

ARCHIVE ACTIVITIES DURING DIGITALIZATION ERA

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Abstract: *The article is devoted to the problems of the industrial archives during the Digital Age, which, from the point of view of the authors, are conditioned by the introduction of electronic documents that have changed the content of the key categories of paperwork and archiving - authenticity and copying, as well as their originality and authenticity. The traditional understanding of these categories is based on the technology of archival work, always considered as a unique system of scripts. Using the method of expert assessments to determine the content of key categories, the authors conclude that the modern activities of archives are aimed at intensification of copy creation activities, its management and provision of authenticity, reliability, integrity and usability.*

Keywords: *originality, copying, authenticity, archival document, electronic document, archival business.*

INTRODUCTION

Introduction to the problem

IT technologies have changed the paperwork of Russia in the same way as in most other countries, giving huge advantages for document flow speed, the accuracy of document processing, the economy in organizing the current storage of documents and

much more. However, having changed the technology of office work, they not only influenced, but also to some extent violated its usual and centuries-old ties with archival work. The key categories of authenticity and copy number of documents were represented by such a phenomenon as an electronic document (hereinafter ED), an unexpected combination that destroyed the usual ideas about the document itself, required to change its attitude to it as a fact of cultural national and world heritage. In practical terms, the new combination of authenticity and copying in the ED marked the failure of some principles and techniques developed over the centuries for working with archival documents, forced a radical review of the tasks and principles organizing archival storage of documents, and most importantly, changed the status of the archive as an information system for storing originals.

Problem relevance

The problem of electronic document authenticity has been at the epicenter of the problems considered by the scientific community of archivists, historians, legal scholars, and cultural scientists for decades. Archival authorities of different countries discuss actively the issues of improving the security and reliability of ED created in organizations and stored in archives; They are engaged in testing and implementation of IT-technologies to manage the existing document funds on paper, and analogue media; They try to find the most economical and effective ways to solve technical problems. The spectrum of these problems has been on the arena of scientific and professional disputes for more than 20 years. Archivists unite in work on national, regional and international projects in order to understand, learn how to forecast, and most importantly, ensure the long-term preservation of new type of documents. Even though in recent years the development of technologies has addressed many issues, giving credibility to ED continues to be a technical, legal and organizational problem. Unfortunately, the majority of state archives of the constituent entities of the Russian Federation do not accept for storage, despite the availability of permissive standards, ED signed by electronic signatures: the percentage of electronic documents from the total volume of the Archival Fund of the Russian Federation makes 0.2% (Rosarchive, 2016). There is no single point of view on what procedures will guarantee the reliability of information in ED after their forced changes (conversion, migration, emulation, encapsulation, etc.).

Problem study

In search of implementation and delimitation problem solution during long-term archival storage of the necessary properties and signs of authenticity and copy number of EDs, three trends of research can be distinguished: research projects of international professional communities of archivists; multidisciplinary groups of scientists and practitioners who are comprehensively suited to the problem solution; national projects of archival institutions from different countries. Among international groups of researchers who comprehensively deal with the problems of authenticity and copy number of ED in the aspect of long-term archival storage provision, it is necessary to name UNESCO, and the International Council of Archives (ICA). In recent years, a range of organizational issues has been added to the traditional issues of working with documents during the digital age at ICA congresses: establishing cooperation among all interested parties during ED long-term and eternal storage problem solution, using of ED for

establishing historical truth and restoring justice in court, as well as in determining the content of educational programs and the composition of professional competencies. The world professional community has formed a policy in the field of cultural heritage digitization (Kuibyshev L.A., Brakker N.V., 2005), (Nol L. Ya., 2001). “All trends of archives to ensure the safety, accessibility, and authenticity of digital documents are relevant, regardless of the environment in which they are created, circulated and used” (Rosarchive, 2016).

Nowadays, a full-scale scientific and legal study of the approaches to archiving organization in Russia during ED archive completion is carried out by the representatives of the state archival management bodies of the country (See the report of the head of the Russian Archives A.N. Artizov “On the activities of federal executive bodies in the field of defense, security and law and order in the field of archival affairs” at the meeting in the Committee of the Federation Council for Defense and Security of the Federal Assembly of the Russian Federation, in which the leaders of the Russian Defense Ministry, the Russian Interior Ministry, EMERCOM of Russia, Rosgvardya, FSB archives service tool part (Rosarchive, 2018). Experts consider the ability to identify the originals and ensure the authenticity of copies for a long time when rewriting electronic information, the main problem of IT-technology use during long-term storage of cultural heritage organization.

