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Analysis of Archives Management of Infrastructure Projects in Scientific Research Institutions under the New Situation

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Abstract: Focusing on the archives management of infrastructure projects in scientific research institutions under the new situation, this paper conducts an in-depth analysis from two aspects: work objectives and work methods. In terms of work objectives, four goals are proposed, including improving the standardization level, strengthening information construction, ensuring security, and enhancing service efficiency. In terms of work methods, five specific practices are elaborated, such as establishing management systems, promoting information construction, intensifying personnel training, implementing quality control, and strengthening safety protection. This paper aims to provide theoretical guidance and practical reference for the archives management of infrastructure projects in scientific research institutions, so as to facilitate the efficient development of scientific research projects.

Keywords: Scientific research institutions; Infrastructure projects; Archives management; Information construction

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1. Introduction

With the increasing complexity and scale of scientific research projects, the archives management of infrastructure projects in scientific research institutions is facing new challenges and opportunities. As an important part of scientific research project management, the standardization, informatization, and security of archives management are directly related to the smooth progress of scientific research projects and the transformation of results. However, at present, many scientific research institutions still have problems in the archives management of infrastructure projects, such as imperfect systems, low informatization level, and uneven quality of personnel. Therefore, based on the actual needs under the new situation, this paper systematically analyzes the objectives and methods of archives management of infrastructure projects in scientific research institutions, aiming to provide feasible management strategies for scientific research institutions and promote the efficient development of archives management work [1–2].

2. Work objectives for the archive management of infrastructure projects in scientific research institutions in line with the requirements of the new situation

2.1. Enhancing the standardization and normalization of archive management

In response to new opportunities presented by the changing situation, scientific research institutions must further improve the standardization and normalization of archive management for infrastructure projects. As scientific research projects grow in complexity and scale, the importance of standardized archive management has become crucial. By formulating unified standards and processes for archive management, institutions can ensure that the collection, organization, filing, and utilization of various infrastructure project archives are carried out in accordance with regulations. Adopting standardized archive management can improve work efficiency and effectively prevent issues such as archive loss, damage, or incomplete information. Standardized management promotes interconnection and interoperability of archive information, facilitating information sharing and collaboration within the institution and across departments. The introduction of advanced information management systems further guides archive management toward standardization, ensuring the accuracy, completeness, and integrity of archive data, thereby providing strong support for the smooth progress of scientific research projects [3].

2.2. Strengthening informationization and digitalization of archive management

With the rapid development of information technology, scientific research institutions urgently need to strengthen the informationization and digitalization of archive management for infrastructure projects. Traditional paper-based archive management can no longer meet the goal of efficient utilization of archive information in modern scientific research projects. By introducing electronic archive management systems, institutions can realize digital storage, retrieval, and sharing of archives, significantly improving the efficiency and convenience of archive management [4]. Informationization can also leverage technologies such as big data and cloud computing to achieve in-depth analysis and mining of archive data, adding strong support for scientific research decision-making. Digital archive management can effectively reduce storage costs, extend the retention period of archives, and ensure the security and traceability of archive information. Through informationization and digitalization, scientific research institutions can better address the challenges of archive management in the new situation [5].

2.3. Ensuring the security and confidentiality of archive management

Infrastructure project archives in scientific research institutions often contain a large amount of sensitive information and confidential data. Therefore, ensuring the security and confidentiality of archive management is one of the important objectives. In the new situation, archive management work must adopt stricter security measures to prevent information leakage, tampering, or loss. By establishing a comprehensive archive security management system, including measures such as access control, encrypted storage, and backup recovery, institutions can ensure the security and integrity of archive data [6]. Strengthening training on security awareness for archive management personnel to enhance their confidentiality awareness and risk resistance capabilities is also crucial. For archives involving state secrets or scientific research secrets, strict compliance with relevant laws and regulations is necessary to ensure that archive management work meets national security and confidentiality requirements. Comprehensive security precautions are adopted to safeguard the security and confidentiality of infrastructure project archives in scientific research institutions [7].

