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Digital Infrastructure Management in the System of Socio-Cultural Institutions: the Archival Paradigm

Abstract: *Introduction.* The management of the modern archival system should be characterized by the fundamental changes in all its areas, aimed at developing functions for the implementation of state policy in the field of digitalization, as well as developing principles of control in the archival information and search system, which will be implemented using digital technologies and will be able to guarantee the delivery of services to citizens. *Purpose and methods.* The method of the research is the clarification of promising vectors in the implementation of digital infrastructure in the management of archival institutions of Ukraine in the aspect of the implementation of the state policy of digitalization. To achieve this goal and to solve the research problems, the principles of objectivity and information theory and the traditional set of methods were used (method of systematic approach, structural method, method of situational research, methods of analysis and synthesis, methods of sociological, socio-psychological, pedagogical and managerial analysis, the method of survey). *Results.* The article analyzes the demand for innovative transformations in the archival sphere of Ukraine due to the development of digital technologies. A review of the supply of tools for the single archival information and search database as an element that unites the digitization potential of the archival system of Ukraine and put the system of archival management at the focus of collaboration with stakeholders. *Conclusions.* Using the new paradigm of archival management together with the implementation of digital infrastructure allows at the same time to improve the process of the archival management system and modernize the main mechanisms, taking into account current challenges.

Keywords: archives, digital infrastructure, management, digitalization.

1. Introduction

The problem formulation. The rapid inside of digital technologies in all spheres of socio-economic life in Ukraine has significantly changed the perception of the tasks and role of digital infrastructure, including institutions that ensure the preservation of the national and cultural heritage of the Ukrainian people. Modern conditions form new approaches, not only to building a system of functioning of socio-cultural institutions in general, but also to their management in terms of active use of the mechanism of Internet communications.

This is due to the direction of current vectors of public policy in Ukraine to create the latest digital infrastructure, which includes an automated management system, information resources, and services, as well as modular customer service systems.

While the traditional socio-cultural institutions, including archives, continue to exist in the classical format, the requirements for their activities are changing significantly according to modern challenges.

The transition of the country's socio-cultural sphere to the global Internet, as well as the latest aspirations of users to obtain information completely change the technological and economic conditions of the archival system as part of the socio-cultural institutions of Ukraine in the focus of their digital infrastructure and management.

Management of the modern archival system should be characterized by fundamental changes in all its parts, aimed at developing functions for the implementation of state policy in the field of digitalization, as well as developing principles of control in the archival information retrieval system. The translation of archival documents into "digital" is an integral part of the modern management of the archival institution, given the priority of the state program of general digitization.

Due to the fact that the task of implementing digital policy in the system of archival institutions of Ukraine is classified as "minor" problems, they are usually solved quite unsystematically. At the same time, for archival institutions, this task is not of a secondary nature, and that's why, requires a systematic decision. Reconsideration the tasks' complexity of creating a single archival digital infrastructure to facilitate the functioning of archival institutions and establish their contact with stakeholders can contribute to a number of factors in the development of modern digital and management technologies.

One of the most common forms of interaction between the archive and stakeholders to which the digital infrastructure can be applied, is to visit the reading rooms of the archives, where they have the opportunity to view case descriptions electronically and digitized case descriptions on archive sites.

While analyzing the management of archival institutions in this context, the main problems of the process of choosing to build a strategy for managing the activities of the archive in the focus of digital technology:

- lack of algorithm for implementing digital technologies in the work of archives;
- lack of new ways and principles of designing digital technology management systems;
- unpredictability of changes in the external and internal management environment of the archival industry.

To solve the identified problems can be offered:

- compliance with multilateral management methods, as well as the development of technology combining scientific methods and principles of management structure (system approach, program-target management, organizational modeling, etc.) in the field of digital infrastructure;
- increasing the technological level of development of digital technologies and information and communication support of employees;
- mobility and flexibility of archival institutions, their adaptation to changes at the macro and micro levels.

Analysis and improvement of the management of the archival system using the digital infrastructure is an integral part of the effective functioning of the archival management system as a whole.

