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THE PROBLEM OF APPRAISAL OF DIGITAL RECORDS

Abstract

Purpose: Modern information technology has revolutionized the types of documents and their content over the past two decades. The vast part of the information is occurred and stored in electronic form as part of the various information systems. Electronic documents, including databases, have become an important means of securing, storing and exchanging information, the volume of which is increasing significantly every year. In this regard, the issue of not only ensuring their preservation, but also determining the principles, methods and criteria for the selection of electronic documents to be included in the National Archives Fund, acquires particular importance. This study focuses on a comprehensive, systematic consideration of the theoretical and practical aspects of organizing and conducting an examination of the value of digital documents in order to identify existing problems and search for possible solutions.

Methods / Approach: The research is based on analysis of the national legislation of Kazakhstan and empirical data, the study of literature and study the domestic and foreign authors. The research used informational and systemic methods, the method of structural analysis, etc.

Results: The author considers the definition of the value of documents as an indispensable condition and basis for the organization of any archive, including an archive of electronic documents. Based on the experience of introducing the information system "Single archive of electronic documents" in the archives of Kazakhstan, the possibility of applying the methodology and practice of examining the value of paper archival documents to electronic documents is being considered. Assesses basic selection problems of electronic documents for permanent preservation and suggests possible solutions.

Conclusions / Findings: On the basis of the research conducted, the author concludes that the methodology for assessing the value of electronic documents should be based on the practical experience of working with archives with electronic documents. Traditional approaches to the examination of value undoubtedly need to be adjusted and developed based on the features of the properties and technical characteristics of electronic documents, which ensure the possibility of their further use.

Keywords: digital records, appraisal of digital records, digital archive, authenticity of rerecords, long-term preservation

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IL PROBLEMA DELLA VALUTAZIONE DEI DOCUMENTI DIGITALI

SINTESI

Scopo: *la moderna tecnologia dell'informazione ha rivoluzionato i tipi di documenti e il loro contenuto negli ultimi due decenni. La maggior parte delle informazioni è avvenuta e conservata in forma elettronica nell'ambito dei vari sistemi informativi. I documenti elettronici, comprese le banche dati, sono diventati un mezzo importante per proteggere, archiviare e scambiare informazioni, il cui volume aumenta notevolmente ogni anno. A questo proposito, acquista particolare importanza la questione non solo di assicurarne la conservazione, ma anche di determinare i principi, le modalità e i criteri per la selezione dei documenti elettronici da inserire nel Fondo archivistico nazionale. Questo studio si concentra su una considerazione completa e sistematica degli aspetti teorici e pratici dell'organizzazione e della conduzione di un esame del valore dei documenti digitali al fine di identificare i problemi esistenti e cercare possibili soluzioni.*

Metodi / Approccio: *La ricerca si basa sull'analisi della legislazione nazionale del Kazakistan e i dati empirici, lo studio della letteratura e lo studio degli autori nazionali e stranieri. La ricerca ha utilizzato metodi informativi e sistemici, il metodo dell'analisi strutturale, ecc.*

Risultati: *L'autore considera la definizione del valore dei documenti come condizione e base indispensabile per l'organizzazione di qualsiasi archivio, compreso un archivio di documenti elettronici. Sulla base dell'esperienza di introduzione del sistema informativo "Archivio unico di documenti elettronici" negli archivi del Kazakistan, si sta valutando la possibilità di applicare la metodologia e la pratica di esame del valore dei documenti d'archivio cartacei ai documenti elettronici. Valuta i problemi di selezione di base dei documenti elettronici per la conservazione permanente e suggerisce possibili soluzioni.*

Conclusioni/Risultati: *Sulla base della ricerca condotta, l'autore conclude che la metodologia per valutare il valore dei documenti elettronici dovrebbe basarsi sull'esperienza pratica di lavoro con archivi con documenti elettronici. Gli approcci tradizionali all'esame del valore devono indubbiamente essere adeguati e sviluppati sulla base delle caratteristiche delle proprietà e delle caratteristiche tecniche dei documenti elettronici, che ne assicurano la possibilità di un ulteriore utilizzo.*

Parole chiave: *archivi digitali, perizie di archivi digitali, archivio digitale, autenticità delle registrazioni, conservazione a lungo termine*

