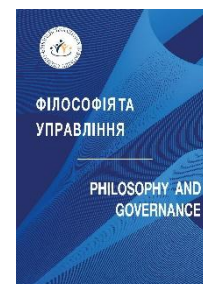




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The Mechanism for Integrating EU Digital Standards into Public Education Administration in Ukraine

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ABSTRACT

The article examines the mechanisms of integrating European Union digital standards into public education governance in Ukraine. Particular attention is given to the digital transformation of the educational and scientific sectors as a systematic process of converting analog and electronic products, processes, and management models through modern digital technologies, including the Internet of Things, robotics, artificial intelligence, big data, blockchain, cloud computing, and others. The relevance of the study is determined by Ukraine's strategic aspiration to integrate into the European Union, the need to comply with the Copenhagen criteria, and the current challenges of wartime conditions, cyber- and information attacks. Digitalization of education and science serves as a key tool to enhance the efficiency of public governance, ensure accessibility of educational services, foster the development of an information society, and integrate the national education system into the European digital space. The study aims to identify the structure, principles, and tools of digital transformation in the education sector and to determine the role of EU digital standards in improving the management efficiency of educational and scientific institutions. The analysis revealed key areas of digitalization: creating a secure electronic educational environment, providing digital infrastructure for educational institutions, enhancing digital competencies of teachers and students, automating the collection and processing of educational data, digitalizing admissions, licensing, and accreditation processes, integrating national systems with international educational platforms, and using analytics and artificial intelligence to personalize the educational process. The results show that digital initiatives, including the Unified State Electronic Database on Education (USEDE), the National Electronic Scientific and Information System (URIS), the "Science and Business" web platform, the @EducationUaBot educational chatbot, the SELFIE program, and the "Laptop for Every Teacher" initiative, ensure effective integration of the national education system into the European digital space, enhance transparency and operational efficiency of governance, and promote innovation and technology transfer. The study concludes that digital transformation in education and science is a strategic factor in fulfilling Ukraine's obligations under the EU Association Agreement, contributing to improving the quality of educational services, ensuring lifelong learning, and integrating the national technology transfer network into European systems.



KEYWORDS

digitalization, EU digital standards, public education governance, electronic educational services, integration into the European Higher Education Area, digital competencies, innovation activities, electronic education documents.



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Механізм інтеграції цифрових стандартів ЄС у публічне управління освітою в Україні

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СТАТТЯ	АНОТАЦІЯ
Дослідницька DOI: 10.70651/3041-248X/2025.12.01 Отримана: 20.10.2025 р. Прийнята: 26.11.2025 р. Опублікована: 09.12.2025 р. Авторське право © 2025 автора  Цей твір ліцензовано на умовах Ліцензії Creative Commons «Із Зазначенням Авторства – Некомерційна 4.0 Міжнародна» (CC BY-NC 4.0).	У статті розглянуто механізми інтеграції цифрових стандартів Європейського Союзу у публічне управління освітою в Україні. Особлива увага приділяється цифровій трансформації освітньої та наукової сфер як системному процесу перетворення аналогових і електронних продуктів, процесів та моделей управління на основі сучасних цифрових технологій, серед яких інтернет речей, роботизація, штучний інтелект, великі дані, блокчейн, хмарні обчислення та інші. Актуальність дослідження обумовлена стратегічним прагненням України до інтеграції в Європейський Союз, необхідністю відповідності Копенгагенським критеріям, а також актуальними викликами воєнного часу, кібер- та інформаційними атаками. Цифровізація освіти й науки виступає чільним інструментом підвищення ефективності публічного управління, забезпечення доступності освітніх послуг, розвитку інформаційного суспільства та інтеграції національної системи освіти у європейський цифровий простір. Мета дослідження полягає у з'ясуванні структури, принципів і інструментів цифрової трансформації освітньої сфери та визначенні ролі цифрових стандартів ЄС у підвищенні ефективності управління закладами освіти та науки. У процесі аналізу виявлено ключові напрями цифровізації: створення безпечного електронного освітнього середовища, забезпечення цифрової інфраструктури закладів освіти, підвищення цифрових компетентностей викладачів і студентів, автоматизація збору та обробки освітніх даних, електронізація вступу, ліцензування та акредитації, інтеграція національних систем у міжнародні освітні платформи, використання аналітики та штучного інтелекту для персоналізації освітнього процесу. Результати дослідження свідчать, що цифрові ініціативи, зокрема Єдина державна електронна база з питань освіти (ЄДЕБО), Національна електронна науково-інформаційна система (URIS), веб-платформа «Наука і Бізнес», освітній чат-бот @EducationUaBot, програма SELFIE та ініціатива «Ноутбук кожному вчителю», забезпечують ефективну інтеграцію національної системи освіти у європейський цифровий простір, підвищують прозорість та оперативність управлінських рішень і сприяють розвитку інноваційної діяльності та трансферу технологій. Висновки дослідження демонструють, що цифрова трансформація у сфері освіти та науки є стратегічним фактором реалізації зобов'язань України за Угодою про асоціацію з ЄС, сприяє підвищенню якості освітніх послуг, доступності навчання протягом життя та інтеграції національної мережі трансферу технологій у європейські системи.