State study of the problem. The use of digital technologies to improve the work of modern archival institutions in Ukraine is the subject of many scientific studies that reveal the issues of digitization of the archival fund. These problems are considered in the works of A. Aleksieienko (2012), V. Liakhotskyi (2004), D. Vasylenko and L. Butko (2021), I. Tiurmenko (2016), Ye. Nazarov (2019) etc.

The implementation of the concept of establishing information and communication links between archival institutions and users of their services in terms of the use of digital infrastructure is one of the key topics of scientific research in recent years. The scientific developments of M. Greengrass (1998), D. Vasylenko et al. (2021), D. Pitti (2012), V. Bezdrabko (2018) are devoted to this problem. Despite the large number of publications about the topic, researchers analyze the archival system as a separate industry that is not part of the Ukrainian socio-cultural space and, accordingly, develops separately in the context of digital communication technologies.

Researchers such as M. A. Greene and D. Meissner (2005), S. Roosa (2015), C. Davis (2015), K. Seliverstova (2013), E. Warren-Jones (2018), B. Namande (2004), G. Bak (2021), B. Şentürk (2014), A. Kaplan and M. Haenlein (2010), E. Benoit III (2017) considered the problem of creating a single digital infrastructure for the archival system and its management thro-

ugh the prism of digital archival management. Scientific research on this issue reveals the process of transferring paper documents to “digital”, determine the expansion of opportunities to work with archival materials in digital format for both archivists and stakeholders using search engines on archival web platforms, some researchers analyze the use of metadata in archival digital systems.

But note that the articles do not present a generalized approach to the creation and management of a single archival information retrieval database, which would combine digitized archival clusters from all structural units of the archival system of the country.

Unresolved issues. As a result of technological, economic and socio-cultural convergence, the creation of a large and multinational audience, digital technologies are becoming almost a universal means of communication. Many researchers believe that the 21st century is not only the century of a new generation of technology, but also the emergence of a new digital infrastructure. Nowadays, the Internet, robotics, computer algorithms, and artificial intelligence open up endless possibilities for the emergence of qualitatively new products and services. The new technological turn contributed to the rapid development and use of new methods and tools for processing and managing information, stimulated new electronic and digital platforms, as well as affected the development of the modern economy.

Ukraine has already started the path of digitalization and proclaimed itself a “digital state” that implements state activities based on the use of information and telecommunications (digital) technologies.

Despite everything else, today we are large number of unresolved issues concerning the introduction of innovative transformations in the archival sphere of Ukraine in the application of digital technologies. The question of introducing the tools of a single archival information retrieval database as an element that unites the digitized potential of the archival system of Ukraine and simplifies the archival management system in the focus of cooperation with stakeholders remains unexplored. The idea on the use of tags (keywords) in a single archival information retrieval database in terms of their creation (Who should write them? Can stakeholders be involved in this process? What are the criteria for creating tags?) remains controversial. These difficult questions require the formulation of new concepts that would show the potential of digital infrastructure in the field of archiving.

2. Purpose and methods

The purpose and research tasks is to clarify the prospective vectors of implementation of digital infrastructure in the management of archival institutions in Ukraine in close connection with state policy of digitalization implementation.

To achieve this goal, it is necessary to solve the following tasks:

- to analyze the problem of management of a single information retrieval database in the system of archival institutions of Ukraine;
- to open the technological means of a single archival information retrieval database;
- to determine the technology of creating and using tags for digitized archive clusters in the information retrieval database of the archive;
- consider controlling the writing of tags for digitized archives.

Methodology and methods. To achieve this goal and solve the problems of the study was carried out based on the principle of objectivity, which revealed the multifaceted nature of the object of study and provided an opportunity to get as close as possible to the realities of the archival system.

The theory of information was used as a methodology, which acquires special significance in the conditions of general digitalization. Because the information theory allows the application of the information approach to the study of documentary archives through various forms of presentation of archival sources: traditional paper and innovative digital.

The research is based on a systems approach that characterizes innovative digital technologies as a way to modernize archival management and presents it as a significant component of the socio-cultural cluster of social development.

In the process of studying the structure of the archival system of Ukraine, a structural method was used, which allowed to describe the peculiarities of the application of cloud-server technologies, as well as to develop a strategy for their development in the context of state policy of digitalization. Using this method, the readiness level of archival institutes in Ukraine for the systematic introduction of digitization of archives is determined.