PROBLEMATIKA VREDNOTENJA DIGITALNIH ZAPISOV

Povzetek

Namen: *Sodobna informacijska tehnologija je v zadnjih dveh desetletjih spremenila vrste dokumentov in njihovo vsebino. Velik del informacij je nastal in je shranjen v elektronski obliki kot del različnih informacijskih sistemov. Elektronski dokumenti, vključno z bazami podatkov, so postali pomembno sredstvo za varovanje, shranjevanje in izmenjavo informacij, katerih obseg se vsako leto močno povečuje. V zvezi s tem je še posebej pomembno vprašanje ne le zagotavljanja njihove hrambe, temveč tudi določitev načel, načinov in meril za izbor elektronskih dokumentov za vključitev v Državni arhivski sklad. Ta študija se osredotoča na celovito, sistematično preučitev teoretičnih in praktičnih vidikov organiziranja in izvajanja presoje vrednosti digitalnih dokumentov z namenom prepoznavanja obstoječih problemov in iskanja možnih rešitev.*

Metode / pristopi: *Raziskava temelji na analizi nacionalne zakonodaje Kazahstana in empiričnih podatkov, preučevanju literature in študij domačih in tujih avtorjev. Pri raziskavi so bile uporabljene informacijske in sistemske metode, metoda strukturne analize, ipd.*

Rezultati: *Opredelitev vrednosti dokumentov avtor obravnava kot nepogrešljiv pogoj in podlago za organizacijo vsakega arhiva, vključno z arhivom elektronskih dokumentov. Na podlagi izkušenj z uvedbo informacijskega sistema „Enotni arhiv elektronskih dokumentov“ v arhivih Kazahstana se proučuje možnost uporabe metodologije in prakse preverjanja vrednosti papirnih arhivskih dokumentov vse do elektronskih dokumentov. Prispevek tudi oceni osnovne probleme izbire elektronskih dokumentov za trajno hrambo in predlaga možne rešitve.*

Zaključki / ugotovitve: *Na podlagi opravljene raziskave avtor ugotavlja, da bi morala metodologija vrednotenja elektronskih dokumentov temeljiti na praktičnih izkušnjah dela z arhivi z elektronskimi dokumenti. Tradicionalne pristope k presoji vrednosti je nedvomno treba prilagajati in razvijati na podlagi značilnosti lastnosti in tehničnih značilnosti elektronskih dokumentov, ki zagotavljajo možnost njihove nadaljnje uporabe.*

Ključne besede: *digitalni zapisi, vrednotenje digitalnih zapisov, digitalni arhiv, verodostojnost ponovnih zapisov, dolgoročna hramba*

1 INTRODUCTION

Mass digitalization of all spheres of the economy and society is becoming a prerequisite for the emergence of a new digital format of public relations, the historical course of time. Information technologies are being intensively introduced into absolutely all spheres of public life: politics, economics, public administration, culture, education, etc. In Kazakhstan, consistent work on the introduction of information technologies into the public administration system, including the work of office services and archives, was started back in the 90s of the last century. Over the years, several state digitalization programs have been implemented: The State program for the formation and development of the national information infrastructure of the Republic of Kazakhstan (Decree of the President of the Republic of Kazakhstan dated March 16, 2001 No. 573), The State Program for the Formation of "Electronic Government" in the Republic of Kazakhstan for 2005-2007" (Decree of the President of the Republic of Kazakhstan dated November 10, 2004 No. 1471), The State Program "Informational Kazakhstan – 2020" (Decree of the President of the Republic of Kazakhstan dated January 8, 2013 No. 464). As a result, the Unified Electronic Document Management System for State Bodies (EDMSSB), an "electronic government" portal, the Intranet Portal for State Bodies (IPSB), other state databases and information systems have been successfully implemented and are functioning in the country.

To date, the share of electronic documents in the interdepartmental workflow has reached 86%, more than 3 thousand sets of publicly available data of state bodies of various levels are available online, which can be easily found, downloaded and used. The transfer to the electronic type of state accounting activity is carried out in order to provide state services to individuals and legal entities, new and existing information resources are being constantly developed. The legal status of the use of an Electronic Digital Signature (EDS) has been fixed. State information systems have accumulated a significant amount of data, the provision of long-term and permanent storage of which requires a practical solution.

Digital technology exerting a direct impact on the archives that preserve its role as the main guardians of both analog and digital information. Over the past decade, Kazakhstan's archives have achieved certain results in automation of its work and implementation of computer technology. In these circumstances, an urgent task is to revise preconceived ideas of the document itself and its carriers and methods of work with them, including the methodology for the selection of the documents and determine the extent of their value.

2 LITERATURE OVERVIEW

Methodological and practical issues of the examination of the value of electronic documents are the subject of research by a number of archivists.

The most significant research should be considered the research of the International Project InterPARES, related to the organization of permanent storage of electronic documents in information systems. In the report the research group InterPARES marked "electronic records must be appraised from the same theoretical and methodological standpoint as traditional records". Head of project Luciana Duranti makes a conclusion, that "with electronic records, the function of appraisal has changed in four fundamental ways: first, the appraiser must assess the authenticity of the records considered of continuing value; second, the appraiser must determine the feasibility of the preservation of the authenticity of the records; third, the appraisal decision must be made very early

in the life of the records; and, fourth, the appraiser must constantly monitor the records of the creator and, if this were warranted by the changes that they have undergone, revise the appraisal decision" (Duranti, 2002).