КЛЮЧОВІ СЛОВА

цифровізація, цифрові стандарти ЄС, публічне управління освітою, електронні освітні сервіси, інтеграція у Європейський простір вищої освіти, цифрові компетентності, інноваційна діяльність, електронні документи про освіту.

1. Introduction

In the current conditions of transformation of public education management in Ukraine, the digital infrastructure of schools plays a crucial role in ensuring equal access to educational resources and the implementation of European standards. According to the International Telecommunication Union (ITU), at the beginning of 2023, there were approximately 16,317 schools in Ukraine, of which about 60% had an Internet connection via fiber-optic technologies, and the remaining 40% did not have a stable Internet infrastructure [1]. At the same time, the state is making significant efforts to modernize the educational network: in 2024–2025, as part of the renewal of educational infrastructure, it is planned to modernize more than 1,500 educational spaces, in particular, to create underground schools, shelters, laboratories and workshops, which meet the strategic priorities of security and digitalization [2]. In Kyiv, within the framework of the “Digital Kyiv” program (2024–2025), they are actively expanding WiFi networks in schools, introducing the Internet in shelters and installing video surveillance, increasing both security and access to digital services [3].

The central element of the digitalization of education is the state educational ecosystem “Mriya”, which, as of May 2025, includes 500 schools from 18 regions [4]. This application and portal create a single platform for interaction between students, teachers and parents, minimizing bureaucratic barriers and providing the state with analytical data for decision-making.

The analysis of infrastructure also shows that a significant part of schools (at the level of the city of Kyiv) have wireless Internet: according to the Civitta study, in 2025, 92.2% of educational institutions in Kyiv were equipped with WiFi, and 91% had a speed of more than 30 Mbps, which is enough for modern digital learning [5].

At the same time, the Report of the Department of Education and Science of the Odesa City Council for the first half of 2025 indicates significant technological achievements: in total, the city's schools have 10,982 personal computers and laptops, 1,162 interactive whiteboards (for comparison: in 2023 – 654), 2,069 multimedia projectors (in 2023 – 1,557). A significant part of the institutions already has the Internet with a bandwidth of at least 100 Mbps, and 37.5% of schools have access to more than 100 Mbps (against 15% in 2023) [6, p. 8].

In the context of the governance mechanism for the integration of EU digital standards, this means that the Ukrainian education system already has a significant digital base, but at the same time, there are significant inequalities in access, especially in the regions. The development of Mriya, the expansion of broadband Internet, the modernization of school equipment and safe educational spaces create prerequisites for the introduction of e-governance models in education, big data analytics and personalized learning according to European standards.

2. Literature Review

Scientists pay considerable attention to the problems of integrating digital standards into the public administration system of Ukraine, emphasizing its strategic importance for the modernization of the public sector and increasing the efficiency of management processes. In particular, V. G. Gornyk et al. emphasize that the optimization of information and analytical support for the adaptation of the Ukrainian public administration system to European standards contributes to the formation of strategic guidelines of the state and increasing the efficiency of managerial decision-making [7].

In this context, considerable attention is paid to the development of digital platforms as a tool for interdisciplinary interaction. V. Kononenko and I. Kushko note that modern digital technologies ensure the integration of analytical, communication and management processes, which significantly increases the efficiency and quality of decision-making in the field of public administration [8]. Thus, digital platforms act not only as a technical tool, but also as a mechanism for coordination between different levels of public administration and educational institutions.

