

DOI: <https://doi.org/10.34069/AI/2023.61.01.22>

How to Cite:

Ridei, N., Tytova, N., Humeniuk, T., Ishchenko, S., & Sheremetieva, S. (2023). The main ways to solve the problems of document management in higher education (the Ukrainian case). *Amazonia Investiga*, 12(61), 212-223. <https://doi.org/10.34069/AI/2023.61.01.22>

The main ways to solve the problems of document management in higher education (the Ukrainian case)

Las principales vías para resolver los problemas de la gestión de documentos en la enseñanza superior (el caso Ucraniano)

Received: January 20, 2023

Accepted: February 25, 2023

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Abstract

The purpose of the research is to analyze the problem of document management in the sphere of higher education and to determine potential ways to solve them using the example of the Ukrainian experience. The content analysis of modern pedagogical literature showed the problems of the documentary support. On the basis of the system method, document management is considered as a dynamic system that changes according to modern conditions. Based on the prognostic method, possible prospects for the development of the latest documentation systems are highlighted. In results it is shown, that the modern documentary system completely deviates from the old principles of the formation of the administrative apparatus in several directions. Framework recommendations have been formed for determining the development vectors of document and communication support, and they can be extended to similar systems of formation,

Resumen

El objetivo de la investigación es analizar la problemática de la gestión documental en el ámbito de la enseñanza superior y determinar posibles vías de solución a partir del ejemplo de la experiencia ucraniana. El análisis del contenido de la literatura pedagógica moderna mostró los problemas del soporte documental. Sobre la base del método sistémico, la gestión de documentos se considera un sistema dinámico que cambia en función de las condiciones modernas. Sobre la base del método de pronóstico, se destacan las posibles perspectivas de desarrollo de los últimos sistemas de documentación. En los resultados se muestra, que el sistema documental moderno se desvía completamente de los antiguos principios de la formación del aparato administrativo en varias direcciones. Se han formado recomendaciones marco para determinar los vectores de desarrollo del soporte de documentos y comunicación, y pueden extenderse a sistemas similares de formación, soporte y almacenamiento de

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support, and storage of documents of the management (administrative) staff. The conclusions established that the current system of organizing documentary support in the educational sphere of Ukraine actually contains archaisms. It is proposed to integrate Blockchain-technologies into the implemented educational SEMDs, which will potentially ensure inter-level communication channels of the participants in the document creation process of higher education of Ukraine.

Keywords: document management, higher education of Ukraine, Blockchain, problems, and prospects.

Introduction

The modern development of the information society dictates updated requirements for document management. Developed digital technologies make it possible to update the management of organizations, improve and optimize the process of document management. Education, as a separate branch of social activity, is no exception, and the focus on the use of digital orders, decrees, and other acts is inherent in it no less than in business structures or administrative and legal activities. These trends are also relevant to the Ukrainian reality because in the context of distance learning in higher education institutions there is a need for fast and rapid response and communication with students digitally. Accordingly, the COVID-19 pandemic acted as a certain catalyst for changes, including in the management of document flows in universities, the Ministry of Education and Science of Ukraine, other structural and managerial organizations that provide the educational process (Ministry of Education and Science of Ukraine, 2019).

At the same time, further development of management strategies, which are based on modern document management systems, require further development and improvement. Consequently, the coverage of the main problems of document management and ways to overcome them is a relevant topic for research, especially given the large-scale digital innovations of the educational industry.

Research Problem

As of today, the system of Ukrainian document management in higher education aims to achieve transparency of record keeping (through the organization of manageable and accessible to wide masses of stakeholders process of creation,

documentos del personal de gestión (administrativo). Las conclusiones establecen que el sistema actual de organización del soporte documental en el ámbito educativo de Ucrania contiene arcaísmos. Se propone integrar las tecnologías Blockchain en los SEMD educativos implementados, lo que potencialmente garantizará los canales de comunicación entre niveles de los participantes en el proceso de creación de documentos de la educación superior de Ucrania.

