

## Article

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# Digital Transformation of Archives in the Context of the Introduction of an Electronic Document Management System in Kazakhstan

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**Abstract:** The relevance of this study is conditioned by the significant importance of the organisation of electronic document management in the Republic of Kazakhstan and the broad prospects that open up during the digitalisation of state archives. The purpose of the study is to investigate the key aspects of the digitalisation of archives in Kazakhstan at the current stage of the country's economic development. The basis of its methodological approach was a theoretical investigation of the processes of digitalisation of archival information under the conditions of practical application of the electronic document management system in the Republic of Kazakhstan, with the results obtained indicating the major significance of the digital transformation of archives in the context of the programmes Resolution of the Government of the Republic of Kazakhstan No. 827 "About Approval of the State Program "Digital Kazakhstan" (2017) and "Information Kazakhstan-2020": State Program (2021) adopted at the state level. The sequential transfer of archival information to digital media for storage offers numerous advantages over traditional paper media, with the state level in Kazakhstan regulating the digital transformation of archives and the adoption and use of a unified electronic document management system by enacting a number of laws that regulate a wide range of related issues. The introduction

of an electronic document management system has also established numerous advantages, largely determining the significant prospects for the development of this system of interaction between organisations (state, public, legal entities, and individuals). The practical significance of the results obtained lies in the possibility of their application in the organisation of the activities of enterprises and organisations of the Republic of Kazakhstan that implement measures to digitalise archival data within the unified electronic document management system.

**Keywords:** document digitization; information systems; record-keeping practices; modernization; digital heritage conservation

## 1 Introduction

To date, the problem of organising a unified electronic document management system in the Republic of Kazakhstan (RK) has acquired significant relevance in the context of the implementation of the adopted Resolution of the Government of the Republic of Kazakhstan No. 827 "About Approval of the State Program "Digital Kazakhstan" (2017), aimed at accelerating the pace of economic development of the country and improving the lives of the population as a whole. In general, the development of civilisation in the twenty-first century takes place in the context of global informatisation, a key determining factor of this process. Information and digital technologies are actively used today in almost all areas of modern society: economy, politics and culture. In the current conditions, when information has become the most significant resource, the issues of the introduction of digital technologies into the functioning of its main custodians – archives – are of particular relevance and importance. At the same time, the digital transformation of the archival industry is most closely connected with the study of the organisation of the electronic document management system.

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Electronic document management is one of the key strategies, whose implementation allows significantly improving the efficiency of the organisation (Sternad Zabukovšek, Jordan and Bobek 2023). Modern technologies enable the use of innovative software to digitise paper documents stored in digital archives. In this context, a consistent transition to an electronic document management system involves the introduction of an innovative archiving system, document management and the digital signature of all documents of a particular organisation (Kravets, Boyko and Markovets 2023). This will provide significant time and money savings, which is essential for the effective organisation of the activities of enterprises in the Republic of Kazakhstan (hereafter RK) that have decided to switch to electronic document management.

Zhakypov (2022) examined the challenges of electronic document management development and the digital transformation of public administration organisations in the RK, identifying that the process of globalisation and scientific and technological progress, especially in the development of new information and telecommunication technologies, presents unique opportunities for Kazakhstan at the moment. Accordingly, it is extremely important to understand these technologies to achieve their full integration into modern Kazakh society, supporting scientific and technical personnel in order to achieve high results in the field of data digitalisation.

This topic is considered by Mustafina (2020) in an article aimed at studying various aspects of digital transformation in the RK in the context of the modern challenges of global informatisation. According to the researcher, one of the steps to create the necessary conditions for the transition to an information society was the state program “Information Kazakhstan-2020” (2021), approved in 2013. As a foundation for the digital transformation of the country’s economy, this programme contributed to the development of an information society, the improvement of public administration and the increase in the availability of information infrastructure for citizens of the country.

