrainian).

7. Verbovskyi, I. A. (2023). Osoblyvosti tsyfrovizatsii upravlinnia osvitnoiu diialnistiu zakladu vyshchoi osvity [Features of digitalization of educational management in a higher education institution]. *Visnyk Zhytomyrskoho derzhavnoho universytetu imeni Ivana Franka – Bulletin of the Ivan Franko Zhytomyr State University*. Pedahohichni nauky, (114), 59–74. http://doi.org/10.35433/pedagogy.3(114).2023.59-74 (in Ukrainian).
8. Slobodianin, M. V. (2025). Zarubizhnyi dosvid tsyfrovoi transformatsii publichnoho upravlinnia [Foreign experience of digital transformation of public administration]. *Problemy suchasnykh transformatsii. Seriia: pravo, publichne upravlinnia ta administruvannia*, (16). https://doi.org/10.54929/2786-5746-2025-16-02-22 (in Ukrainian).
9. Antoniuk, D. S., & Vakaliuk, T. A. (2021). Zarubizhnyi dosvid vykorystannia tsyfrovykh osvitnikh resursiv u vyshchii shkoli [Foreign experience in using digital educational resources in higher education]. *Pedahohika formuvannia tvorchoi osobystosti u vyshchii i zahalnoosvitnii shkolakh – Pedagogy of the Formation of a Creative Personality in Higher and General Education Schools*, *2*(74), 75–78. https://doi.org/10.32840/1992-5786.2021.74-2.14 (in Ukrainian).
10. Wang, M., Dede, C., Grotzer, T. A., & Chen, J. (2025). Understanding and managing the complexities in situated learning in immersive virtual environments. *Educational technology research and development*, (73), 3177–3200. https://doi.org/10.1007/s11423-025-10519-5
11. Pucciarelli, F., & Kaplan, A. (2022). Transition to a Hybrid Teaching Model as a Step Forward Toward Responsible Management Education? *Journal of Global Responsibility*, *13*(1), 7–20. https://doi.org/10.1108/JGR-12-2020-0111 (In English).
12. Hennessy, S., D'Angelo, S., McIntyre, N., Koomar, S., Kreimeia, A., Cao, L., ... & Zubairi, A. (2022). Technology use for teacher professional development in low-and middle-income countries: A systematic review. *Computers and Education Open*, (3), 100080. https://doi.org/10.1016/j.caeo.2022.100080
13. Suray, I. H. (2024). Tsyfrova transformatsiia publichnoho upravlinnia: semantychnyi analiz poniattia [Digital transformation of public administration: semantic analysis of the concept]. *Derzhavne upravlinnia: udoskonalennia ta rozvytok – Public Administration: Improvement and Development*, (1). http://doi.org/10.32702/2307-2156.2024.1.2 (in Ukrainian).
14. Chernovol, Ye. O., Chepeliuk, A. V., & Kurtiak, F. F. (2023). Shchodo tsyfrovizatsii osvitnoho protsesu u zakladakh vyshchoi osvity Ukrainy: novi mozhlyvosti ta perspektyvy [Regarding the digitalization of the educational process in higher education institutions of Ukraine: new opportunities and prospects]. *Akademichni vizii – Academic Visions*, (15). http://dx.doi.org/10.5281/zenodo.7595166 (in Ukrainian).
15. Silkova, O. V., Makarenko, O. V., & Makarenko, V. I. (2023). Tsyfrovizatsiia zakladu vyshchoi osvity – shliakh do intehratsii v mizhnarodnyi osvitnii prostir [Digitalization of a higher education institution as a way to integration into the international educational space]. In *Medical education according to new standards: challenges and integration into the international educational space: Proceedings of the educational and scientific conference with international participation*, Poltava, March 30, 2023 (pp. 222–224). Poltava State Medical University. https://lnk.ua/xVm8z3Gev (in Ukrainian).