Palabras clave: gestión de documentos, educación superior de Ucrania, Blockchain, problemas y perspectivas.

coordination, and approval in working order of documents of different levels of legal weight), avoidance of unnecessary links in instance support of document formation (by simplification of cumbersome systems of coordination and cross-checking of creation, maintenance and putting into effect The transition to electronic document management system remains a tangible problem for higher education (in accordance with the current world trends in the field under study, based on the achievements and development of relevant technologies).

Research Focus

The study focuses on modern methods of document management in the field of education and analysis of the main problems for their implementation. The proposed problems are investigated only partially because of the current challenges associated with distance learning during quarantine restrictions and, above all, the ongoing military operations. Important and no less pressing problems remain barriers to the development of digital documentation in the conditions of Ukrainian realities.

Research Aim

The study aims to analyze the problems of document management in education and to identify potential ways to solve them on the example of the Ukrainian experience.

Literature Review

Modern systems of document management, practiced in the world's well-known institutions, were called DMS (Document Management System) The study of DMS, as a holistic

multifactor system that determines the information and organizational influence on other components of the executive system in the general industry complex of apparatuses, contributed to relevant research and relevant publications of such author as Abaci & Tolga (2022). This researcher identified the specifics of organizational schemes and means of functioning of the SMD in the realities of modern working conditions, characterized the effectiveness of the use of innovative methods of document flow formation. At the same time, a team of authors led by Jordan et al., (2022) characterized the feasibility of introducing the DMS in all industries, without exception, requiring documentary support of work activities. Regla and Marquez (2020) identified the main types of SMD scheme interactions in organizational systems involving cloud services. Alimjanovich (2022) characterized the EDO/EMD (Electronic document management) transformations of SMDs using modern software-digital tools), Jordan et al. (2022) described typical schemes and means of transition of SMDs to digital platforms of a document support organization. These researchers also point out that the educational sphere is one of the main reference points in the DMS system since it explores the established organizational patterns and forms the basic concepts of the case, not only in individual industries but also in the state as a whole. Therefore, in order to identify effective document management schemes directly in the educational field, targeted research is conducted, which is represented, in particular, by the works of such authors as Chernyshenko & Chernyshenko (2022). These experts have highlighted the key principles of the optimization of organizational schemes of LSMS (and SEMD) on the example of a limited infrastructure of an educational institution. Also, Chernyshenko & Chernyshenko (2022) focused on the organization and functional responsibilities of each of the participants in the educational process. The work of Arifin (2022) is devoted to the analysis of SMD functioning in a medium-level educational institution. The article by Lvovich et al. (2021) is also devoted to the study and formation of the main optimization solutions to the expedient organization of the system of institutional support of document management in education. Raza & Hussain (2022) examined the main problems on the way to digitalization of education. Such problems were investigated by Wojciech et al. (2021); Rakhimov & Mukhamediev (2022).

The analysis of thematic works and publications indicates that the problem of document

management in the pedagogical sphere is not new. However, the use of modern innovative methods of document management requires further justification, primarily given the large-scale digitalization of all social structures, which takes place not only in Western European countries but also in Ukraine.

A review of Ukrainian studies, in particular the works of Asanova (2020), Batareina & Korobchenko (2022), Bezliudnyi & Kirdan (2020) demonstrates the importance of the digital circulation of documents in Ukraine. Note that Asanova (2020) points out the practical problems occurring in document circulation in Ukraine in different areas. In particular, she notes the need to develop technological instructions and schemes, which should highlight the key aspects of the sequence of preparation of various document projects, the system, and the procedure for their approval, signing, or approval.

A content analysis of contemporary pedagogical literature, primarily the works of Chernyshenko & Chernyshenko (2022); Arifin (2022); Alimjanovich (2022); Ayaz & Yanartaş, 2020; Ferilli et al., 2022; Istratova & Sin, 2022; generally, prove the effectiveness of digital innovative document management. However, these authors also note the practical problems of its implementation. Thematic analysis of the organization of DMSD (EDMS) in the target area under study (education), indicates the existence of the problem of organizing an effective system of document management, excluding the outdated methods of instance approval. The focus of the Ukrainian educational sector is to change the archaic approach to the processes of creating and ordering documents, which were formed under the influence of the Soviet-Communist political foundations of the past and take into account the modern achievements and experiences of successful practices in the studied area. Consequently, we believe that the main debatable issues of document management are the practical aspects of correlation of the path of presentation and approval of the document, coverage of the functioning of the current educational CMD with the identification of factors that have a key impact on the efficiency of the functioning of the system of document management under study.

