

Research on the Current Situation and Optimization of Archives Management in Public Institutions Under the Background of Digital Transformation

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Received: 4 September 2024; **Accepted:** 14 October 2024; **Published:** 10 December 2024

Abstract:

With the rapid development of various high-tech fields, such as computers, the processing, storage, transmission, and utilization of computer and network information have become integral to people's lives and work. The powerful role of archive management systems in the field of archives has become an essential component of information technology construction for governments and enterprises. Standardizing and digitizing case file information can significantly enhance the efficiency of processing case file information, enabling effective archiving and retrieval. This paper first discusses the components of digital archives and the necessity of digital transformation in archive management. It then systematically explores the issues currently facing digital archive management and proposes subsequent optimization measures and strategies aimed at improving the archive management level in public institutions, thereby meeting the new requirements for archive management in the era of the digital economy.

Keywords:

Digitization, Public Institutions, Archive Management, Optimization Measures

1. Introduction

With the arrival of the digital economy era, emerging information technologies such as big data and cloud computing have not only brought immense convenience to people's lives but also driven changes in work demands [1]. Digital archives transform traditional paper-based records into digital formats, allowing for management and utilization through network devices, thereby extending the functions of traditional archives. Digital archives store a vast array of information in various forms, with information storage and usage unrestricted by geographic location. In digital archives, one can collect, organize, verify, and store documents, which supports activities such as learning and using various services, as well as electronic commerce, information consulting, business training, and academic exchanges. They

can also manage, inspect, and disseminate diverse information, including multimedia and digitized content, facilitating information distribution on the Internet. Furthermore, digital archives offer effective retrieval solutions using multimedia databases for information, technology, image searches, video on demand, and literary data [2].

Digital archives represent a significant extension of information storage and retrieval, with digitization and networking constituting its fundamental characteristics. One prominent feature of digital archives is the ability to collect all forms of digitized information [3]. Various media carry critical documents, preserving a substantial amount of digital content while retaining an original “sample” of the documents. Digital libraries, networks, and the rapid distribution of archival and information ensure they meet diverse societal needs, positioning these archives as invisible “foundations” and “centers.” The main characteristics of digital archives include: digital documentation, large-scale storage, rational structuring, diversification, technological standardization, scientific management, business networking, and the socialization of information. In this context, the traditional personnel archive management model in public institutions can no longer meet modern work demands, necessitating a digital transformation of personnel archive management [4]. However, due to existing constraints, the progress of digitization in personnel archive management within public institutions has been slow, limiting the potential value derived from effective management. Therefore, public institutions should align with the trends of the digital economy era by actively embracing digital transformation to improve and upgrade their personnel archive management practices.

2. The Inevitability of Digital Transformation of Archives Management

2.1. Inherent requirements of the digital economy era

The inherent requirements of the digital economy era refer to the increasing demand for information acquisition, processing, storage, and management due to the continuous development and popularization of information technology. At the same time, digital technology provides more efficient, convenient, and secure methods to meet these demands. To satisfy these growing needs, various industries are actively promoting digital transformation, and public institutions cannot remain outside this trend [5].

In the management of personnel archives within public institutions, digital transformation can enhance management efficiency, reduce human resource costs, lower error rates, and improve data security. It also better protects employee privacy and complies with relevant laws and regulations such as personal information protection laws. Furthermore, digital transformation can enhance the scientific and refined nature of human resource management, providing more accurate and robust data support for human resource decision-making. Therefore, digital transformation has become an inherent requirement for the management of personnel archives in public institutions, contributing to improved management efficiency, cost reduction, enhanced data security, and a higher degree of refinement. This transformation helps public institutions adapt to the developmental trends of the digital economy, thereby improving their overall operational efficiency.

2.2. The need for development in archive management

Personnel archive management primarily consists of several components: first, the collection and organization of personnel archives; second, the maintenance of organized personnel archives, which mainly ensures the authenticity and completeness of the records; and third, the development and utilization of the organized and maintained personnel archives. As the content of personnel archives continues to expand, the costs and difficulties associated with managing traditional paper-based archives are increasing, necessitating a digital transformation to meet the needs of personnel archive management.

Digital transformation refers to the shift from traditional paper-based archive management to a digital management approach, utilizing digital technology to classify, store, retrieve, and manage personnel archives. This transformation can bring several benefits to institutions: first, it enables efficient acquisition, storage, retrieval, and management of personnel archive information, improving work efficiency and reducing processing time; second, it reduces the physical space occupied by paper archives and the human costs associated with their storage and retrieval, thereby lowering unnecessary management costs; third, it enhances the security and confidentiality of personnel archive information, preventing illegal disclosure, alteration, or destruction of records; fourth, it allows for automated, standardized, and systematic management of archive information, facilitating the maintenance and management of archives; fifth, it provides high-quality archive data, offering managers more accurate, timely, and complete information support, facilitating analysis, decision-making, and planning regarding personnel archives [6].