16. HEDC Framework. (n.d.). Higher Education Digital Capability Framework. https://www.digitalcapability.org
17. Terminalfour. (2025). *Why digital governance matters—and how to get it right at your institution*. https://www.terminalfour.com/blog/posts/why-digital-governance-mattersand-how-to-get-it-right-at-your-institution.html
18. Stone, A. (2025, April). Digital maturity models in higher education: A digital transformation that works. *EdTech Magazine*. https://edtechmagazine.com/higher/article/2025/04/digital-maturity-models-higher-education-digital-transformation-works-perfcon
19. Kodochyhov, D. O. (2024). Tsyfrova transformatsiia upravlinskykh rishen u zakladakh vyshchoi osvity: vyklyky ta perspektyvy [Digital transformation of management decisions in higher education institutions: challenges and prospects]. *Ekonomika ta suspilstvo – Economy and society*, (66). https://doi.org/10.32782/2524-0072/2024-66-73 (in Ukrainian).
20. Vakaliuk, T. A., Antoniuk, D. S., Novitska, I. V., & Medvedieva, M. O. (2022). Tsyfrova transformatsiia vyshchoi osvity: zakordonnyi ta vitchyznianyi dosvid [Digital transformation of higher education: foreign and domestic experience]. *Naukowyi Chasopys Dragomanov Ukrainian State University. Series 5. Pedagogical sciences: reality and perspectives*, (90), 24–28. https://doi.org/10.31392/NPU-nc.series5.2022.90.05 (in Ukrainian).
21. Prykhodko, A., Hrytsenko, L., Pokhylko, S., Zhelizniak, R., Hryhorash, O., & Rudevska, V. (2025). The impact of digital transformation on higher education in the context of the socio-economic crisis in Ukraine. *Financial and credit activities: Problems of theory and practice*, *2*(61), 529–543. https://doi.org/10.55643/fcaptp.2.61.2025.4769
22. Bazeliuk, O. (2021). Osnovni trendy i vyklyky tsyfrovizatsii u vyshchii osviti [Key trends and challenges of digitalization in higher education]. *Pedahohichnyi dyskurs – Pedagogical Discourse*, (31), 36–44. https://doi.org/10.31475/ped.dys.2021.31.05 (in Ukrainian).

23. State Service of Education Quality of Ukraine. (n.d.). *Yevropeiskyi osvitnii prostir obiednuietsia dlia rozvytku tsyfrovoi osvity* [The European Education Area unites to develop digital education]. https://sqe.gov.ua/ievropeyskiy-osvitniy-prostir-obied (in Ukrainian).
24. Broberg, N., & Golden, G. (2023). *How are OECD governments navigating the digital higher education landscape?* OECD Publishing. https://doi.org/10.1787/93468ccb-en
25. European Commission. (n.d.). *Digital Education Action Plan: Policy background*. https://education.ec.europa.eu/focus-topics/digital-education/plan
26. EDUCAUSE. (2023). *2023 EDUCAUSE Horizon Report | Teaching and Learning Edition*. https://library.educause.edu/resources/2023/5/2023-educause-horizon-report-teaching-and-learning-edition#
27. Takashi, K. (2022). *Education DX & Utilizing Educational Data*. Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan. https://www.mext.go.jp/content/20220914-mxt_kokusai-000025012_3Kiryu.pdf
28. Belsky, L. (n.d.). Coursera partners with K-MOOC and the National Institute for Lifelong Education to upskill 200,000 learners in South Korea. *Coursera Blog*. https://blog.coursera.org/coursera-partners-with-k-mooc-and-the-national-institute-for-lifelong-education-to-upskill-200000-learners-in-south-korea/
29. Ministry of Education of the People's Republic of China. (2024). *Overview of work on digital education in China*. http://en.moe.gov.cn/features/2024WorldDigitalEducationConference/News/202402/t20240201_1113777.html