During the study, the authors used the method of situational research, which allowed them to look through the tools of innovative digitization in the process of adapting archives to modern challenges and to consider specific examples of the application of these tools in real situations.

The use of methods of analysis and synthesis made it possible to determine the degree of development of the topic, as well as to reveal the problems of digitization of the modern archival system.

The practical part of the study is based on the methods of sociological, socio-psychological, pedagogical, and managerial analysis, which were used during the survey of respondents. With the help of these methods, it became possible to determine the level of need for digitization in the activities of archives from the side of employees and stakeholders and their readiness for activities in connection with creating information retrieval databases. The survey method also allowed us to determine the real situation concerning the prospects of creating a single archival information retrieval database of digitized archival materials.

Solving the problem of improving the efficiency of digital infrastructure management in the archival field needs the involvement of theory and practice of systems analysis, especially, systemic problem formulation and task setting, functional and structural analysis of problem areas, and solution synthesis. A systematic solution to the problem should be preceded by its systematic formulation, which is the foundation of systematic analysis of the problem. The full formulation of the problem in the classics of the systems approach, which includes the formulation, construction, evaluation, justification, and designation of the problem, has been considered by the authors before.

Information base. The development of archival institutes at the modern stage is widely covered in research characterizing the archival system through the prism of innovation management, the introduction of modern digital technologies in the work of archival institutions, application of information and telecommunication processes both inside and outside the archival institution during the collaboration with stakeholders of archival services. The positive dynamics of publishing activity in the field of archives are due to the increased public interest in historical and cultural materials stored in the funds. Scientific achievements are presented through theoretical research on the development of an innovative archival system. The theoretical and methodological basis of scientific research is the work of P. Conway (2000), Ya. Kalakura and Yu. Kovtaniuk (2019), T. Beamsley (1999), A. Kyseliova (2005), T. Sydorenko and E. Tyagiy (2019).

The main object of the research is the archival industry of Ukraine through the prism of the introduction of modern digital infrastructure. The theoretical basis and technological tools for the creation and management of a single archival information retrieval database, can be a unifying factor for digitized archival clusters, which are now stored in the central and state regional archives. A poll was conducted in January 2022. The comprehensive analysis of archival management of digital infrastructure was taken as a basis. The survey provided an opportunity to identify further possible steps to implement the digital infrastructure in the work of archival institutions.

3. Results and discussion

3.1. Archival digital management through the prism of a single archival information retrieval database

The classic task of mass digitized archival documents is to store electronic copies of a paper archival document. That is, the archival institution automates the work of storage, retrieval, and processing of the archival fund in digital form. Archival document clusters are digitized and stored in a single information

retrieval database, which unites the archival fund. That's why a digitized archival document becomes a simple solution in the search management, storage, and processing of information by archivists and stakeholders. The main advantage of a digitized archival cluster is the speed and convenience of finding the appropriate material: with proper classification and structuring, the necessary documents can be found in a couple of minutes.

The modern archival system of Ukraine, which has started its way on the path of digital transformation, needs to think about a single digital archive, which would accumulate documents from all archival institutions of Ukraine. In the first stage, it could be digitized documents from the central and state regional archives.

Management of the digitized archival system of Ukraine should begin with the formation of a web resource, from which, in the form of links, you can get to the archival digital cluster of any archive that is part of the archival system of Ukraine (Vasylenko & Butko, 2021b). Within the national united archival information retrieval database, it is necessary to develop thematic blocks, such as:

- photo, phono and video collections;
- library fund;
- archival documents.

To organize the official web resource, which will be built into a single archival information retrieval database, you need to develop a single standard of archival metadata. It will help speed up the search and processing of archival, digitized documents and their management within the system.

While creating search attributes within an information retrieval system, keep in mind that digitized archival documents must be endowed with a minimum number of search attributes, this can be done using the Presentation Level Protocol (PLP).

The main types of search can be filter by document name or search by keywords (tags). Writing a tag search algorithm is a necessary part of a search system, as it is expanding the information retrieval database filters and allowing both the archivist and the stakeholder to search for the information they need, even if the exact name of the document is unknown. But in the case of tagging, there is a problem with writing keywords (tags) to each digitized document. Ways to solve this problem will be suggested below.