Materials and Methods

The methodological approach used in this study is based on the practice of analytical research and correlative determination of the most appropriate and effective solutions that have significant

potential for implementation, taking into account the local features of the functioning of the education system in Ukraine.

Also, the work is formed based on the use of general scientific methods of research: analysis and synthesis. On the basis of content analysis of modern pedagogical literature, the problems and key discussion issues of the study are identified. The work also used the prognostic, systemic, structural method. Of particular importance was the use of methods of concretization and abstraction. At the same time, the methodological approach applied in this study is based on the practice of analytical search and correlative determination of the most acceptable and effective solutions that have significant potential for implementation, taking into account the local features of the educational system functioning in Ukraine.

This study is a qualitative study of existing best practices of document management system construction. The qualitative research approach is applied in the framework of retrospective-structural analysis of existing sectoral norms of document management organization in the field of education, which accompanies the task of modeling optimization solutions. The research was conducted based on document management systems in higher education in Ukraine.

On the basis of the analysis, the main subject of the research (the problems of document management in the field of education) was divided into smaller elements (peculiarities of higher school document management in Ukraine, analysis of the instation document management system, digital aspects of university document management, analysis of main problems on the way of document management implementation). synthesis these elements were combined, and own conclusions were formed. On the basis of the system method, the phenomenon of document management was considered as a constant.

The study was implemented in several stages:

- study of the currently functioning system of document management in the educational industry with the establishment of characteristic participants, communication links, control vertical and instance conciliation with the definition of the actual aspects and factors affecting the organizational and managerial functionality of the investigated SMD;

- determination of prospective vector of development of higher education in Ukraine by identifying positive and optimal world profile practices for the establishment of modern systems of document management, document support, execution of document orders, and archival storage as the final stage of document management.

The above tools of information-analytical search proposed for use in this study are the most appropriate to implement due to the potential opportunity in the process of studying the positive world-specific-industry experience to obtain data that can be recombined and adapted to local conditions and realities of production. educational industry in Ukraine.

The main empirical basis for this study is legislative material, in particular:

1. Orders of the Ministry of Justice of Ukraine on the procedure for working with electronic documents in record keeping and their preparation for transfer to the archival storage; Instructions on record keeping in institutions of general secondary education, etc. (Ministry of Education and Science of Ukraine, 2018).
2. Resolutions of the Cabinet of Ministers of Ukraine, in particular, the Model Instruction on documenting management information in electronic form and organization of work with electronic documents in records management, electronic interdepartmental exchange. (Decree № 55, 2018).
3. Strategies of the development of higher education in Ukraine. (Strategy for the Development of Higher Education in Ukraine for 2022-2023).
4. Also, the study is based on the analysis of the National Standard of Ukraine (GOST) Ukrainian Research Institute of Archival Affairs and Records Management (UNIIASD), 2020).

Results

Document management of the educational sector in Ukraine is regulated by the relevant Department under the Ministry of Education of Ukraine, which is guided in its activities by the requirements of the relevant regulatory and legislative framework:

- the general provisions of document organization are implemented in accordance with the Rules as of 2015;

- unitary systematized provisions and norms of document preparation of various levels of legal and administrative differentiation are applied in accordance with DSTU 4163:2020
- general provisions regarding the organization of document circulation in electronic form are carried out in accordance with Laws of Ukraine: No. 851-IV, 2022; No. 2155-VIII, 2022 (On electronic documents and electronic workflow, 2022; On electronic trust services, 2022) and standard instructions (Decree № 55, 2018).