Omar and Shildibekov (2019) assessed the real prospects for the introduction of an electronic document management system in Kazakhstan in the context of digital transformation processes in the country, noting that the electronic document management system allows the conversion of paper documents into electronic versions, which allows the convenience of managing them using tools from various information technologies. According to the researchers, every company that has implemented an electronic document management system in its activities has the opportunity to create and securely save documents regardless of their format, safely archive them and quickly access their

content in accordance with the tasks arising from the actual needs of business processes.

Malgadzhárova (2019) considered a number of aspects of building electronic document management in the countries of the Eurasian Economic Union. According to Malgadzhárova, significant attention is being paid to the development of modern digital technologies at the state level. Currently, Kazakhstan is increasing the availability of information infrastructure for both corporations and ordinary citizens, which is largely ensured by the transformation of archival data through their transfer to electronic media.

Taizhanov (2014), in a study of the prospects for the development of electronic document management in Kazakhstan, notes that it is difficult to overestimate the importance of electronic governments of different countries with different levels of social and economic development in the structure of the unified information space that has been formed today. According to the researcher, in the modern economic system, electronic document management is the powerful driving force that largely determines the prospects for overcoming information inequality in different countries.

The main purpose of this study is to determine the key areas of digital transformation of archives in the current realities of the economic development of Kazakhstan and the main aspects of electronic document management in the country. This article addresses a gap in the literature by emphasising the significance of digital transformation in archival data within the framework of introducing an electronic document management system in Kazakhstan, highlighting its pivotal role in fostering economic development and societal advancement.

## 2 Materials and Methods

The basis of the methodological approach in this study is a theoretical investigation of the technological processes of digital transformation of archives at the present stage of the implementation of electronic document circulation (EDC) in the RK and non-Commonwealth of Independent States (CIS) countries. This theoretical investigation included a method of analysing the key aspects of the digital transformation of archival data and a method of generalising the results obtained in the context of the realities of the functioning of the electronic document management system in Kazakhstan and foreign countries today. The theoretical basis is the results and conclusions of a number of scientific publications in the field of the organisation of the digitalisation of archival data in the context of the electronic

document management system that has been developed and is used in practice in different countries.

The analysis of the processes of digital transformation of archives in the context of the introduction of an electronic document management system assumed characteristic features of the construction of an electronic document management system between enterprises and organisations. This allowed us to establish the main advantages of implementing the EDC system, which are of fundamental importance from the point of view of ensuring effective information exchange between organisations and private entities. The key features of the use of electronic documents in the implementation of digital transformation in archives, with the replacement of traditional paper media with digital media for their subsequent use during the exchange of information in electronic document management, were also identified. Within the framework of the theoretical study, key laws and regulations were established that determine the main trends in the implementation of the state's economic development programme in the long term, which is essential from the standpoint of digitalisation of archival information in the Republic of Kazakhstan. This allowed for the identification of a number of key aspects that determine the impact of the digitalisation of archives on the functioning of the electronic document circulation system in relation to the realities of the development of the economic situation in Kazakhstan.

The application of the method of summarising the results of the analysis of a wide range of problematic aspects of the digitalisation of archival data within a single electronic document management system within a particular state established the role and place of these technologies in terms of the sequence of stages of development of information and communication technologies in the Republic of Kazakhstan in economic retrospect and as of the current moment. The relationship between these technologies and key priorities and directions in the field of digitalisation of public services in various areas of modern Kazakh society was established. This gave grounds to determine the patterns of development of digital commerce, the expansion of the coverage of communication networks and the expanding infrastructure of information and communication technologies, as well as a number of other areas of electronic document management, an integral part of which is the digital transformation of archival data.

The chosen combination of methods in this study established the main areas for the implementation of current changes in the archival business of the Republic of Kazakhstan, corresponding to the current realities of the functioning of the information exchange system using electronic media and being in line with the national policy

in the field of digital transformation in modern Kazakh society. Moreover, it allowed the conducting of a scientific analysis of legislative initiatives of a number of European, Asian, and South American states in the field of organising the exchange of information on electronic media between state and public organisations and assessing the prospects for the subsequent development of digital transformation technologies in archives in relation to Kazakhstan and non-CIS countries from a remote time perspective.