All digitized material should be stored in a database that has its information retrieval mechanism. The storage location should be remote servers or cloud storage, in a favorable scenario, based on the experience of the US National Archives, a combined system should be created using cloud server technologies that allow you to work with large amounts of data. For example, the US National Archives has a total data volume of more than 750 Tb (Electronic Records Archives, 2021).

Note that this approach does not seem possible for departmental archives. We consider it necessary to offer the use of local server storage.

When considering the transfer of files between archival institutions within the archival system of Ukraine, it is necessary to prescribe special protocols for working with files transferred within the system, among them should be the following protocols:

- File Transfer Protocol (FTP);
- cryptographic data encryption protocol SSL (Secure Sockets Layer);
- transport layer protection protocol TLS (Transport Layer Security).

The issue of information security and protection of personal information in a single archival information retrieval database can be assigned to the relevant ministry (Ministry of Digital Transformation of Ukraine), which will develop appropriate software such as the application “Dia” (Vasylenko & Butko, 2021a).

Considering the issues in the focus of accessibility of digitized archival clusters for users, we note that the idea of a single archival information retrieval database aims to create unimpeded free access for researchers to archival documents that have been digitized. Access can be in the form of a flash drive, during a direct visit to the archives, or via the Internet. For example, for the monetization of digitized archival clusters, free access to documents with a low level of uniqueness can be provided, and unique documents and private collections can be viewed on a paid basis.

In general, stakeholders can be involved to create a digital archive infrastructure and speed up the digitization process. For example, if the required archival file does not have its own electronic version, the researcher can perform digitization on their own with the necessary equipment. In general, the same system of work is proposed for writing tags (keywords) that will be used to search for archival documents in a single archival information retrieval database.

3.2. The formation of a database of electronic archive tags by stakeholders

The work of users with digitized archival materials in a single archival information retrieval database requires contemporaries to create quality tags that will help in the search work for both archivists and stakeholders. Such interaction will become an effective archival Internet communication, which will make it possible to bridge the gap between archival institutions and society, as the stakeholder will be a direct participant in the process of creating a digital archival cluster. Such interaction will become an effective archival Internet communication, which will make it possible to overcome the gap between archival institutions and society, as the stakeholder will be a direct participant in the process of creating a digital archival cluster.

Let's look in detail at how the program for writing tags for digitized archival materials can be implemented by stakeholders.

The concept of tags includes tags that provide markup and cataloging of information to simplify the search process. Tags are also defined as keywords that can be used to easily find the material you want, these words briefly describe the content of this material (Foster & Lin, 2010).

Using tags to improve the search in a single archival information retrieval database will simplify the search in digitized masses of archival documents.

Foreign Studies Ch. Leadbeater and D. Powell (2008), M. Lewis (2001), M. Tobias (2011), who consider Web 2.0 and Web 3.0 technologies within on-line archival proposals (digitization of document collections, search tools, etc.) indicate that the idea of crowdsourcing in the archival field is quite new, which is why both users and employees of archival institutions can not fully understand the degree of its importance. Because only a so-called stockholder expert can be competent enough to create the necessary and true set of tags for a digitized case. This is possible only because he has thoroughly studied and knows the content of archival material, respectively, the next user can trust the tags that were created by an expert stockholder. In general, the tag writing form to be filled in after processing the digitized archival material (this should be the charitable help of the archive) should outline the stakeholder's experience with archival material so that the computer algorithm or archivist can determine the degree of trust in the tag, created by such a stockholder.

Ensuring this optimized tagging process requires two stages of implementation:

- 1) understanding and collaboration with the principles of tag sharing at the initial stage of their creation (descriptive stage);

- 2) availability of algorithms for creating a tag entry (practical stage).

To create a minimum set of tags in digitized archival clusters, Greene & Meissner's More Product, Less Process (MPLP) (Greene & Meissner, 2005) can be used as a basis. The use of such technology to create and process tags gives priority to the digitized archival collection as a whole over individual digitized archival documents. Introduction of MPLP technology in the context of minimal data processing in digitized archival clusters, from the physical process of digitizing a document to its organization and description within a single archival information retrieval database, which will provide the access to archival collections in both physical and digital format.