3. Existing Problem

3.1. Insufficient attention

Some public institutions focus primarily on their core operations, and both top leaders and management personnel at various levels do not give sufficient attention to archive management. Additionally, some leaders in these institutions have a weak awareness of digitization and outdated management concepts, failing to recognize the significant importance of introducing digital archive management. In such situations, either the digital management model is not initiated in a timely manner, or during the introduction of digital archive management, there is a lack of supporting personnel, funding, technology, and systems. This leads to frequent obstacles in digital management efforts, making it difficult to achieve desired outcomes and often resulting in the waste of human, financial, and material resources.

3.2. Process imperfection

The effectiveness of digital archive management largely depends on a well-established management standard. This standard should provide detailed requirements for various aspects such as archive collection, entry, management, and retrieval, serving as a crucial guarantee for the normalization and standardization of archive management. However, some public institutions have not developed such a set of management standards, leading to issues like non-compliance, delays, and inadequacies in subsequent work. For instance, the information in the archive directory stored in the computer system may not match the actual situation, or the processes for retrieving and borrowing archives may not be standardized. The presence of these issues results in low effectiveness in the digital archive management of public institutions, making it difficult to meet actual demands.

3.3. Limited of digital technology

Currently, some public institutions have introduced digital archive management models. However, in practice, various defects and issues often arise in the application of digital technology. For example, different institutions have varying needs for digital archive management. Nevertheless, some institutions, before building their digital archive management platforms, have not thoroughly assessed their actual situation and, without understanding their own digital archive management requirements, directly adopted successful experiences from other organizations. As a result, the newly established digital archive management platforms have revealed unreasonable and impractical aspects after being put into use. Additionally, some institutions have purchased archive management software that does not meet their needs, leading to low utilization rates, while some archive management systems face information security vulnerabilities. These technical issues not only limit the improvement of archive management standards but also significantly hinder the development processes of public institutions.

3.4. Lack of specialized talent

Digital archive management requires a high level of professionalism and competence from staff. However, many public institutions, when adopting digital archive management models, choose to collaborate with archive storage companies. This means that institutions only need to provide management or communication personnel to supervise and guide the quality of services provided by the storage companies. In such cases, problems often arise, such as inadequate, delayed, or superficial supervision, leading to low management quality and efficiency, and even posing risks to the security of archive information. Furthermore, some public institutions do not recognize the importance of archive management work and assign personnel from other roles to double as digital archive managers, or they set low entry requirements when hiring archive management personnel, which leads to issues such as untimely data entry, inadequate management, and procrastination. In summary, many public institutions currently face a serious shortage of high-level, skilled, and innovative talent, which significantly obstructs the smooth implementation of digital archive management work.

4. Optimization Strategy

4.1. Increase attention

In the context of the information age, the main managers of public institutions must fully recognize the significant value of information. This is especially true for archival information, which carries not only explicit value but also considerable implicit and potential value. If the latent value of archival information can be efficiently developed and utilized through digital technologies, it can play a substantial operational role. For instance, by using data query tools to extract valuable lessons from past archival materials, such as unsuccessful experiences or important successes, managers can apply these insights to critical areas like proactive management of important tasks, emergency response to unexpected events, and optimization of reform plans. This can assist decision-makers in making sound choices, mitigating various risks, and enabling public institutions to achieve faster and better development. Therefore, from the management team of public institutions to the archives department, there must be a comprehensive enhancement of the emphasis placed on digital archive management.

Grounded in the “13th Five-Year Plan”, efforts should be made to promote the efficient and orderly advancement of digital archive management within public institutions [7].

4.2. Improve the process

In the processes of digital collection, classification, summarization, and consolidation of archival information, public institutions should formulate practical implementation plans and management strategies. Among these, digital collection is a key element of digital archive management, where modern digital equipment and technologies can be utilized to efficiently carry out the scanning, inputting, and storage of archives. Simultaneously, employing databases and data mining technologies to organize and analyze archival information can make archive management more scientific and convenient. In terms of archive access, public institutions should establish strict systems to ensure the security of archival information. Access permissions should be differentiated according to the needs of various management departments and personnel, with standardized approval processes to guarantee that the retrieval and use of archival information comply with relevant laws and regulations, as well as the organization’s management requirements. Furthermore, institutions should strengthen oversight and management during the archive review process by establishing record-keeping and audit mechanisms to prevent alteration or leakage of archival information. In digital archive management, public institutions should create effective accountability and responsibility systems, ensuring that accountability is assigned to individuals. This can stimulate the enthusiasm and sense of responsibility among archival personnel, thus facilitating the smooth progression of digital archive management.