### 3 Results

EDC between enterprises, organisations, legal entities, and individuals involves the exchange of electronic documents using telecommunication communication channels (TCC). This exchange uses data contained in the archives of these enterprises and organisations, which are transferred to special digital media in the process of digital transformation of archives, with such documents created using special software. The electronic document management system is currently implemented and actively used in Kazakhstan and a number of countries in Europe, Asia, and North and Central America. The following advantages of implementing an electronic document management system should be noted.

- (1) The possibility of reducing the total number of paper documents in circulation and storage.
- (2) Reduction of archive preservation costs.
- (3) Reduction of material costs for printing documents, sending them and the use of office supplies.
- (4) Reduction of labour costs through the complete elimination of manual operations.
- (5) The possibility of automating the document exchange process.
- (6) Eliminating the risks of losing documents and the need to re-issue them.

To date, in the Republic of Kazakhstan, at the legislative level, it is allowed to issue orders in electronic form in the field of personnel policy of enterprises and organisations, as outlined by the Resolution of the Government of the Republic of Kazakhstan No. 703 "On Approval of the Rules for Documentation, Document Management, and Use of Electronic Document Flow Systems in Governmental and Non-Governmental Organisations" (2018). In the future, every employee in the country will be able to sign a variety of personnel documents intended for or provided to them from anywhere in the world. To do this, it will be enough for them to their own electronic signature and gadget. Each electronic signature will be preceded by a multi-factor

identification of the person, while the security of personal data storage will be ensured in accordance with the current legislation of the country.

The adoption and implementation of the state development programme “Digital Kazakhstan” (Resolution of the Government of the Republic of Kazakhstan No. 827 “About Approval of the State Program “Digital Kazakhstan”, 2017) in the country does not directly affect the issues of archival affairs and record keeping. However, almost all the work in the field of digital transformation of archives and other activities aimed at creating the conditions necessary for the effective development of the digital economy in the country is more or less related to this. The emphasis on the digitalisation of archival data in the context of the introduction of an electronic document management system in relation to the areas of record keeping and archival business involves.

- (1) The emergence of new, previously unused electronic objects designed to perform the function of a document that require management and storage in the archive.
- (2) The need for an effective solution to the problem of the safety of electronic documents, with the mandatory development of the regulatory framework that is required for this.
- (3) Introduction of additional elements of the electronic document management system (systems based on artificial intelligence, blockchain, data analytics).
- (4) Creation of new, auxiliary electronic services, as a business asset is developed, based on stored electronic content.
- (5) The emphasis is placed on the support of operational records management in the field of activities of state institutions and public organisations.
- (6) A significant reduction in the volume of analogue documents used.

Using the organisation’s archive provides the ability to save documents for a long time. Each archive must solve the problem of ensuring not only the preservation of documents but also their suitability for use and the preservation of the information contained in them, otherwise, the archive’s task will not be considered qualitatively completed (Hryshyn and Filipova 2023). In addition, all of the above must be ensured without compromising the legal significance of the documents. If there are technologies for working with paper documents, since paperwork has been going on for a long time, then technologies for working with electronic documents require additional efforts and the necessary level of competence of employees who work with these documents. Electronic document storage is an integral part of the general documentation storage system of a separate organisation, which is one of the constituent processes of electronic

document management. Special software is used to create an electronic digital archive, which is a set of scanned copies of paper media and other electronic documents of a particular organisation.

The introduction of an electronic document management system in Kazakhstan, as well as in foreign countries, contributes to the accelerated growth of e-commerce, which is a very effective means of ensuring business transactions today. E-commerce is actively promoted at the state level, therefore, employees of modern enterprises should clearly understand what skills and knowledge are necessary for successful work on the development of e-commerce, especially in the small and medium-sized business sector, where such skills are usually more difficult to obtain than in large organisations (Tverytnykova and Salata 2023). In particular, it is important to investigate how such skills and knowledge are used in practice in the sector of small and medium-sized enterprises and to determine how such skills and knowledge can be optimised in the sector under consideration (Tailor et al. 2004).