A great contribution to the development of the theory of examination of the value of electronic documents was made by the famous Canadian archivist Terry Cook, who considered the assessment of electronic documents not as a special project, but rather as part of a strategic acquisition policy that follows the traditional analysis of the functions, actions and procedures of office work of all departments of the organization (Cook, 1991).

Also, in the surveys, the examination of the value of electronic documents is considered in detail in the works of the Russian scientist V. Tikhonov. He notes that "The methodology for selecting electronic documents for long-term storage also has some specificity compared to traditional archival materials. This applies both to the assessment of the content side of documents and selection criteria in general, and to the forms of carrying out procedures for the examination of value" (Tikhonov, 2009).

Unfortunately, in the small number of studies of Kazakhstani archivists, this problem remains practically unexplored.

3 RESEARCH DESIGN

In accordance with the national legislation of Kazakhstan, the examination for the value of documents is carried out in order to select documents classified as part of the National Archives Fund (NAF), prepare them for transfer for permanent storage to the appropriate state archive, as well as determine the storage periods for documents and allocate documents with expired storage periods for destruction.

Evaluation of documents and their content is carried out at almost all stages of creation and processing, starting from writing the content, agreeing, determining the form and type of the final version of the document; the procedure for bringing it to the addressee, establishing a registration system, choosing a place and method of storage.

The first stage in the examination of the value of documents can be considered the compilation of a nomenclature of cases, when the storage periods of the created documents are determined.

The second stage of the examination of the value of the documents themselves is carried out when the documents have left operational work, in preparation for their long-term storage and transfer to the archive of the organization.

In the third step specifies the value of the documents when transferring them to permanent storage in the state archives and the destruction of documents with expired storage period.

Examination of value is carried out on the basis of: regulatory legal acts, guidelines and instructions, as well as lists of documents indicating storage periods and nomenclatures of organizations. For the assessment, the criteria and origin, content, external features of documents are applied in a complex manner.

The criteria for the origin of documents include the role and place of the organization, the significance of the tasks and functions it performs, the importance of an individual in the life of society, the time and place of formation of the document.

The criteria for the content of documents include the significance of the event reflected in the document, the value of the information contained in the document, its repetition in other documents, the authenticity, kind and type of document.

The criteria for the external features of the document include the authenticity of the document, the legal reliability of the document, the form of recording and transferring the content of information, the features of the material medium and the physical condition of the document.

For electronic documents, additional special criteria are approved by law:

- integrity of metadata,
- authenticity of electronic documents,
- absence of duplicate information in documents previously accepted for archival storage.

However, the normatively does not provide for a separate methodology and technology for the examination of the value of electronic documents.

In 2018, the state archives of Kazakhstan started to implement the project "Single Archive of Electronic Documents" (SAED). Its main task is to ensure storage, management and the possibility of further use of electronic documents that are created in state information systems, incl. EDMSSB. The information system made it possible to automate the work of both departmental and state archives. The processes of acquisition of the archive, accounting and examination of the value of documents, storage of archival documents have been automated. Web portal IS "EDMSSB", which provides users online access to archive resources, was created. The functionality of the web portal allows you to carry out full-text and attributive search of archival information with "open access", to submit applications for providing access to archival documents. Integration bus is used for integration with external information systems of state bodies.

IS "EDMSSB" provides automation of functions of administration and differentiation of access, as well as provides the ability to monitor and analyze data through the software tools of IS "EDMSSB". As noted above, the main source of replenishment of the system is the integrated with it SAED and IPSB, functioning in all state bodies of the republic. After operational storage in them, electronic documents are sent through dedicated communication channels to the "Departmental Archive" module of the SAED, which ensures the reception of data from the structural divisions of the organization, their ordering, the execution of case inventories, acts on the allocation of documents for destruction, their coordination with the state archive and approval, organization of work of expert commissions. Electronic documents are transferred to the SAED in a package that includes an attached file, EDS, electronic registration and control card and metadata.

As a result, about 30TB of data for 2007-2018 was migrated from the electronic document management systems of state bodies to the SAED. In the process of implementing the project, Kazakhstani archivists faced a number of methodological problems related to both the assessment of the content side of the documents and selection criteria in general, and the determination of the forms of carrying out procedures for the examination of value.

It became obvious that if in relation to the substantive part of electronic documents it is possible to apply the methodology for evaluating traditional documents, then with regard to technological characteristics, a revision of special criteria is required, in particular, problems of certification and authenticity of electronic documents.