Digitalization is of particular importance in the field of education and science, where it is becoming a major factor in Ukraine's integration into the European educational space. T. Konrad et al. note that the introduction of modern digital standards and a strategic partnership with EU countries are necessary to ensure high quality education and the competitiveness of graduates in the international labor market [9].

An important component of this process is the modernization of public administration in general. O. Yevtushenko emphasizes that the use of electronic services, digital platforms and automated

management systems increases transparency, accountability and efficiency of public authorities [10, 11].

The EU experience is an important guide in the formation of a national digitalization strategy. K. Hrytsenko et al. emphasize that a systematic approach to digitalization allows integrating information technologies into all areas of management and creates conditions for the effective use of data in political and managerial decision-making [12].

At the same time, the introduction of digital services in public administration in Ukraine faces a number of challenges. K. Kolesnikova notes that successful digitalization requires an integrated approach that covers regulatory support, technological modernization, personnel training and ensuring the security of information resources [13]. V. Saprykin adds that a clear definition of the terminology digitalization, digitalization and digital transformation is critical for planning and implementing reforms in the public sector [14].

Taking into account the European perspective, B. Dziura and co-authors emphasize that European integration guidelines form strategic directions for the development of e-governance and digital services in the public sector [15]. N. Orlova emphasizes that the digital transformation of public administration in Ukraine should be based on these benchmarks, which provides for the harmonization of the national legislative framework with EU requirements and the introduction of innovative technological solutions in public administration processes [16].

A significant role in shaping the public discourse on digitalization and digital transformation of education is played by the media. T. Goletska notes that a systematic information and analytical review of the media confirms the priority of digitalization of the education sector for national policy and the need for active use of international experience, in particular EU practices [17]. In turn, G. Bondar adds that digitalization is also a mechanism of cooperation with the EU, which is aimed at modernizing the management system, increasing the efficiency of public services and ensuring integration into the European information and educational environment [18].

Thus, the analysis of scientific literature demonstrates that the integration of EU digital standards into the public administration of education in Ukraine requires a comprehensive, multi-level approach. It should combine regulatory support, digital platforms, innovative management methods, and coordination between government agencies, educational institutions, and the scientific community. This approach creates prerequisites for increasing the efficiency, transparency and accountability of management decisions in the field of education and contributes to the strategic integration of Ukraine into the European educational and information space.

3. Problem Statement

The purpose of this study is to theoretically generalize and substantiate the mechanisms for integrating European Union digital standards into the system of public education management in Ukraine, which provides for the analysis of institutional, regulatory and organizational conditions for the introduction of digital services, coordination of management processes, infrastructure development and formation of uniform data standards in accordance with EU requirements, taking into account the functional role of central and local authorities and institutions education as leading subjects of digital transformation to determine the directions for optimizing managerial decisions and increasing the effectiveness of the implementation of state policy in the field of education.

4. Methods and Materials

The study was carried out on the basis of a comprehensive analysis of open analytical, statistical, and regulatory sources, as well as with the use of modern scientific approaches to the study of digitalization processes in the field of education and public administration in Ukraine.

The collection and systematization of statistical and analytical data was carried out based on official reports of the Ministry of Education and Science of Ukraine, data from the State Statistics Service, AIS "Pulse", the Unified State Electronic Database on Education (EDEBO), the National Electronic Scientific Information System (URIS) and open analytical materials of international and national projects for the digitalization of education. The empirical base included indicators of digitalization of educational processes, the use of electronic services, automation of administrative procedures, the level

of digital competence of teachers and students, as well as the results of the implementation of international initiatives for the digitalization of educational and scientific spheres.

To achieve the set goals, an integrated methodological approach was applied, combining quantitative and qualitative research methods. Descriptive statistics tools made it possible to identify digitalization trends, record structural shifts in the system of educational services, and assess the progress of integrating EU digital standards into national processes. At the same time, a content analysis of Ukraine's regulations and international documents, in particular the Association Agreement between Ukraine and the EU, the Paris Communiqué of 2018, the Concept for the Development of the Digital Economy and Society of Ukraine, was carried out, which made it possible to outline the regulatory framework, determine strategic directions for digitalization and integration into the European educational space.