The adoption of the law “On Electronic Document and Electronic Digital Signature” (2003) determined the procedure for the practical application of electronic documents and digital signatures, as well as the functions of the certification center and the content of the certificate of state registration. The adoption of this regulatory document equalised the legal statuses of electronic and paper documents. In addition, the key concepts in this area have been legally defined, in particular (Mustafina 2020):

- (1) An electronic document is a document in which information is presented in digital, electronic form, with its certification carried out through the use of a digital signature.
- (2) An electronic archive is a certain aggregate number of electronic documents of various contents.
- (3) An electronic digital signature is a set of digital, electronic symbols formed through the use of digital signature means, testifying to the actual authenticity of an electronic document, determining its ownership and authenticity of the content.
- (4) Electronic document management is the exchange of electronic documents between state and public organisations, legal entities and individuals.
- (5) An electronic copy of a document is a document that completely duplicates the appearance and information (data) contained in the original document in electronic and digital form.

The adoption of the above-mentioned law gave additional impetus to the widespread introduction of electronic document management systems in government agencies

and public organisations. The current archival legislation of Kazakhstan can be characterised by a whole complex of factors, with the main one to be considered the digital transformation of the most important sectors of the country's economy, in combination with the large-scale introduction of information technologies, which concerns, first of all, the construction of public administration processes. At the moment, the general sequence of creation, practical application and storage of electronic documents has been determined at the legislative level. Nevertheless, the rapid improvement of innovative technologies causes a tendency to regularly delay the development of the legislative framework due to existing realities. First of all, the problem of terminology has not been completely solved, which causes difficulties in its practical application. In addition, the current legislation in the field of archival affairs is based on the principles of working with paper documents, which largely determines the inconsistency of real practice with the content of laws and regulations. Ultimately, there is absolutely no clear idea on a number of issues inextricably linked with the active introduction of a number of technologies into the activities of public sector organisations, in particular blockchain, Big Data and systems based on artificial intelligence (Mustafina 2020).

The current progress in the field of information technology provides for a complete and consistent transition to electronic document management. This process is actively carried out, and the information contained in electronic form can be attributed to the most valuable management resources. The digital transformation of archives in the context of the introduction of an electronic document management system in Kazakhstan is conditioned by the need to match the archival business with the changes that are currently being observed in the economic and social life of the country. As the director of the Archive of the President of the Republic of Kazakhstan Aliya Mustafina notes, today the preservation of archival data with their sequential transfer to electronic media goes directly beyond the scope of archival business while becoming one of the strategically important directions of sustainable development of the state in the long term (Sataeva 2022). The role of information in modern Kazakh society is steadily increasing, which increases the enduring value of archival documents, both in them and in the context of ensuring the safety of the information they contain.

Most of the states of modern Europe, Asia and Latin America adhere to the purposeful practice of involving organisations and enterprises in the process of electronic document management. The consistent implementation of EDC in European countries is the implementation of legislative initiatives; in particular, in Austria, if electronic documents are not used, a special fee is legally provided for.

Elsewhere, since 2011, mandatory electronic document management has been introduced in Korea, Chile, Brazil and Mexico, with numerous cases of imposing penalties against enterprises and individual citizens noted when refusing to issue an electronic invoice (Terlizzi, Albertin and de Oliveira Cesar de Moraes 2017). The issues of digital transformation of archival data in the context of the functioning of the electronic document management system occupy an important place in the economic development strategies not only of Kazakhstan but also of many foreign countries. Information technologies are an integral part of the provision of organisational services and a key and vital resource in the lives of all developed countries (Gupta, Tung and Marsden 2004; Mazi 2023). Effective deployment of an electronic document management system (EDMS) should be considered one of the key elements of creating a virtual workplace environment and transforming the capabilities of any modern organisation and its workforce. The digital transformation of data archives can give users the opportunity to optimise business processes through workflow and information exchange, which can also have a positive impact on the quality of information management (Jones 2012).