Hypotheses

The category of authenticity, identified in some cases with originality, and the category of copying over millennia have determined the practice of archiving. Their transformation, which was revealed with the advent of the ED phenomenon, began to change radically the nature, habitual volume and, in many ways, the implementation of archiving, including the functions and powers of archival organizations and structural divisions.

METHODS

To determine the scope of functions that will be transformed in archives with the increase of ED funds for long-term storage, they used the method of expert evaluations. It allows you to assess the current state of the problem, outline a range of new issues that will have to be addressed in the near future by the managers of the clerical, archival industries, as well as the protection of public and private law. Expert assessments were tracked on the basis of scientific reports and publications based on the results of studies conducted over the past 20 years. They also took into account the problematic issues identified at seminars and practical conferences with the participation of archivists from municipal, regional and corporate archives, as well as the corporate archives of source organizations making the non-state part of the Archival Fund of the Russian Federation. Among the experts who spoke on the problem of authenticity and copy number category transformation during the implementation of long-term storage of ED in archives were Russian and international practitioners, the heads of enterprises and scientific organizations, archivists, and VNIIDAD reports. The method of analysis of regulatory sources made it possible to determine the areas of interaction with ED that have not yet been clearly regulated by the supervisory authorities; and it also made it possible to assess the sufficiency / insufficiency of existing standards to resolve contradictions in the practice of long-term storage of ED archive organization.

MAIN PART

Traditional understanding of the following categories: authenticity and copy number of documents

“The Basic Rules of organization archive work”, defining the organization of document storage in archives as “a system of measures, including the rational placement of documents, control over their movement and physical condition, copying of documents with the aim of an insurance fund and the fund of use development, restoration of original properties and external signs of documents or close to the original that have been damaged or destroyed” (Basic Rules, 2002), give a general idea of the archive activities. Each of the mentioned functions is based on a clear understanding and practical differentiation of originality, authenticity and copy number category. The procedure for working with originals and copies is legislatively and organizationally defined both in state and departmental archives. The provisions and regulations clearly define the place of originals and copies in relation to the procedures of office work and archiving. With the advent of ED, they revealed the shift of the boundaries between the original and the copy, due to the special nature of a new type of document duplication, which in turn violated the usual attitude to the document copy. The Russian national terminological standard considers an authentic document as “a document, information about an author, the time and place of creation of which, contained in the document itself or identified in another way, confirm the reliability of its origin” (p. 20, GOST R 7.0.8–2013).

Transformation of original electronic document and copy signs

In ED, the categories of originality, authenticity and copy number have completely different indicators of objectification than for the documents drawn up by traditional methods. When they compare the documentation procedures, it turned out that the life cycles of traditional and electronic documents, examined through the prism of authenticity and copy as the categories essential for archival storage, differ in some points. Transferring the “decision of fate” for ED to a later date can no longer guarantee authenticity, due to the ease of this document format manipulation. This difference is not always recognized by regulators and the subjects of documentary processes. The team by L. Duranti, having studied the practice of ED use, noted the changes in the attitude of government agencies of different countries to the originals and a copy. A discrepancy was found between theory and practice of original document understanding. Diplomacy found that “an original document in the electronic system is the first presentation of the received document, and after closing such a presentation, the original one no longer exists” (L. Duranti, 2009). The international standard ISO 15489-2001 introduced another synonym of “authentic document” into Russian terminology. The national standard GOST R ISO 15489-1-2007 (p. 7.2.2) states: “A document is authentic if it: a) complies with the established rules; b) was created or shipped by a person authorized to do so; c) was created or shipped at the time indicated in the document” (GOST R ISO 15489-1-2007). Moreover, according to this standard, the authenticity of a document, cannot be achieved without three other properties: integrity, reliability, and suitability for use (Ibid., p. 6.3). So, the dominant property of a document is not originality, but the ability to provide complete trust in its information and responsibility acceptance for the content and other parameters of the document by an author. Of course, these properties include the

managerial, legal, and historical meaning of document use, but all the others are lost (value, uniqueness of the material medium, time and record method, etc.).

Confirmation of ED authenticity in the conditions of the archive is already associated not only with technical, but also with the legal tasks of reconstructing the required organizational conditions that must be decided by the fund raiser (for example, the availability of appropriate software and/or provision of archives with an authentication function). Does the archive have the same status as the founder? It doesn't. Does an electronic signature ensure the preservation of the necessary organizational conditions? The Russian expert opinion is still prone to negative (A. Baranov, 2016). Initially, a peculiarity, if not a mistake, was introduced into the ED. Upon completion of the InterPARES project, a disappointing conclusion was made: "Considerations related to long-term preservation provision are almost never affected by the process of document drawing up in the electronic environment" [L. Duranti, 2009].