5. Results and Discussion

Digital transformation is considered as a holistic process of reorienting traditional analog and electronic products, procedures and organizational models to digital formats based on the rational application of modern technological solutions [19]. Analytical materials of the World Economic Forum show that digital technologies such as the Internet of Things, robotization systems and cyber-physical complexes, artificial intelligence, processing of large amounts of data, paperless document management technologies, additive manufacturing (3D printing), cloud and fog computing, unmanned and mobile solutions, biometric systems, quantum technologies, digital identification tools and blockchain are currently developing most dynamically.

The principles of digitalization provide citizens with equal access to digital services, information and knowledge; improving the quality of public services, in particular education; stimulating economic development by increasing productivity and competitiveness; development of the information society and the media sphere; intensification of international, European and regional integration; standardization as a basic prerequisite for successful digital modernization; guaranteeing security and building trust in digital solutions; as well as coordinated state management of digital transformations aimed at removing regulatory barriers and supporting infrastructure development [20].

In Ukraine, the priority areas of digital policy are defined in the documents "Digital Agenda of Ukraine" [21] and "Concept for the Development of the Digital Economy and Society of Ukraine" [22]. Education and science occupy a significant place in these strategies, since they provide the formation of human resources and training of specialists for the digital economy.

The digital modernization of the educational sector includes the creation of a safe electronic educational environment, the development of the digital infrastructure of educational institutions, the development of the digital competence of teachers and students, the transition to digitalized educational processes and services, as well as the automation of the collection, management and analytics of educational data [23].

In the context of the full-scale aggression of the Russian Federation, intense cyber and information attacks, as well as ongoing attempts to destroy critical infrastructure, Ukraine's strategic course towards European integration takes on a new meaning. The requirements of the Copenhagen criteria, according to Y. A. Tragniuk et al. cover the stability of democratic institutions, compliance with the principles of the rule of law, protection of human and minority rights, functioning of a competitive market environment and the ability of the state to integrate into the EU internal market [24, p. 36].

The international legal framework for the development of the educational sphere is determined by the Association Agreement between Ukraine and the European Union, which provides for the modernization of the higher education system, strengthening its compatibility with the European Higher Education Area, improving the quality of educational programs, expanding academic mobility and creating conditions for the accessibility of higher education [25].

An important normative benchmark for the development of higher education is the Paris Communiqué of 2018 [26], which enshrines the primary values of the European Higher Education Area – academic freedom, integrity, participation of the student and scientific and pedagogical community in governance, civic responsibility and institutional autonomy. In the 2020 EHEA documents, the emphasis is shifted to strengthening social inclusion as a factor in the formation of human capital and innovation potential.

Ukraine's integration into the EHEA is accompanied by the introduction of a new list of specialties aimed at increasing academic mobility and recognition of diplomas of Ukrainian higher education institutions. In accordance with the European Qualifications Framework, 142 higher education standards have been approved, which are based on a competency-based approach and harmonize national standards with international educational structures [27].

The Association Agreement between Ukraine and the European Union, in particular its Chapter V "Economic and Sectoral Cooperation", defines the main directions and obligations of Ukraine in the development of science, technology, education and youth policy. These provisions form the regulatory framework for gradual integration into the European educational area and ensure the adaptation of the national education management system to European standards of efficiency and quality.

The partnership between Ukraine and the EU in the fields of education, vocational training and youth policy includes the modernization and reform of the higher education system, its harmonization with the requirements of the European Higher Education Area within the framework of the Bologna process, raising the standards of educational activities, expanding cooperation between universities, intensifying the academic mobility of students and teachers, as well as creating favorable conditions for access to higher and vocational education. A separate area of cooperation is the development of mechanisms for the exchange of information and best practices in the field of vocational education and training.

According to the data of AIS "Pulse", as of 2024, the level of completion of the tasks provided for in the section "Education, training and youth" was 94%, while in the field of "Science, Technology and Innovation, Space" progress was estimated at 68% [28].