The processes of digital transformation of archives occupy a significant place in the creation of new production conditions in a number of European countries. In particular, according to the conducted research, in many European countries, there is a digitalisation of the document flow of companies. With good reason, this can be attributed to the data of archives and libraries (Berezanska, Drok and Syhmchenko 2023; Lidman 2012). To date, more than half of the documents are presented digitally in countries such as the Netherlands (76 %), Italy (72 %), Turkey (69 %), Spain (66 %) and the United Kingdom (64 %). It is noted that the majority of companies operating in various business areas are planning to transfer archives to digital format within the next year (Shaheer, Kim and Li 2022). The processes of digital transformation of data have significant prospects in developed countries, as they positively affect the improvement of business methods and product promotion. Nowadays, many organisations are changing the concept of doing business, shifting the emphasis towards building e-marketing (Grigoriades and Pampaka 2020). Many companies in the United States have long switched to storing information in electronic form and using an electronic document management system; now such trends are widespread in a number of other countries.

The digital transformation of archives in the context of the introduction of an electronic document management system in the Republic of Kazakhstan requires the appropriate training of personnel of enterprises and organisations involved in this process. This implies the presence of



**Figure 1:** Stages of development of information and communication technologies in the Republic of Kazakhstan (source: Dulambayeva and Zhumasheva (2021)).

developed skills in managing archival documentation presented in electronic form and knowledge of the basic software necessary to save information on digital media and send and receive it. In addition, the processes of digital transformation of archival data are essential from the standpoint of the development of information and communication technologies, since digitalisation in Kazakhstan takes place against the background of the intensive development of technologies of this kind. In particular, this refers to automation, digitalisation and information technology. Figure 1 shows the main stages of the development of information and communication technologies, which clearly reflects the role and place of digitalisation processes in general in this context.

The digitalisation stage presented in Figure 1 as a separate stage in the development of information and communication technologies began with the adoption of the “Digital Kazakhstan” (Resolution of the Government of the Republic of Kazakhstan No. 827 “About Approval of the State Program “Digital Kazakhstan”, 2017) development programme at the legislative level. Thus, the state set a course for the development of the economy, in which digital technologies played a key role as a factor in improving the quality of life of the population and a consistent transition to the digital economy. This programme directed significant attention to improving the level of service provision in the public and private sectors of the economy. Digitalisation of public services in various spheres of Kazakh society was adopted as one of the main directions of the programme. Clear indicators and targets were set for the fundamental directions of digitalisation in the main sectors of the economy, including agriculture, industry, electric power and transport. Along with this, the programme provides for the consistent development of digital commerce, the expansion of the coverage of communication networks and the expanding infrastructure of information and communication technologies, the improvement of digital literacy in the population and the digital transformation of the activities of public and private enterprises and organisations. The digital transformation of archives occupies a special place in this context since it is an integral part of the introduction of an electronic document management system between the above-mentioned structures. This is necessary for the systematic development of the country’s economy, raising the general level of culture of the population in the sphere of work and information exchange and providing timely and effective information support for both

organisations involved in the process of electronic document flow and individual citizens.

Transitioning from traditional paper-based methods to digital systems reduces operational costs, enhances automation and mitigates the risk of document loss. While the adoption of electronic document workflows is gaining momentum globally, challenges persist, including the need for robust regulatory frameworks and the integration of emerging technologies like blockchain and artificial intelligence. Despite these hurdles, the shift towards electronic document management aligns with broader trends, fostering e-commerce growth and improving organizational capabilities. Moreover, the digital transformation of archives represents a strategic step towards a digital economy, necessitating comprehensive training initiatives to equip personnel with essential skills for managing electronic archives effectively. Ultimately, embracing digitalization is crucial for advancing economic development and societal progress.