The interest in MPLP technology is that in the process of its use there is a maximum involvement of the user of the archive cluster to create an archive record in digital form. On the one hand, this will satisfy active stakeholders of archival clusters who want to be involved in updating the archival system in conditions of the availability of better digitized archival documents. On the

other hand, archivists will be free from writing tags to archival files, as this function will be transferred to stockholders. Note that archivists cannot completely refuse to write tags, as the minimum set of tags must be created by the archivist at the initial stage of attaching a digitized archival document to a single archival information retrieval database. But in the future, the prospect of abandoning the function of writing tags on archive staff is possible. In this case, the archival institution reduces the costs associated with the creation of digital archives, which will allocate additional human and financial resources for the digitization of archival clusters.

Digitized archival clusters can contain only minimal tags, or what S. Roosa (2015) and C. Davis (2015) called “minimum viable tags”, usually contained at the case or fund level. The MPLP version differs from current practice, which describes digitized archival material at the document or case level. For example, each letter in a traditionally digitized processed archive cluster contains unique descriptive tags. The MPLP version of the same archive cluster describes the case only as a collection of individual sheets on which duplicate tags are placed. Therefore, it repeats the experience of researchers in physical archives, given that we believe that there is a need for stakeholders to obtain more descriptions of the materials of the digitized archival cluster.

Thus, within such archival Internet communication, the archival institution may ask stakeholders to supplement the digitized archival cluster with tags after writing a digitized archival file by writing new tags that, in their opinion, reflect the essence of the archival case. This approach can solve the problem of narrow-profile description of digitized archival clusters.

However, tags without some degree of control can create too many unnecessary arrays, making access more difficult rather than easier. Although some researchers suggest that archivists simply approve / reject each tag, such a system requires too much control, but we think it is more effective than when writing tags is out of control. A computer algorithm can also be used to weed out or confirm the tags offered by stakeholders and add them to a single archival information retrieval database. For digital archival management, this will simplify human and financial risks, as it will relieve employees and allow to direct funds to the implementation of projects to digitize the archival sphere.

To start the archive search in digital format, six categories of tagging were identified (*Table 1*):

- copy the thematic tags of the archive object;
- archive object format;
- general characteristics of the archival object;
- specifics of the archival object;
- annotation to the archive object;
- context of the archive object;
- emotional coloring of the archive object.

Table 1. Tagging categories for digitized archival objects

| Category | Definition | Example |
|--|---|---|
| Copy thematic tags of an archive object | Duplicated object information already included in the digitized archive object tags | Defendant Shtengel, participated in counter-revolutionary actions, reorganization of schools, confirmatory universal, Revizhskaya tale, Zvenigorod district |
| Archive object format | The tag identifies, describes, or otherwise focuses on the format of the digitized archival document | Report, statistics, order, letter, photo, audio |
| General characteristics of the archival object | The tag identifies objects, places, people, events in archival documents with common names | Cossacks, patriot, protests, independence, execution, terror |
| Specifics of the archive object | A tag indicates objects, places, people, events, or dates in archival documents by their own names and provides more specific information | 1917, USSR, NEP, Central Council, Khmelnytsky region, early modern Ukraine, Zaporizhzhya Sich |
| Annotation to the archive object | The tag summarizes the contents of the archival document | National protests, revolutionary events, religious intolerance, the shot Renaissance |
| Archive object context | Tags decipher the contents of an archive object in a broader context, relative to global events | Theology, liberation, nationalism, race, religion, politics, revolution, war, independence, state formation |
| Emotional coloring of the archive object | The tag reflects the emotional reaction to the archive object | Hope, inspiration, shame, fear, injustice |

Source: own elaboration

Common access by archivists and stockholders to tags assigned to certain digitized materials can be of great benefit in general, as recipients will gain a deeper understanding of what archival materials contain and whether they need them. But we will emphasize that such use of tags can be realized only in the presence of clear controlling according to the order of approval of tags written by stockholder experts.