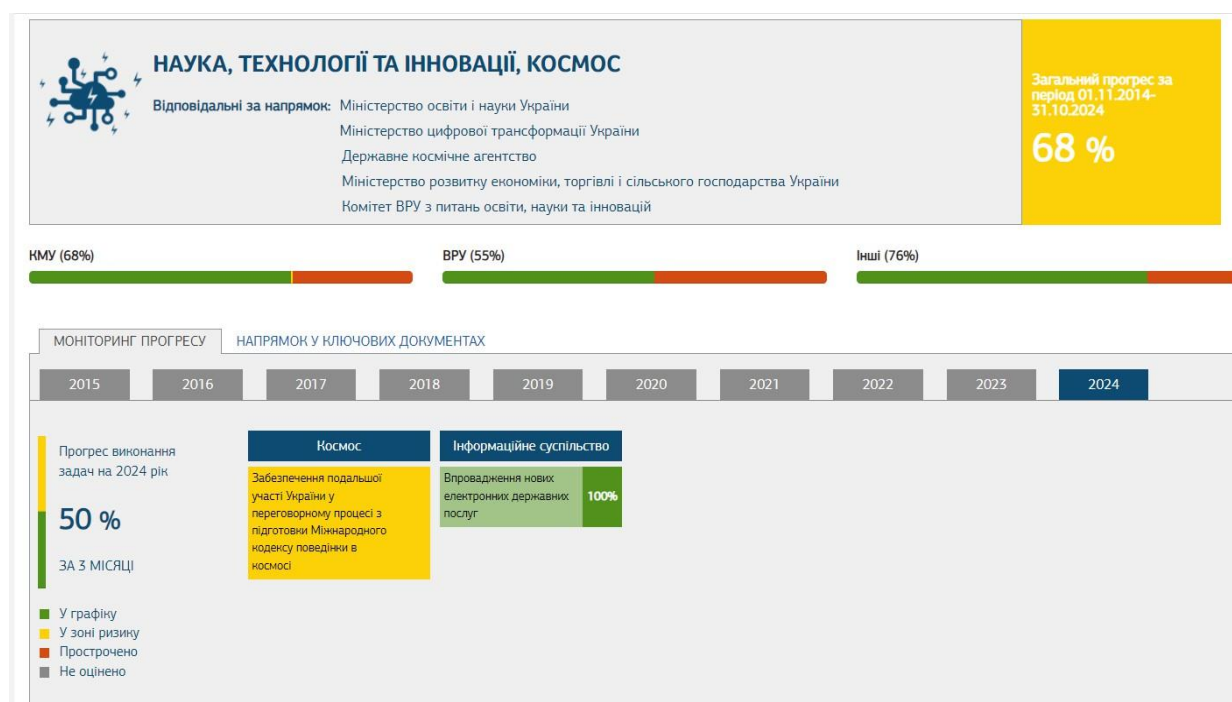


Fig. 1. Progress in the implementation of the planned activities under the section "Science, Technology and Innovation, Space" in AIS "Pulse"

Source: Compiled by the author based on [28].

According to the Unified State Electronic Database on Education (EDEBO), as of 01.10.2025, the list of obligations in the field of education, the fulfillment of which is currently partial or needs further improvement, includes the following areas: establishing a systematic exchange of information with the institutions of the European Union on joint educational programs; bringing national qualifications documents in line with the requirements of the European Qualifications Assessment System; ensuring the effective functioning of internal quality systems in higher education institutions in accordance with European standards; as well as expanding citizens' access to lifelong learning [29].

In the field of science and technology, cooperation between Ukraine and the EU covers a wide range of interactions, including: exchange of information on science and technology policy; implementation of joint research programs and projects; support for the development of scientific

research, technology transfer and dissemination of innovative solutions; organization of academic mobility and professional exchange programs for researchers; conducting joint scientific and technological events; creating conditions for the introduction of the latest technologies and guaranteeing the protection of intellectual property; intensification of regional and international partnerships; as well as the exchange of accumulated practices in the management of research institutions [30].

Commitments in the field of science, technology and innovation that need to be implemented include: creating conditions for the intensification of innovation activities and the functioning of innovation infrastructure; integration of the national technology transfer network into European networks; reorganization and optimization of scientific institutions and departments in higher education institutions; creation of a new system of management and financing of science; introduction of mechanisms to stimulate technology transfer (Table 1).