It should be noted that the professional regulations on the document management organization in the field of education are applied in accordance with the provisions of the Instruction as of 2013, which is a general branch instruction, in particular, for use in the internal system of document support of the Ministry of Education and Culture of the Ministry of Education and Culture; Instructions as of 2018 for the use of existing accreditation levels in educational institutions. According to the regulatory and governing documentation described above - which essentially forms the DMS of the educational sector – the organizational and management procedure involves document creation. (See Fig. 1).

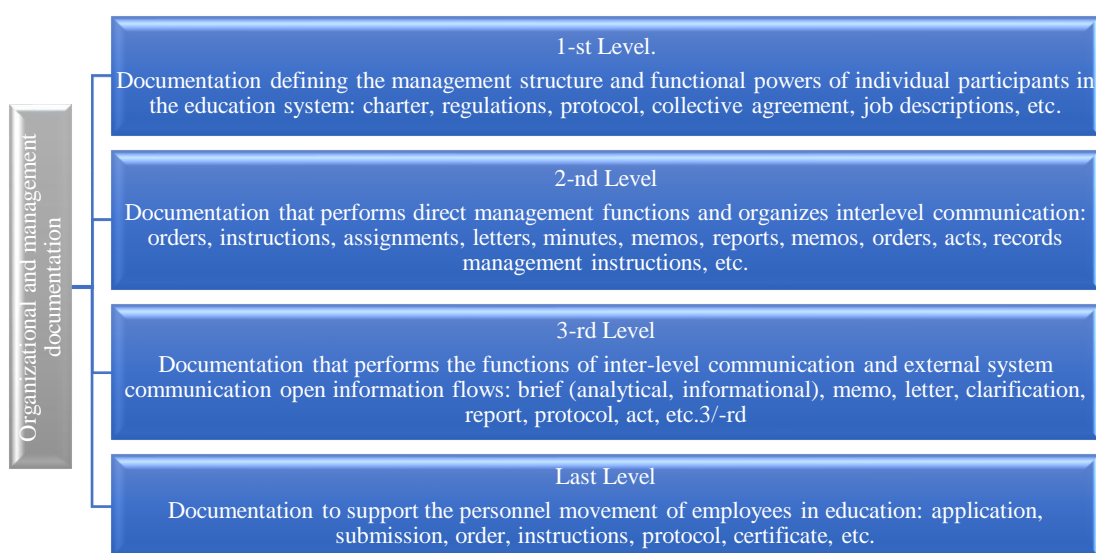


Figure 1. Documents of organizational and managerial nature generated in the DMS of the educational industry. Author's development

According to the provisions of DSTU 4163:2020 the structure of organizational and management, and administrative documents, including those

formed in the educational sector, is defined by the median generalized structure shown in Fig. 2.