2.4. Improving the service efficiency and utilization value of archive management

The ultimate goal of archive management for infrastructure projects in scientific research institutions is to improve

the service efficiency and utilization value of archives, providing solid support for the normal operation of scientific research projects. By optimizing archive management processes, institutions can enhance the efficiency of archive retrieval and the convenience of utilization, ensuring that researchers can quickly access the required archive information. Archive management work should focus on in-depth excavation and utilization of archives, using data analysis and mining to provide valuable references for scientific research decision-making. It should also promote collaboration with other links in scientific research projects to ensure that archive information supports all stages of the project in a timely and accurate manner. By improving service efficiency and utilization value, scientific research institutions can further leverage the supporting role of archives in scientific research projects, driving the efficient implementation of research work [8].

3. Approaches to archive management of infrastructure projects in scientific research institutions in the new situation

3.1. Establishing a sound archive management system and process

The archive management of infrastructure projects in scientific research institutions should start with forming a sound archive management system and process to ensure that the archive management work is carried out in accordance with regulations and can be traced. Detailed archive management specifications should be formulated to clarify the operational requirements for each link of archives from classification to destruction (numbering, filing, storage, and borrowing). For different types of infrastructure project archives, such as archives of scientific research laboratory construction, equipment procurement archives, and project acceptance archives, differentiated management processes should be established to clarify their management key points and operational sequences, respectively [9]. Implement an archive management responsibility system, define the work scope of archive management personnel, ensure that each link is handled by a dedicated person, and regularly revise and improve the archive management system. According to the actual situation and the latest policies and guidelines, dynamically adjust the management process to make the system scientific and operable. By establishing a sound archive management method and process, a solid institutional foundation can be built for the archive management of infrastructure projects in scientific research institutions [10]. In the implementation process, it is also necessary to establish an archive management supervision mechanism, conduct regular inspections and evaluations of archive management work to ensure the effective implementation of various systems and processes. For any problems found, rectification and optimization should be carried out immediately to promote the steady improvement of archive management work. Through the implementation of institutionalized and process-oriented management, scientific research institutions can effectively enhance the standardization and efficiency of infrastructure project archive management, providing strong support for the orderly development of scientific research projects.

3.2. Promoting the construction of information systems for archive management

Scientific research institutions should rapidly promote the construction of information systems for the archive management of infrastructure projects to realize digital management and efficient utilization of archives. A professional electronic archive management system should be adopted to enable the entry, storage, retrieval, and sharing of archives through electronic means. During the system construction, emphasis should be placed on interconnecting with the existing information platforms of scientific research institutions (such as scientific research project management platforms and financial management systems) to achieve data interconnection. A mobile APP can be developed to facilitate researchers to access archive information anytime and anywhere. In

the process of archive digitization, high-precision scanning equipment should be used to convert paper archives into digital form, and a strict archive data verification framework should be established to maintain the accuracy and integrity of digital archives. Regular maintenance and upgrading of the information system should be carried out to ensure its stability and security. Through the construction of the information system, the efficiency and convenience of archive management can be greatly improved. In the process of promoting the construction of the information system, attention should also be paid to user experience. The system operation process and interface should be optimized to ensure that archive management personnel and researchers can quickly get started with the system. A training system for the information system should be established, and regular system operation training should be conducted to guide relevant personnel to master the system operation mode proficiently. By means of information system construction, scientific research institutions can realize intelligent and efficient archive management, providing strong support for the orderly development of scientific research projects [11].