30. European Commission. (n.d.). *Digital Education Action Plan: Policy background*. https://education.ec.europa.eu/focus-topics/digital-education/plan
31. Sparrow, J. (n.d.). Advancing digital transformation in higher education. *Association of Governing Boards of Universities and Colleges (AGB)*. https://agb.org/trusteeship-article/advancing-digital-transformation-in-higher-education/
32. WCET. (2024, July 11). *Higher education in the Canadian context: A time of digital transformation*. https://wcet.wiche.edu/frontiers/2024/07/11/higher-education-in-the-canadian-context-a-time-of-digital-transformation/
33. Tookaa, T., Uchidab, N., Takenagaa, K., Maruyamaa, K., & Kato, M. (2024). Digitalization of higher education in Japan: Challenges and reflections for education reform. *Journal of Comparative & International Higher Education, 16*(2), 35–46. https://doi.org/10.32674/jcihe.v16i2.5252
34. Xiao, J., & Zhang, J. (2022). China's approach to digital transformation of higher education: Digital infrastructure and open educational resources. In V. I. Marín, L. N.Peters, & O. Zawacki-Richter (Eds.), *Educational Resources around the World: An International Comparison* (pp. 107–167). EdTech Books. https://edtechbooks.org/oer_around_the_world/chinas_approach_to_d
35. Zhuk, O., Hoi, N., Lopushynskyi, I., Drabchuk, N., & Matiychyk, A. (2024). Innovative mechanisms of public management for sustainable territorial development: Digitization, analytics, and communication. *Cadernos de Educação, Tecnologia e Sociedade, 17*(4). https://brajets.com/index.php/brajets/article/view/1904
36. Shvardak, M. V., & Ivanova, V. V. (2025). Formuvannia tsyfrovoi kompetentnosti maibutnikh fakhivtsiv v umovakh dystantsiinoho navchannia [Formation of digital competence of future specialists in distance learning conditions]. *Perspektyvy ta innovatsii nauky – Prospects and Innovations of Science*, *7*(53), 1053–1063. https://doi.org/10.52058/2786-4952-2025-7(53)-1053-1063 (in Ukrainian).
37. Skydan, M. I. (2024). Pidvyshchennia yakosti osvitnikh posluh yak osnovnyi stratehichnyi napriam rozvytku vyshchoi ta fakhovoi peredvyshchoi osvity [Improving the quality of educational services as the main strategic direction for the development of higher and professional pre-higher education]. *Ekonomika ta suspilstvo – Economy and Society*, (59). https://doi.org/10.32782/2524-0072/2024-59-110 (in Ukrainian).
38. Kanevska, I.M., Prystupa, L.M., Hovorukha, D.O. (2023). Teoretychni aspekty tsyfrovizatsii vyshchoi osvity: problemy i perspektyvy rozvytku [Theoretical aspects of digitalization of higher education: problems and prospects for development]. *Ekonomika ta suspilstvo – Economy and Society*, (53). https://doi.org/10.32782/2524-0072/2023-53-58 (in Ukrainian).
39. Lazko, A., & Tomashevska, I. (2023). Kliuchovi trendy v kompozytakh: vyshcha osvita i tsyfrovizatsiia [Key trends in composites: higher education and digitalization]. In M. Filipovych (Ed.), *Higher education reforms in Ukraine: challenges, status, and prospects*: collective monograph (pp. 180–211). Riga: Baltija Publishing. https://doi.org/10.30525/978-9934-26-360-6-9 (in Ukrainian).
40. Sunkhao, Kh. (2021). Suchasnyi stan ta tendentsii rozvytku vyshchoi osvity v Ukraini i sviti v konteksti tsyfrovizatsii ekonomiky [Current state and trends in the development of higher education in Ukraine and the world in the context of digitalization of the economy]. *Tsentralnoukrainskyi Naukovyi Visnyk. Ekonomichni Nauky, 7*(40), 174–184. https://economics.kntu.kr.ua/pdf/7(40)/21.pdf (in Ukrainian).