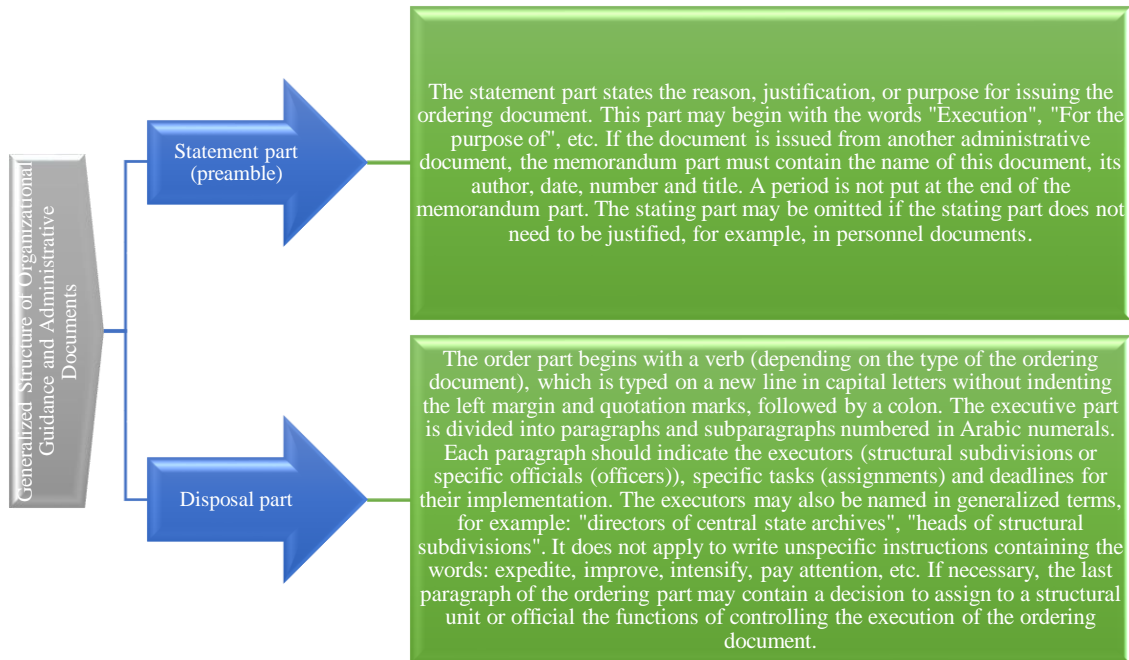


Figure 2. Generalized structure of organizational and administrative documents under the provisions of DSTU 4163:2020

Adopted from Ukrainian Research Institute of Archival Affairs and Records Management. UNIIASD, 2020.

The system of instant approval and implementation of management documentation in the educational sector is formed based on the provisions of the Rules as of 2015 and provides for the implementation of an operational process from the creation of an organizational and management document (based on the emergence of aspects and factors that require managerial intervention and the corresponding document arrangement) before the implementation of the agreed project of the result of the document arrangement. According to the provisions of the Rules as of 2015, the scheme for creating guiding documents in the educational sector of Ukraine must go through the stages of formation, approval, approval, and implementation. The process of approval of organizational and management documents has an algorithm of external – in accordance with the provisions of the Standard Instructions as of 2018 – and internal organizational approval in accordance with the approved norms of the Rules as of 2015 (Law No. 2155-VIII, 2022). After the approval procedure, the document of an organizational and management nature (administrative document) is approved by the head of the organization (the relevant official or a group of officials depending on the management structure). Based on the analysis of the instance support, approval, and approval of the project of the organizational and management document, there is a significant

layering of intermediate links in this algorithmized scheme, which makes the latter extremely linear, inflexible and cumbersome (Asanova, 2020). The current document management system (in particular, in the educational sphere and in the state apparatus) is a product of the communist past and contains features characteristic of the former political system. The above signs include:

- strict centralization with a clear management vertical, which significantly politicizes the process of document creation, turning individual management orders into documents that contain more signs of political will than management decisions;
- inappropriate bureaucratization of the document creation process, which is accompanied by a significant layering of intermediate and advisory links, which increases the time for the administrative document to pass from the management apparatus to the executor and requires the involvement of communicative and intermediate documentary resources;
- an extensive administrative system containing strict centralized requirements for document organization (including the order of document circulation and archival storage of documents of an organizational

and management nature), which leads to significant expenditure of time and administrative resources to organize the document system in accordance with the requirements of a rather archaic systems (Batareina & Korobchenko, 2022). Thus, the key issue in the development of DMS is high diffusion in the current document management apparatus of the Ukrainian document circulation system. An additional complication is the archaic nature of the inherited Soviet DMS, which is a consequence of direct evolution in a closed information space and artificial restraint of development.

It should be noted that the Ministry of Education of Ukraine, in an effort to harmonize document management with EU requirements, is conducting optimization measures to increase the efficiency of document circulation and document management. A vivid example is the implementation of the Instruction as of 2015, which regulates the procedure for document management in general secondary education institutions. Analysis of the specified document of an organizational and managerial nature showed its breakthrough nature. In particular, the above-mentioned document completely deviates from the communist principles of the formation of the administrative apparatus in several directions:

1. decentralization: reliance on the local governing body (in this case – the pedagogical council headed by the director) of wider powers, which allows not only to approve its own algorithmized sequence of organization of document arrangement taking into account the local features of educational activities for each of the institutions (in the form of appropriate instructions), as well as on the basis of the list of necessary elements of the administrative procedure proposed by the Ministry of Education of Ukraine, to form and approve in the working order its own list of the necessary documentation, the creation of which is necessary in the management of each individual educational institution;
2. optimization of the paperwork system: the Ministry of Education of Ukraine reviewed and optimized the list of documentary support elements (which is currently becoming a recommendation), according to which the paperwork burden for each institution and education workers is reduced since the new document provides for a reduction in the number of documentary

cases formed (the previous mandatory documentary the list was reduced by – 20%, which will, as a result, reduce the amount of paperwork by 22% (Ministry of Education and Science of Ukraine, 2018).

3. individualization of educational methods and approaches that can be applied by teachers who are not burdened by the need to carry out strictly regulated documentary support, which allocates time and motivation for the formation of unique pedagogical approaches and concepts, which as a result contributes to the development of the educational field.

However, the process of transition from a strict regulatory policy to a more free one – taking into account local characteristics and the formation of individually unique educational programs and methods – is currently ongoing and incomplete. Currently, deep-diffusion elements of the past outdated system of centralized management organization dominate, requiring radical changes and the application of modern best practices and successful world experience.

A clear example is the current system of document creation and the cycle of approval and implementation of organizational and management documentation, which, along with the multi-element and multi-instance organizational scheme of the formation of orders, contains extremely confusing communication channels and disorganized connections.

Researchers (Ayaz and Yanartaş, 2020; Kilańska et al., 2022; Adam et al., 2022; Lappin, 2022) determine the main vector of the development of DMS both in the field of education and in other areas that require documentary support. In particular, in terms of the implementation of modern schemes of electronic management of the document arrangement of the Central Administrative Service, which is based on electronic access to databases and cloud services. The transformation of the DMS into DEMS in the educational sector began in 2018. Kilańska et al. (2022) are actively studying the issue of the transition of educators to an electronic document management system. In particular, the expediency of the implementation of the DEMS and improving the productivity of the existing DEMS with integrated electronic elements of document management are noted.

In education since 2021, AICOM PAK is introduced, based on which the electronic E-journal is created document management system. The purpose of the introduction of these services

and DEMS is to debureaucratize, decentralize and individualize the system of educational document creation, document management, and document flow (Bezliudnyi&Kirdan, 2020). In particular, as noted by the Ministry of Education, currently in the educational sphere of Ukraine there are 48 types of paper documents, which require the appropriate organization of order and storage (Ministry of Education and Science of Ukraine, 2020). In addition, the Ministry of Education notes the presence of systemic errors in the implementation of DEMS:

In the field of education, in 2021 implemented the AICOM PAK, based on which, in particular, the E-Journal electronic document management system is being created. The purpose of the introduction of the mentioned services and DEMS is de-bureaucratization, decentralization, and individualization of the system of educational document creation, document circulation, and document arrangement. In particular, as noted by the Ministry of Education, there are currently 48 types of paper documents in storage in the educational sphere of Ukraine, which require the appropriate organization of arrangement and storage. In addition, the Ministry of Education emphasizes the presence of systemic errors in the implementation of the DEMS:

- paper duplication of electronic documentation (in particular, reports on educational activities);
- lack of an automated mechanism for entering information into the DEMS services (currently, all reporting information is entered manually by educators).

Implementation and integration into the educational documentation system of such services as PAK AIKOM and E-Journal (with appropriate ministerial and government support), as well as existing scientific and practical work of Ukrainian expert (Asanova, 2020) will in the long run solve the problems of developing and implementing a qualitatively new DMS of the educational sector of Ukraine.

Next to the determination of the prospective development of the implementation of the DEMS in the educational sector of Ukraine, there are risks of cyber-digital and information security. Among the key risks of this direction, researchers and experts (Ngoepe, Jacobs, and Mojapelo, 2022) highlight the vulnerability of EDO services, which lead to the loss confidential data and affects the quality of the educational process.

In the legislation of Ukraine provides for the use of an electronic digital signature. However, further technological development of means of criminal damage to cyber-digital services and schemes requires constant improvement. In particular, both the methods of authenticating digital documents and authorization in the relevant services of the DEMS.