3.3. Strengthen professional training for archives management personnel

For the archives management of infrastructure projects in scientific research institutions, it is necessary to further strengthen professional training for archives management personnel to improve their professional competence and management skills. Archives management personnel should be regularly organized to participate in professional training courses to master the latest theories, technologies, and methods in archives management, especially knowledge related to the informatization and digitalization of archives management. Experts in the field of archives management should be invited to give special lectures, sharing advanced management experiences and practical cases. Support should be provided for archives management personnel to participate in industry exchange activities to learn about outstanding practices in archives management from other scientific research institutions. Internal training regulations should be formulated, and experienced archives management personnel should implement a “mentorship” system for new recruits to help them quickly master practical archives management skills. Through intensive professional training, a high-quality archives management team should be built to provide talent guarantee for the archives management of infrastructure projects in scientific research institutions. During the training process, emphasis must also be placed on cultivating practical operational capabilities. By means of simulating archives management scenarios and conducting practical operation drills, archives management personnel can be helped to fully master various operational skills. A training effect evaluation mechanism should be established to assess the training effect at regular intervals. Based on the evaluation results, the training content and methods should be adjusted to ensure the training is targeted and effective. Through continuous professional training, scientific research institutions can continuously improve the professional level of archives management personnel, providing a reliable backing for the efficient implementation of archives management work.

3.4. Implement whole-process quality control in archives management

The archives management of infrastructure projects in scientific research institutions should implement full-cycle quality control to ensure that all links of archives management comply with standardized requirements. In the stage of archives collection, a detailed collection list should be formulated to clarify the collection scope and standard boundaries of various archives, so as to ensure the completeness and accuracy of archives. In the stage of archives arrangement, unified classification and numbering rules should be adopted to ensure the orderliness and retrievability of archives. In the stage of archives filing, strict review methods should be used to check the content, format, and completeness of archives to ensure the quality of filed archives. In the stage of archives preservation,

regular inspections and maintenance of archives should be carried out to prevent damage or loss of archives. In the stage of archives utilization, an archives borrowing registration system should be implemented to record the relevant information of archives borrowing and the utilization effect. Through the implementation of whole-process quality control, the efficient and standardized state of archives management work can be maintained. In carrying out quality control work, an archives management evaluation method should be established to evaluate the archives management work at regular intervals, identify and resolve existing contradictions, and establish an archives management feedback channel to obtain opinions and suggestions from researchers on archives management work, and promptly implement improvements and optimizations. Through the whole-process quality control approach, scientific research institutions can ensure that the archives management of infrastructure projects maintains a high level of efficiency and standardization, providing strong support for the orderly development of scientific research projects [12].

3.5. Strengthen safety protection measures for archives management

The archives management of infrastructure projects in scientific research institutions must supplement safety protection measures to ensure the security and confidentiality of archive information. In terms of physical safety, a dedicated archives storage space should be designated, and facilities for fire prevention, moisture proofing, and theft prevention should be prepared to maintain the physical safety of archives. In terms of data security, encryption technology should be used to encrypt and store electronic archives to prevent data from being leaked or tampered with. An archive data backup mechanism should be adopted to back up archive data regularly, ensuring that the data is both safe and recoverable. From the perspective of permission management, a strict system for restricting access to archives should be established to ensure that only authorized personnel have access to relevant archive information. Regular security inspections and risk assessments should be carried out to promptly detect and eliminate potential risks. By strengthening safety protection measures, the security and confidentiality level of infrastructure project archives in scientific research institutions can be stabilized. In the process of carrying out safety protection work, an archives safety emergency plan should also be formulated to determine the handling procedures and responsible persons for archives safety incidents, ensuring that safety incidents can be dealt with promptly and effectively when they occur. Training on safety awareness for archives management personnel should be strengthened to enhance their safety awareness and emergency response capabilities. With comprehensive safety protection measures, scientific research institutions can effectively ensure the security and confidentiality of infrastructure project archives, providing strong support for the orderly development of scientific research projects [13].

3.6. Optimizing the service model and utilization mechanism of archives management

The archives management of infrastructure projects in scientific research institutions must optimize the service model and utilization mechanism, fully explore the value connotation of archives, provide efficient guarantees for scientific research projects, establish a rapid feedback mechanism for archives utilization, simplify the procedures for archives borrowing and inquiry, so that researchers can obtain the required archives information in a timely manner. With the appointment function set in the information system, researchers can make advanced appointments for archives to shorten the waiting time. Implementing the initiative service plan for archives, archivists should actively provide relevant archives information support according to the needs of scientific research projects. In the project approval stage of scientific research projects, archivists can sort out and provide

archives of similar projects first, so as to provide a reference for project planning. A comprehensive feedback mechanism for archives utilization should be built to collect opinions and suggestions from researchers on archives services and improve service approaches in a timely manner. Regular satisfaction surveys on archives utilization should be conducted to find out the actual needs of researchers, standardize service contents, and promote in-depth excavation and utilization of archives. By analyzing and mining archive data, valuable information can be extracted to provide support for scientific research decision-making. Big data technology can be used to analyze historical infrastructure project archives, summarize the experience and lessons of project management, and provide a reference for current projects [14].