During the study, to confirm its results, a survey of two categories of respondents was conducted on the topic: “Do you need a single archival information retrieval database for digitized archival materials?”. The first group of

surveys were employees of archival institutions, the second group was stakeholders (scientists, ordinary citizens) who use the services of archival institutions.

The questionnaire of employees of archival institutions contained 3 questions to which it was necessary to give a short answer “Yes” or “No”:

1) do we need a single archival information retrieval database for digitized archival materials that will combine all digital copies of documents on one digital platform?

2) are you ready to participate in the formation of tags (keywords) for digitized archival materials?

3) do i need to create a separate computer algorithm to control the spelling of tags (keywords)?

A total of 10 respondents were interviewed. To the first question, 88% of respondents answered “Yes” and only 12% believe that the creation of a single archival information retrieval database for digitized archival materials is not necessary. 71% of respondents are ready to participate in writing tags for digitized archival materials. The vast majority of respondents (98%) believe that to control the writing of tags it is necessary to prescribe a separate computer algorithm (*Figure 1*).

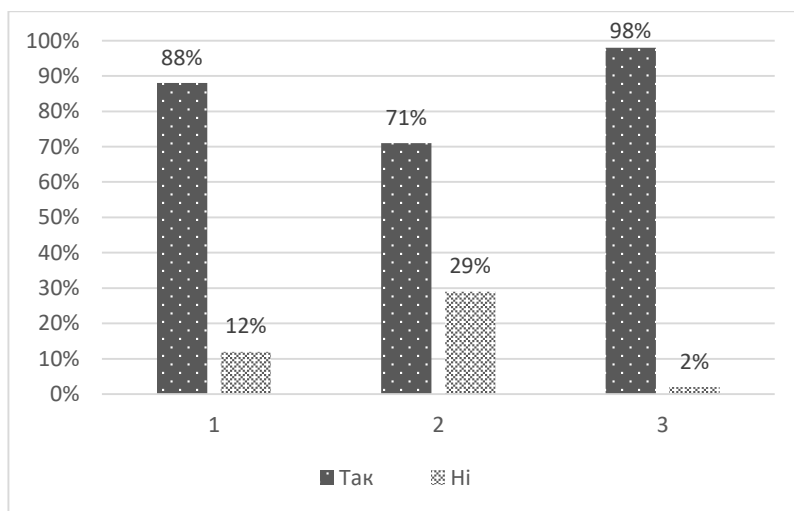


Figure 1. The results of employees poll for archival institutions “Do you need a single archival information retrieval database for digitized archival materials?”

(Numbers 1, 2, 3 indicate the question numbers in the questionnaire)

Source: own elaboration

The stakeholder questionnaire contained 3 questions, to which it was also necessary to give a short answer “Yes” or “No”:

1) do we need a single archival information retrieval database for digitized archival materials that will combine all digital copies of documents on one digital platform?

2) are you ready to participate in the formation of tags (keywords) for digitized archival materials?

3) would you like to perform an automated search in digitized archival materials by tags (keywords)?

The total number of respondents was 52 people who constantly cooperate with archival institutions and carry out search work in both physical archival documents and their digital copies. 100% of respondents answered “Yes” to the first question, as they are convinced that the availability of a single archival information retrieval database of digitized archival materials will simplify their search work. 93% of respondents are positive about the opportunity to participate in writing tags for digitized archival materials that they have processed. All respondents (100%) are ready to perform an automated search in digitized archival materials by tags, as they consider it a step into the future of heuristic science to search for information in archives (*Figure 2*).