## 4 Discussion

Pellicelli (2022), in a study of the processes of digital transformation of archives in the context of the functioning of the document management system in the organisation of supply chain management, notes that ecosystems of this kind include a wide range of digital technologies that allow optimising the exchange of data that is stored on electronic media. According to the researcher, the digital transformation of archives in the context of the introduction of a unified electronic document management system is an effective tool on the way to digitalisation, since additional opportunities open up for solving current tasks in various fields of activity. The researcher’s conclusions coincide with the results obtained in this study, since they emphasise the high importance of digital transformation of archives in the context of the effectiveness of solving numerous practical problems.

Oral et al. (2020) examined the general principles of extracting information from bank documents that are important in the context of key trends in the digital transformation of archives. According to researchers, the variety of types of electronic documents used in the field of digital transformation of archives plays a crucial role in the context of their analysis and understanding, which is extremely

interesting from the standpoint of understanding the meaning of the extracted information. The processing of information contained in modern digital archives is often difficult due to the existing problems of electronic document management. For their effective resolution, unity in the content of legislative documents regulating the sequence of electronic document flow is necessary. The opinion of researchers completely coincides with the results that were obtained in this study, since it emphasises the importance of preparing a high-quality legislative framework to address the issues of digital transformation of archives in the context of the introduction of an electronic document management system.

For their part, Heshmatisafa and Seppänen (2023) considered the practical application of business models based on the use of electronic document management systems. According to researchers, the processes of digital transformation pose challenges for modern companies as they search for new strategies and business models. In the current situation, the use of business models containing electronic document management systems is justified from the standpoint of the high efficiency of this process and the availability of various options for solving practical problems and managing business operations. The conclusions of the researchers completely coincide with the results of this study, since they emphasise the expediency of the practical application of electronic document management systems in the organisation and execution of business transactions.

In turn, Barroso and Laborda (2022) conducted the sequence of implementation of the processes of digital transformation of archives and the emergence of technologies in the financial industry. It was concluded that a clear structuring and distribution of trends in the field of digital transformation of assets in the modern financial sector became possible due to timely regulation of electronic document flow as well as strengthening measures to preserve financial information. The findings correspond to the results that were obtained in this study due to the fact that they emphasise the importance of organising and implementing an electronic document management system in regulating a wide range of practical issues.

Indarapu et al. (2023) investigated the basic methods of managing intellectual resources in the context of the introduction of an electronic document management system. Researchers note that the creation of large volumes of digital archives is necessary to preserve significant amounts of information, while the speed of information processing is of fundamental importance from the standpoint of prospects for making effective decisions. According to the researchers, if it is possible to achieve high data processing speeds in digital archives, then it is possible to maintain electronic

document flow at a sufficiently high level. The opinion expressed by researchers corresponds to the results obtained in this study, since it emphasises the great importance of digitalisation of large volumes of archival data in the context of electronic document management.

Shaheer, Kim and Li (2022) conducted the internationalisation of innovations in the digital economy in the context of the introduction of a unified electronic document management system. It was concluded that the latest trends in the digital economy indicate the need to integrate the current institutional transformations of the digital era and create new theoretical perspectives. According to the researchers, the introduction of technological innovations in the field of digital transformation of data archives in the context of the introduction of a unified electronic document management system will help expand the range of possibilities for using archival data to solve a wide range of tasks in the field of managing large amounts of data. The conclusions of the researchers correspond to the results that were obtained in this study, emphasising the importance of modern technological innovations in the conditions of the introduction of an electronic document management system.

Khansa and Liginlal (2012) examined a number of problematic aspects of information security in the field of information technology in the context of the introduction of a unified electronic document management system. The researchers came to the conclusion that the issues of information security in the context of the digital transformation of archival data include the need to convert the simple cost of conducting business operations to a mandatory multi-level approach with the inclusion of all possible forms of information technology, which will allow integrating security applications in the future and simplifying the management of a business that includes large amounts of information. The conclusions of researchers in the context of their comparison with the results obtained in this study seem controversial and require additional substantiation, since when evaluating the information security measures used, a number of aspects should be considered, the investigation of which goes far beyond the scope of this study.