Table 1. Ukraine's obligations in the field of science, technology and innovation, and their implementation as of 01.11.2025

Obligations in the field of STI	Practical results and indicators
Creating conditions for the intensification of innovation activity / infrastructure	14 Shared Research Facilities will receive funding of more than UAH 21 million for infrastructure modernization (alternative energy, etc.)
Integration of the national technology transfer network into European networks	11 Ukrainian-Latvian research projects approved for support in 2025-2026 (cooperation in NTI)
Creation of a new system of management and financing of science	The Government approved the draft law "On Support and Development of Innovative Activities", which provides for new mechanisms of public-private partnership, the creation of science parks, startup schools and new institutional management
Development of science through competitive programs	The list of fundamental and applied scientific projects that will receive state funding in 2025 under the order of the Ministry of Education and Science No. 369 has been approved
Promotion of technology transfer / international cooperation	The Ministry of Education and Science announced a competition for joint Ukrainian-Austrian research projects for 2025–2026, with funding (NTI cooperation)

Source: Compiled by the author based on [31-33].

Digital transformation in the field of education and science is a key tool for fulfilling these obligations, as it provides: exchange of information and practices; improving the quality and accessibility of higher education; intensification of innovation activity; technology transfer; development of the information society through ensuring the universal accessibility of ICT, the introduction of e-learning and data exchange to optimize management decisions.

As part of the digital modernization of the system of higher, professional, pre-higher and vocational (vocational and technical) education in Ukraine, a number of state measures are being implemented aimed at the gradual introduction of European approaches and standards of digital governance in the field of education [9]. Among the leading steps, it is worth highlighting the digitalization of entrance procedures for obtaining higher, professional pre-higher and professional education. In particular, a system for submitting applications exclusively in electronic form has been introduced and their automated accounting by the Ministry of Education and Science of Ukraine has been ensured. For this purpose, specialized digital modules have been created, including an electronic cabinet for the entrant and tools for recording the data of foreign students of pre-university training in the Unified State Electronic Database on Education (EDEBO), which allows you to correctly take into account such information during the admission campaign. The improvement also affected the document flow: electronic ordering and registration of educational documents was introduced – from PhD/Arts diplomas to doctoral degrees – with the assignment of a unique EDEBO number and the possibility of forming European-style annexes to higher education documents.

Digital transformation also includes updating licensing procedures: an electronic mechanism has been created for recording the results of licensing examinations and generating relevant reports on the implementation of licensing conditions. The integration of the EDEBO with state information resources is gradually expanding through the use of application interfaces and the national interaction system "Trembita" [29; 34]. One of the important areas is the modernization of the electronic system for

monitoring the employment of graduates, which provides stakeholders with access to up-to-date information on professional trajectories and contributes to informed management decision-making. In the scientific field, initiatives are being implemented to create the Register of Ukrainian Research Infrastructures, which provides for the unification of information profiles of equipment and specialists, as well as the modernization of the Open Ukrainian Science Citation Index by expanding access to databases of scientific publications.

An important element of digital integration is the introduction of electronic documents on education in the environment of the portal and the Diia mobile application. A corresponding draft regulatory act has been developed, which determines the procedure for displaying information on basic secondary, complete general secondary, vocational, professional pre-higher and higher education in electronic format through the Unified State Web Portal of Electronic Services and the Diia mobile application.

The implementation of digital transformation in the educational and scientific spheres is based on the functioning of basic software and hardware complexes and automated systems. The central role among them is played by the EDEBO, which ensures the collection, verification, processing, storage and protection of information on the educational system, supports electronic licensing, accreditation processes, electronic admission, verification of documents and other management processes. The Management System for Vocational Education (EMIS) automates the processes of collecting, analyzing, and using disaggregated data on qualitative and quantitative indicators of the education system for managerial decision-making. The National Electronic Scientific Information System (URIS) aggregates data in the field of scientific and scientific-technical activities of Ukraine, creating a single information resource for domestic scientists and universities.

PJSC "AICOM" provides processing of state electronic information resources and personal data in the field of education in an integrated environment for the transition to electronic document management. The unified interagency information system for the admission of foreigners, implemented within the framework of international technical assistance "EU4DigitalUA", allows electronic recruitment and training of foreigners and stateless persons in higher education institutions of Ukraine. The Electronic Scientific Information System and the Unified Electronic System for Competitive Funding of Scientific Research provide centralized access to digital scientific services, the formation of unified profiles of Ukrainian scientists, the submission of funding applications, the selection of experts and reporting. The web platform "Science and Business" creates an online platform for communication and effective interaction between representatives of business and the scientific community. Students, entrants, teachers and educational managers have the opportunity to use 46 services to receive educational services remotely or online, which significantly increases the accessibility, transparency and efficiency of management in the field of education and science [9].