Accordingly, there is a need to involve Blockchain technology in educational DEMS. It is noted that such a proposal is already being considered by a number of researchers in terms of the features of the introduction to EDO systems and services (Das et al., 2022). In particular, the advantage of security protocols with Blockchain against existing methods of authentication and authorization is emphasized. Security tools such as “smart-contact”, the legend of the security system, IPFS make it possible to maximally secure the participants of the DEMS, since the cryptographic algorithms for the security and authentication of electronic documents are constantly updated, rejecting the possibility of stealing confidential data. Visualization of the processes of constant updating of cryptographic security algorithms and authentication of electronic documents with the use of Blockchain. At the same time, direct identification is significantly improved, and the uniqueness of electronic documents is increased. Visualization of the processes of identification of e-documents using Blockchain technology. Identification information is recorded in the document's Blockchain-legend and is part of the document's original data. In this context, the visualization of the functioning of the Blockchain-legend tool

Thus, it is possible not only to protect the e-document from the loss of confidential data but also to increase productivity and optimize the resource costs of the implemented DEMS. Systems of electronic document organization with integrated tools of Blockchain technology have a clear algorithmization of functions and actions for each participant in the process of document creation and document organization.

Meanwhile, specialized researchers and experts (Zhao et al., 2022; Tella et al., 2022) also indicate the mechanism of an optimized and secure system of service communication between typical participants in the process of document arrangement, which is made possible by the use of internal tools of Blockchain technology, namely “smart-contract” and Blockchain-legends. In accordance with the algorithmized concept scheme, the use of Blockchain

technology for authentication of participants in the e-documentation process allows to ensure the clear functional organization of each individual performer (with confirmation of his level of responsibility) and secure instant transfer of service information contained in the Blockchain-legend

Thus, a general concept of providing e-documentation is formed, in which characteristic levels of inter-agency official e-communication are formed. Note that the concept was developed on the example of the DEMS organization of the architectural and design direction. Let's describe the above-mentioned concept scheme of in more detail:

- creation of official documentation takes place between direct participants of the process by using a typical network environment;
- functioning DEMS involves the use of cloud services based on the technology of the global Internet (IPSF) or the use of local databases;
- commutation in the protected Blockchain-network, which is already used directly to create a working e-document, which must go through the visa and approval procedure in the future.

Within the developed solution, it is also necessary to provide a place for supplementing the system with the latest forms of documentation on educational technologies, such as educational cases. This is motivated by the significant role of educational cases in improving student learning outcomes. In particular, the researchers note that thanks to the use of the latest technology of educational cases students, after applying the case study method, they became more confident in their practical capabilities, namely they gained, experience in collecting information from the patient needed to plan an examination and treatment (Franks, 2020). Accordingly, the use of the latest technologies should also be provided for in the architecture of the proposed solution.

Therefore, the educational documentation arrangement system has significant potential for optimization, improvement, and productivity improvement, including using electronic systems and Blockchain technology. Such a complex solution not only ensures the reliable transfer of official information but also allows to fully build an effective organizational scheme of document creation, which should replace the deep-diffusion

remnants of archaic systems that were inherited from the Soviet system.

Discussion

This study synthetically examined the problem of document management in education by the example of Ukraine. Let us describe the obtained results more thoroughly.

The authors of the article point out the complexity of implementing professional document management, which should satisfy the interests of a wide group of stakeholders. The above opinion confirms Abaci & Tolga (2022), who defines the document management system as a holistic multifactorial system that affects other blocks of a broader system. The author also confirms the view that the use of innovative methods of document management is effective. Further support for this thesis is provided by a team of authors led by Jordan et al., (2022), who identified the role of the document distribution system in the context of a digital work organization model and noted the complexity of organizing a broad document management system in education. This result is also explored by Regla and Marquez (2020) through the lens of the use of current innovative technologies, albeit cloud-based services, as part of a rapidly changing document management system in today's environment that affects the livelihoods of many educational actors.