4.3. Update hardware

To advance the digital archive management process and improve efficiency, public institutions should actively invest in advanced hardware and allocate funds to enhance their foundational environments and management conditions. First, institutions must recognize the significance of hardware in digital archive management: hardware is fundamental to the operation of digital archive management systems and ensures the smooth progress of related tasks. Therefore, institutions should choose advanced equipment, such as high-speed servers and large-capacity storage devices, while also seeking specialized funding to meet digital archive management needs. Second, once advanced hardware is in use, data should be downloaded immediately, with regular backups conducted via cloud storage or similar methods. Additionally, it is essential to frequently conduct hardware maintenance and debugging, as well as to pay adequate attention to computer systems and archive management systems, since digital archive management has specific requirements for data uploading, storage, and retrieval. Thus, system security and stability must be ensured. Third, public institutions need to place hardware strategically, prioritizing safety by positioning equipment away from flammable materials and ensuring it is not located in poorly ventilated areas. For archive management rooms, institutions should equip them with fire protection, theft prevention, and pest control measures to safeguard archival materials, and designate specific personnel for regular cleaning tasks such as dusting and wiping. Fourth, institutions should engage professional organizations to conduct regular assessments of the archive management system and facilities, identifying and addressing potential security risks promptly.

4.4. Strengthening personnel training

To meet the demands of the new era and enhance the efficiency and quality of archive management, public institutions must intensify efforts in talent development. For current archival personnel, institutions should provide ongoing education to impart advanced archive management knowledge, facilitating their growth and keeping them up to date. Training should include requirements and standards relevant to digital archive management, aiding personnel in mastering the latest technologies and methods. Each employee possesses unique strengths, leading to diverse development paths. Therefore, institutions should focus on personalizing training content and methods to genuinely enhance the capabilities of archival staff. In addition to professional skills, there should be an emphasis on training personnel in operating hardware, as digital archive management relies heavily on advanced technologies and software systems. Institutions must offer relevant training and practical opportunities to help archival staff effectively utilize all necessary tools and management systems. Moreover, institutions can hire outstanding computer professionals as file managers, providing them with business training before their official start. When conditions allow, institutions can directly recruit versatile and highly skilled archival managers who possess both IT skills and archival knowledge, ensuring they understand the complete archive management workflow and assist in advancing digital archive management. Furthermore, through the establishment of regulations and systems, institutions can improve both the skill level and welfare of archival staff by creating detailed training plans and evaluation systems that support ongoing professional development; optimizing promotion paths, and instituting reward and punishment mechanisms to incorporate business capabilities and overall qualifications into the evaluation framework, thus providing a high-quality and capable human resource foundation for digital archive management.

4.5. Simultaneous office automation and archives management digitization

The development of digital technology has prompted various organizations to adopt digital archive management systems and office automation systems to enhance work efficiency and information sharing. To address the compatibility issues between these two systems, organizations need to implement the following measures to optimize digital archive management and achieve seamless integration between the office automation system and the archive management system. First, a unified data format and interface standards should be established to ensure smooth data transmission and information sharing. Common file formats such as PDF and XML can be used to facilitate the connection with office automation systems. It is essential to clarify interface standards, including data transmission methods and field mapping relationships, to ensure that the two systems can exchange data smoothly. Second, middleware or specialized integration platforms should be introduced to convert data and simplify the integration process. By adopting a uniform data exchange format, the data from the office automation system can be converted into the format required by the archive management system, allowing for synchronized data transfer. If accessible interfaces are not available, organizations may consider commissioning specialized software development companies to create custom solutions. When selecting a software development firm, organizations should evaluate their experience and expertise, and ensure thorough communication and negotiation to guarantee that the interface can be developed according to the organization's actual needs, achieving seamless integration between the office automation system and archive management.

system.

5. Conclusions

In summary, digital archive management meets the requirements of public service organizations, enhances the efficiency of archive management work, and promotes the development of these organizations. However, the current state of digital archive management in organizations is concerning, facing challenges such as a lack of advanced archive management equipment, incompatibility between office automation systems and archive management systems, a shortage of high-quality professional technical talent, and insufficiently scientific and reasonable management standards. There is an urgent need for organizations to update their archive management hardware, achieve seamless integration between office automation systems and archive management systems, increase efforts in talent development, establish a scientific and reasonable digital archive management system, and protect digital management information security. It is hoped that the implementation of the above strategies will promote the advancement of digital archive management in organizations, thereby enhancing their operational efficiency and management standards.

Conflicts of Interest

The author declare that there is no conflict of interest regarding the publication of this article.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

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