Tang and Hu (2019) investigated a wide range of problematic aspects of the use of electronic document management systems in the provision of research data management services, drawing attention to the fact that the management of research data in the context of the digitalisation of archives is the most important service provided by a variety of information centres and libraries. According to the researchers, in this context, institutional commitment to resources and the possibility of expanding databases of electronic document management systems are important for the effective

resolution of all tasks. The opinion of researchers on the importance of institutional commitment to resources in the context of the prospects for expanding databases of electronic document management systems is controversial and requires additional substantiation due to the fact that it is necessary to consider the nature of the resources used and the methods of their practical application.

Saura, Ribeiro-Soriano and Palacios-Marques (2021) examined a number of problematic aspects of the practical application of digital archive data in the context of modern technological innovations. It is noted that in recent years, the use of strategies based on technological innovations in the field of electronic document management has caused the appearance of products on the market and the development of business models in the field of digitalisation. The researchers conclude that modern innovations in the field of digital transformation of archival data in the context of electronic document management should be considered when establishing new, promising areas of research aimed at studying modern data processing and use capabilities. The conclusions fully correspond to the results of this study, since they emphasise the importance of technological innovations in the field of digitalisation of archive data as an essential element of ensuring the protection and preservation of information for its subsequent targeted use.

Fox and Chandrasekar (2021) investigated the general principles of the development of the digital library of the future, considering the construction of an effective electronic document management system. Researchers have come to the conclusion that through the implementation of the processes of digitisation of archival data, it is possible to significantly increase the efficiency of using library services: data search, viewing information, visualisation and recommendations. According to the authors, increasing the functionality of the electronic document management system in digital libraries of the future opens up additional opportunities in the field of data protection and their practical use. This opinion is fully confirmed by the results that were obtained in this study, since ensuring a high level of preservation of electronic documents is the most important advantage of the digitalisation of archival data in the context of the realities of the introduction of electronic document management systems in Kazakhstan.

Thus, the discussion of the results obtained in the context of their analytical comparison with the results and conclusions of research in the field of digital transformation of archives in the context of the introduction of a unified electronic document management system demonstrated their fundamental compliance with key aspects of the chosen research topic.

## 5 Conclusions

In the course of research, it was established that the digital transformation of archival data in the context of the introduction of an electronic document management system in the Republic of Kazakhstan is of key importance in the context of the economic development programmes “Digital Kazakhstan” and “Information Kazakhstan-2020” (2021) adopted at the state level. This is explained by the broad prospects of the transition to an information society, the creation of a reliable foundation for the digital transformation of the country’s economy, the improvement of public administration and the growth of the accessibility of information infrastructure for citizens of Kazakhstan.

The digital transformation of archives in the context of the introduction of an electronic document management system involves an increased emphasis on ensuring the security of information storage, with a view to its subsequent use to solve a wide range of practical tasks. The preservation of information contained in archives and its transfer to storage on electronic media is one of the strategically important directions of a sustainable state in various spheres: economic, public and social. In the context of the steadily increasing importance of information in the life of modern Kazakh society, the value of archival documents increases, as does the value of the information contained in them; for example, the electronic document management system has become widespread in the field of office management in modern Kazakhstan. The numerous advantages of storing and transmitting information on digital electronic media necessitate further study of the issues of digital transformation of archives in the context of the implementation of this system. Among the above-mentioned advantages of storing and transmitting information on electronic media, in comparison with traditional paper media, it should be noted that there is no need to allocate space for their storage, the convenience of their distribution for use and the possibility of rapid recovery in case of loss.

The prospects for further research in this area are conditioned by the further increase in the importance of the practical use of information technologies in the field of database security and their subsequent targeted applications. The digital transformation of the data contained in the archives of enterprises and organisations of the Republic of Kazakhstan (state, public, legal entities and individuals) ensures their compliance with the standards for ensuring the safety and quality of information preservation established within the framework of the electronic document management system implemented in the country. Further study in this area will contribute to the search for and



implementation of new, modern technological solutions that ensure compliance with the norms of electronic document management and the effective use of digital archive data.

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