The next part of this study outlines the main current problems of document management transformation in education in Ukraine. First of all, noted the urgent need for its modernization on a substantially different (new, innovative) basis. This view is shared by many Ukrainian scientists who have researched this issue. In particular, the preliminary studies of Chernyshenko and Chernyshenko (2022) determine the peculiarities of optimization of organizational schemes DMS and DEMS in conditions of the limited infrastructure of the educational institution. Also, according to Asanova (2020), the use of modern digital tools and schemes for organizing the functioning of DEMS in the university system of education is important.

However, in contrast to the previous above-mentioned works, the results of this article focus on the system errors of the transformation of the document management system in education in Ukraine. These system errors indicate the dynamics and situationality of the transition of established forms of documentation support to

modern and effective solutions of management and service interdepartmental communication for all participants of the document ordering process.

Separately, the work also notes the weak process of elimination of obsolete schemes of management organization of the communist past of Ukraine, as well as the weak process of debureaucratization, decentralization, increasing the individuality and uniqueness of educational methods and programs.

Earlier works also insufficiently investigated the problem of optimizing the nomenclature of educational documentation during the transition from the old management paradigm. In particular, documentation in the field of education in Ukraine contains many archaic and inappropriate to maintain in the modern educational process. Emphasize the slow transition from the DMS into DEMS, which is accompanied by inexpedient resource expenditure on paper duplication of e-documentation. We emphasize the security and vulnerability of the implemented electronic document management systems that do not have reliable mechanisms of transferring official information.

In the previous papers, not enough attention has been paid to the successes of the Ministry of Education of Ukraine in improving document management. In particular, the following positive achievements of the Ministry of Education of Ukraine in transforming the system of documentation ordering are noted: decentralization of requirements for the implementation of management activities on the order of document formation and document management in educational institutions; weakening the requirement for mandatory nomenclature of official documents to be held accountable; introduction of electronic device systems for educational documents, which will later constitute the main documentation management system; conducting critical in-system analyses and audits in order to find places of potential optimization and improve the efficiency of management processes (Ministry of Education and Science of Ukraine 2019).

In contrast to the existing works, this study proposes to solve the problem of cyber-digital and information security by integrating Blockchain technologies into the existing system. In particular, Blockchain tools for unique authentication, authorization (processes by participants of document circulation) and identification (processes by individualization of

documents created in e-document systems) allow fulfilling not only the direct purpose of the solution (namely, to reduce information vulnerability of EDO services) but also a conceptually new approach to the process of creation and preparation of managerial and official documents, which are used in the process of their professional activities by teachers and government bodies of educational.

Conclusions

Consequently, Ukrainian document management in higher education is on the way of unification with the European document management system. In order to comply with the latter Ukrainian system, it is necessary to eliminate a number of problems that require the formation of urgent ways and methods to solve them. In particular, documentation in the field of higher education in Ukraine contains a lot of archaic and inappropriate to maintain in the modern educational process. There is also a slow transition from DMS to DEMS, which is accompanied by inexpedient costs of resources for paper replication of electronic documentation. In Europe, the document management system is subjected to many checks on the security and vulnerability of implemented electronic document management systems. However, in Ukraine, there is a lack of reliable mechanisms for the transfer of official information.

Given one of the strategic goals of the Ministry of Education and Science of Ukraine - full transition to digital documentary support of educational activities, there is a big problem on the way to achieve a certain goal - to ensure cyber and information security of interinstitutional and intra-organizational transfer of official information.

In contrast to previous studies, this paper proposes to solve the problem of cyber-digital and information security by integrating Blockchain technologies into the existing system. This will affect the solution of several problems at once: the digitalization of document management, the elimination of archaic systems of document organization, the formation of a secure environment for document exchange in the field of education.

So, this study proposes to integrate Blockchain-technologies into the implemented educational SEMD, which will potentially allow to secure the inter-level communication channels between the participants of the document formation process

and to form an effective managerial and organizational structure of document ordering, which is produced in the process of setting up. We believe. That the results obtained in the current study correspond to the profile vectors of development, as well as the national interests of Ukraine.

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