Joint international educational projects aimed at digitalizing the education sector in Ukraine include a number of tools and initiatives that increase the availability of educational services and integrate the national education system into the European digital space. The educational chatbot @EducationUaBot serves as an operational information resource for all participants in the educational process – students, teachers and administrative staff. With its help, users receive up-to-date information on the organization and course of education in Ukraine and abroad, available mechanisms for continuing educational activities under martial law, as well as procedures for restoring lost educational documents. The initiative was implemented with the support of the Swiss project DECIDE.

The online tool SELFIE (Self-reflection on Effective Learning by Fostering the Use of Innovative Educational Technologies) provides educational institutions with the opportunity to self-assess the level of integration of digital technologies into the educational process free of charge. Its application helps to determine the real state of digital transformation of the institution, identify strengths and needs for the further development of digital infrastructure and pedagogical practices.

SELFIE was developed by the European Commission's Joint Research Centre and EU research institutes. The "Laptop for Every Teacher" program, implemented in partnership with Google and UNICEF, provides Ukrainian teachers with modern computer equipment that contributes to the continuity of the educational process in the context of military conflict and supports the restoration of educational infrastructure [9].

Further development of digitalization of higher education institutions and scientific institutions in Ukraine is considered as a key direction of modernization of the educational system, aimed at increasing the efficiency of the use of digital technologies in educational and scientific processes,

creating a modern educational environment, developing digital competencies of students and teaching staff, as well as ensuring open access to data for educational and scientific needs. The concept of "Ukrainian University 2030" provides for the formation of an integrated digital learning space, within which the interaction of the teacher and the student is carried out through online platforms, distance courses, lectures and electronic learning resources. The use of analytical data from online platforms using artificial intelligence algorithms makes it possible to personalize the educational process, take into account individual rates of material acquisition, adapt disciplines to different specialties, and integrate virtual and augmented reality technologies for practical training of students. Additionally, digital assistants and chatbots provide prompt information support on the organization of the educational process, financial assistance, housing issues, leisure, and movement within the country.

Achieving a high level of digital competencies is defined as one of the strategic tasks of education transformation. Digital literacy is understood as the confident, critical and creative use of information and communication technologies for the implementation of educational, professional, social and community tasks and is recognized by the European Union as one of the leading competencies of lifelong learning. The updated EU Digital Competence Framework (DigComp 2.0) identifies five blocks of competencies that ensure the systematic development of digital skills of participants in the educational process.

The digitalization of data in the field of education and science facilitates the access of teachers and scientists to educational analytics, the integration of state registers, personal educational data and scientific information through the National Electronic Scientific Information System and the improvement of the Open Ukrainian Citation Index (OUCI). The use of such resources allows for effective management at all levels: monitoring the employment of graduates, accounting for pedagogical and scientific-pedagogical personnel, planning advanced training, creating registers of research infrastructures, forming documents on education and their annexes to the EDEBO, automating reporting by educational and scientific institutions, as well as the implementation of the National Student Survey. The systematic implementation of the course of digitalization of higher education will contribute to the fulfillment of Ukraine's obligations under the Association Agreement with the EU and create conditions for the development of innovation activities and the integration of the national technology transfer network into European educational and scientific systems.

6. Conclusions

Thus, the integration of EU digital standards into the public administration of education in Ukraine provided the creation of a basis for the digital transformation of the educational and scientific spheres, increasing the accessibility, transparency and efficiency of management decisions. The implementation of electronic services, in particular EDEBO, EMIS, URIS and the Diia portal, made it possible to standardize data, automate document flow, monitoring and evaluation of educational processes, as well as integrate the national education system into the European digital space.

Of particular importance are initiatives aimed at digitalization of admission campaigns, electronic licensing and monitoring of scientific and educational indicators, the introduction of online SELFIE resources and programs for providing modern technologies, which increase the digital competencies of teachers and students and support the continuity of learning in the context of military conflict.

At the same time, integration is accompanied by systemic challenges, among which it is necessary to improve the regulatory framework, coordination between state bodies and educational institutions, ensure equal access to digital services in different regions and support for innovation infrastructure.

Further development of digital transformation in the field of education and science includes: deepening the integration of the national technology transfer network into European systems, optimizing the management of scientific institutions, increasing the digital competencies of all participants in the educational process and creating conditions for personalizing learning through data analytics and the use of artificial intelligence.

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