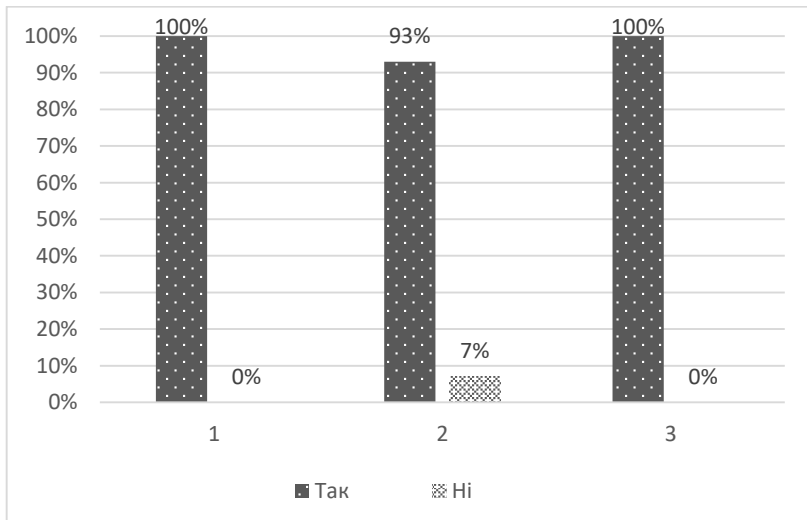


Figure 2. The results of a stakeholder poll “Do we need a single archival information retrieval database for digitized archival materials?”

(Numbers 1, 2, 3 indicate the question numbers in the questionnaire)

Source: own elaboration

Respondents were interviewed in January 2022 among employees of the two archives of the city of Kremenchuk and the departmental archive in the city of Poltava, as well as among scientists and ordinary citizens from different regions of Ukraine. It should be noted that the dynamics of the use of digital infrastructure in the field of archival management is positive, most respondents approve of such changes in the work of archival institutes in Ukraine.

4. Conclusions

The proposed project will help optimize the cost of material and financial resources, as well as temporary labor costs of specialists to perform their functions. The use of the latest paradigm of archival management, together with the implementation of digital infrastructure will improve the processes of the archival management system and modernize its basic mechanisms, taking into account modern challenges. With the help of this project, according to the new indicators, funds will be allocated from the state budget for the development of archival institutions; there will be a detailing of archival system work indicators; division of responsibilities; timely response to changes and deviations that occur.

1. Using of the latest digital technologies in the archival sphere will lead to the positive dynamics of the development of innovation management, which is so needed by the archival system of Ukraine at the present stage. As Ukraine seeks to evolve into a “digital state” in the context of public administration, state socio-cultural institutions, including archival institutions, should be supported by public policy in terms of implementing digital infrastructure in the archival industry. The introduction of digital technological processes involves the creation of a single archival information retrieval database, which will combine all digitized archival clusters into a single database, which will easily search and process archival information by all participants in this process. Such a systematic digital interaction of archives and stockholders will ensure the monetization of archival services through proper marketing. For example, low-uniqueness archival documents may be available on the digital platform free of charge, but access to digital copies of archival materials with high uniqueness or a private collection of documents will be provided on a fee basis. Archivists can also mix such “non-unique” and unique documents, as it is usually impossible to establish the correct relationships during heuristic work without unique documents.

2. The technological tools of the unified archival information retrieval database should be implemented on the basis of PLP, FTP, SSL, TLS protocols, which are designed to organize the smooth operation of the system in the process of transmitting information within the database, and protect archival data stored in the system. In general, a digital database should work on a combined system, using cloud server technology, which will provide the ability to work with large amounts of data.

3. Tagging should be based on MPLP technology, which provides a minimum description for archival digital collections. This golden minimum of descriptive tags will allow expert researchers to effectively create short but logically related thematic tags of archival files that they have processed. The control can be performed at the initial stage with the help of archivists, but in the future this function should be translated into a computer algorithm that can weed out unnecessary or redundant tags and add only new and correct tags to the system.

That's why the search for new forms of digital infrastructure management in the context of the archival system, understanding a new vision for the development of changes in the industry and their dynamic modeling and continuous improvement in real time would contribute to effective development and improvement of the archival system of Ukraine.

The scientific novelty is to set grounding to the theoretical basis in the field of digital infrastructure management through the prism of the archival system of Ukraine, which includes a set of methods of analysis, synthesis, and systematization to develop the creation and implementation of digital technologies in the archival industry.

The significance of the study is laying in outlining and proposing practical recommendations and conclusions that can be used to address current issues of digital infrastructure management through the prism of the archival sphere of Ukraine. The materials of the article can be used in the teaching of educational components in the specialty 029 Information, library, and archival studies.

Prospects for further research require further study of the design, implementation, and management of a single archival information retrieval database in terms of computer architecture and its definition as one of the main directions of development of the archival industry of Ukraine.

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