Thus, the system accepts documents only after confirming the validity of their electronic digital signature (EDS), as the main condition for their legitimacy and authenticity. All documents that did not pass this check are allocated in a separate act and, depending on the type and content, the presence of a paper original, a decision should be made on their further fate. The law "On the National Archival Fund and Archives" gives the archivists the right to certify the electronic version of the document with their EDS if there is a

paper original. But the question of authenticating documents created only in electronic form, the EDS of which is not valid, remains unresolved.

And here we can agree with Tikhonov, who notes that "designed to provide electronic documents with legal force and thereby give them the proper long-term value, the existing EDS, on the contrary, leads to a noticeable reduction in the period of use (and therefore storage period) of an electronic document" (Tikhonov, 2009).

As a tool for confirming the legitimacy of an electronic document, one can consider checking the receipt of the "timestamp", which is generated in the electronic document management system at the time of signing the document (which is already used in a number of foreign countries). For this, it is necessary to establish normatively not only the concept of "time stamp" itself, but also the development of a mechanism for its use when confirming the legal force of an electronic document.

The period of temporary storage of electronic documents in organizations of Kazakhstan is 5 years, after which they are transferred to the state archives. The types of documents created only in electronic form (without duplication on paper) and their storage periods are approved by the List of standard documents generated in the activities of state and non-state organizations, indicating the storage periods. And if earlier documents could be created only in electronic form, the storage period of which did not exceed 10 years, then from January 1, 2018 this requirement has been canceled and documents of permanent and long-term storage are already being created in electronic document management systems. On the basis of this List, the organization develops and approves a nomenclature of cases, according to which electronic documents, entering the SAED, are formed into cases. An internal inventory is automatically generated for each case in the system. It is checked and corrected by the responsible employee of the archive, signed by his EDS and included in the file. This functionality is based on the essential difference between electronic documents and paper documents - the possibility of their machine processing.

3.1 METODOLOGY

The work is based on the results of the analysis of the national archival legislation of Kazakhstan, generalization of the practical experience of the work of Kazakh archivists with electronic documents and transmissions and their archival storage. Special literature and research on the problems of examination of the value of archival documents by domestic and foreign authors were studied.

The methodological basis of the research was formed by the principle of scientific objectivity, a systemic and dialectical approach to the problems of cognition. The study attaches particular importance to the method of comparative and complex research. The study of the topic was carried out from theoretical knowledge to the isolation of problems and their analysis based on the accumulated factual materials. The work is presented according to the problem-thematic principle.

3.2 LIMITATIONS OF THE RESEARCH

The study is based on the results of the implementation of the information system "Single archive of electronic documents" and the experience of the state archives of Kazakhstan with electronic documents.

4 RESULTS

Thus, to date, Kazakhstan has formed certain regulatory requirements for the examination of the value of electronic documents and the acquisition of archives with them. In accordance with the Law "On the National Archival Fund and Archives" electronic documents are accepted for state storage and included in the NAF special criteria for the selection of electronic documents has been approved, and types of documents created only in electronic form have been established. However, the existing regulatory legal framework is clearly insufficient for organizing a full-fledged examination of the value of electronic documents.

The implementation of the SAED project in Kazakhstan has shown that ensuring the safety of electronic documents is a complex and costly process. In this connection, the issue of the selectivity of electronic documents for permanent storage, depending on their value (as well as in the case of paper documents) remains relevant.

5 DISCUSSION

The main methodological problems in the selection of electronic documents are in the selection of criteria, primarily in relation to their technological assessment. Therefore, the traditional method of assessing the value of archival documents should be revised taking into account the essential characteristics of electronic documents. So, along with the criteria of origin, content and external features, criteria for assessing technological characteristics become equally important, and in some cases, the main ones: ensuring their availability in the future, the ability to read from the information carrier, correctly reproduce, and most importantly, guarantee their authenticity and integrity.

It also becomes obvious the need to develop a methodology for automatic selection of electronic documents using modern information tools. This would significantly optimize and simplify the process of examining the value of electronic documents, as well as exclude or minimize the direct participation of specialists.

6 CONCLUSIONS

In modern conditions of the uncontrollably growing volume of digital information, the main problems of the examination of the value of electronic documents are to identify which of them are subject to temporary and which to permanent storage. At the same time, the traditional methodology for selecting documents for permanent storage does not provide a solution to these problems. There is a clear need for the development and automated methods and forms of selection of electronic documents using modern information technologies and tools. Revision of the criteria for evaluating electronic documents requires special attention. Unlike paper documents, such characteristics as legitimacy, integrity and authenticity are of particular importance. This requires the development of an appropriate regulatory legal and methodological framework.

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