4. Conclusion

The archives management of infrastructure projects in scientific research institutions is an important part of scientific research project management. Its standardization, informatization, and security directly affect the smooth implementation of scientific research projects and the transformation of results. By analyzing the objectives and methods of archives management under the new situation, this paper puts forward specific measures such as establishing and improving systems, promoting informatization construction, strengthening personnel training, implementing quality control, and enhancing safety protection [15]. These measures have strong operability and practical significance, and can provide strong support for the archives management of infrastructure projects in scientific research institutions. In the future, scientific research institutions should further combine their own reality, continuously optimize the archives management model, improve the level of archives management, and provide a solid guarantee for the efficient development and innovative development of scientific research projects.

Disclosure statement

The author declares no conflict of interest.

References

[1] Liu W, 2023, Analysis on the Archive Management of Basic Construction Projects in Research Institutes. Lantai World, 2023(6): 103–105.

[2] Jia XC, 2022, Analysis on Approaches to Archives Management Work of Public Institutions under the New Situation. Urban Intelligence, 2022(12): 74–76.

[3] Liu MT, Chen JY, Liu SB, et al., 2024, Current Situation and Countermeasures of Scientific Research Archives Management in Agricultural Research Institutions. Agricultural Development and Equipment, 2024(6): 119–121.

[4] Zeng Y, 2024, Discussion on Archives Management Work of Construction Projects under the New Situation. Office Operations, 2024(5): 108–110.

[5] Su Y, Wang H, Zhou FY, et al., 2021, A Brief Discussion on the Problems and Solutions in the Management of Scientific Research Archives. Science and Technology Innovation Guide, 18(15):142–144.

[6] Yao QQ, Yan LL, 2022, A Preliminary Study on the Scientific Management of Infrastructure Archives in Agricultural Research Institutions. China Science and Technology Review, 2022(5): 110–112.

[7] Liu Q, Hou ZY, 2021, Strategy Analysis of Information-based Management of Archives in Scientific Research Institutions. Heilongjiang Human Resources and Social Security, 2021(16): 109–111.

[8] Kuai ZZ, 2024, Analysis on Innovation Strategies of Engineering Archives Informatization Management under the New Situation. Inside and Outside Lantai, 2024(27): 57–59.

[9] Yang JY, 2020, Analysis on Paths of Archives Informatization Construction in Research Institutions in the New Era. File, 2020(2): 116.

[10] Fu JQ, 2024, Analysis on Project Archives Management Strategies in Public Institutions. Chinese Science and Technology Journal Database (Abstract Edition) Social Sciences, 2024(4): 52–55.

[11] Wang Z, 2024, Precise Management Countermeasures of Scientific Research Archives in Agricultural Research Institutions under the New Situation. Office Operations, 2024(8): 73–75.

[12] Jiang J, Shen CC, 2020, Analysis on Problems and Countermeasures in Infrastructure Archives Management of Research Institutions. Lantai World, 2020(S1): 16–17.

[13] Han J, Liu YC, 2020, Some Thoughts on Archives Management of Infrastructure Projects in Research Institutions — A Case Study of "National Earthquake Intensity Rapid Reporting and Early Warning Project — Xinjiang Sub-project". Urban Construction Archives, 2020(5): 65–66.

[14] Yin R, Li LJ, 2020, Current Situation of Archives Management in Grassroots Research Institutions and Some Exploration on Development. Friends of Humanities, 2020(24): 98–99.

[15] Yang PJ, 2022, Problems and Countermeasures in Scientific Research Project Archives Management. Heilongjiang Human Resources and Social Security, 2022(11): 79–81.