Modern tasks of the archiving industry in the field of work with electronic documents

Today, when the problem of archival activities related to ED is raised, two task vectors are indicated: 1) the tasks related to the digitization of archive documents (i.e., the creation of electronic images (copies) from paper documents or the documents on analogue media); 2) the task of receiving genuine ED and organizing long-term archival storage of electronic documents. Each vector has its own specifics and methods of practical resolution. The first vector can be qualified as an intensification of the traditional functional on a backup copy fund and use fund development. Digitization offers users an additional, more mobile and convenient way to obtain archival information. Let's add to the list the issues of logistics and archivist training. In the framework of the first vector, the concept of copying is developed: a copy takes on the features of the original, because it serves as a reference for subsequent copying. A completely different range of problems (including organizational ones) has to be solved by archives when it comes to the reception and organization of long-term storage of electronic documents that were not created on the basis of paper (analog) versions and received the signs of the original, legal force using computer technology.

It has already been mentioned that the nature of ED is such that the degree of their alienation as independent objects on a material medium is rather arbitrary. The fact is that the life cycle of ED is not separable from the life cycle of software, the duration of which is now estimated only by 5-7 years. Of course, this does not correspond to the tasks of long-term storage of archival materials. Changing the software platform during the long-term storage of ED can lead to a complete loss of a document meaning due to the inability of their view. The real and potential reason can be economic, because computer technologies (media and programs) are quickly squeezed out of production, so in 10-15 years, archives will face the problem of information reproduction from existing media (even the best ones at the time of recording). Optimists from the manufacturers of technologies for ED recommend material rewriting (Betsy A Fanning 2017) and call migration as "moving of documents from one system to another while preserving the authenticity, integrity, reliability of documents and their suitability for use" (Recommendation project. 2013). Disadvantages of migration are reduced by software environment emulators. "Emulation is the imitation of one device functioning through another device or computing machine devices, in which the simulating device receives the same data, executes the same program and achieves the same result as the simulated one"

(GOST 15971-90). But there is no guarantee here that any operating environment can be emulated in another one. Today, American archivists see encapsulation - the inclusion of electronic documents in cross-platform file formats as the most optimal way for sharing and long-term storage of electronic documents (Information management. 2002). But, like emulation, encapsulation during the long-term storage of electronic documents has been little studied, and trial descriptions of the positive experience are still single.

Provision of AED authenticity signed with an electronic digital signature

An independent actual, but not resolved problem for long-term archival storage is constituted by ED signed by electronic signature (hereinafter - EDS). The general issues of ensuring the safety of ED includes the issue of maintaining the authenticity and legal force of documents. Nowadays, the experts in the field of electronic information security come to the conclusion that the introduction of electronic signatures has led to a serious shift in emphasis from the technical side of the problem to organizational and legal issues, while organizational and legal issues seem more complicated if we take into account the law enforcement practice of Russia (Baranov A. 2016). The process of completing archives by electronic documents with electronic digital signature inherited from the operational environment (the stage of office work) the problem of confirming the authenticity of the key attribute that gives the document legal force, i.e. EDS itself. Among the various obstacles that create the problems with the identification of a document authenticity, experts say that props (EDS) can live independently of a person, creating conditions for fraud, complete or partial falsification of ED. There were the cases when a person was dying, and his electronic signature remained valid for a year: "The company continued to use his electronic signature, handing over reports under it. It is practically impossible to withdraw an electronic signature until the court finds a person officially missing, the certification center does not have the right to withdraw the signature" (A. Baranov 2016).

CONCLUSIONS

The indicated vectors of archival work with electronic documents and electronic images have been designated as the main duty of archives to maintain trust in ED over a long time (or forever). And this is not a technical, but an organizational problem related to the provision of archival institutions with a new function - the obligation to confirm periodically the authenticity of electronic copies. The problems of long-term storage of ED are historically born of "systemic" errors due to inattention to the practice of archiving. The advantages of ED during the office workflow stage turn into serious shortcomings in archival storage. This problem also affected corporate archives of non-governmental organizations, but due to other organizational conditions of archiving it is eliminated in this category of archives (both organizationally and technically by introduction the "correct" EDFs). Another thing is state (federal and constituent entities of the Russian Federation), municipal and even departmental archives. They deal with the arrays of documents that have already been created by different fund-makers operating in different organizational conditions.

CONFLICT OF INTERESTS

The authors claim that the data presented do not contain a conflict of interest.

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