

Privacy and Security of Internet of Things Data in Financial File Management

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ABSTRACT

With the advent of the information society, the new technological revolution represented by the development and application of modern information technology is bound to accelerate the process of enterprise informatization in our country. As the basic work of enterprise management, financial archives management, with the help of modern equipment and means, uses electronic computer to process and store, and forms electronic financial archives, whose information transmission speed is faster. The efficiency of archives management and utilization is getting higher and higher. It is the only way to improve the level of archives management and service to speed up the construction of archives informatization and conform to the development of the times and society.

Keywords: Information management; Financial records; File management

1 INTRODUCTION

With the development of energy, the progress of society, the continuous improvement of science and technology and information technology, as well as the increasingly prominent global resources and environmental problems, the development of information management system, information management system has experienced from simple to complex, from single machine to network, from single function to function integration, from the computer used in the management field since the mid-1950s. The evolution from tradition to modern. According to the time sequence and characteristics of the development of MIS, the development of MIS can be roughly divided into three stages: electronic data processing system (EDPS), management information system (MIS) and decision support system (DSS). EDPS is a computer system that uses computer processing instead of human operation. It is characterized by operation layer oriented, single application oriented, data resources can not be shared, and batch processing oriented[1]. EDPS is less involved in management issues, it is the primary stage of the development of management information system. The characteristics of MIS: it can centralize a large amount of data and information in the organization, process them quickly and use them in a unified way. Having a central database and computer network system is an important symbol of MIS. The processing mode of MIS is distributed processing based on database and network. The quantitative scientific management method is used to support decision-making by means of prediction, plan optimization, management, regulation and control. MIS is developed from EDPS. Compared with EDPS, MIS emphasizes the sys

tematicness and comprehensiveness of information processing. In addition to the high efficiency of transaction processing, it also emphasizes the systematicness and comprehensiveness of interest adjustment processing. In addition to the high efficiency of transaction processing, it also emphasizes the support for the management activities of various departments within the organization and among various departments[2]. Early MIS is an information system for middle management control, which is mainly used to solve structural problems. As an independent system, DSS does not have the function of management control, but as an important part of management information system, it makes MIS have the ability to combine the database processing with the optimization calculation of economic management mathematical model to solve more complex management decision-making problems for managers. Although it is not management information system, it makes the development of management information system more perfect. It combines with the early MIS and becomes the advanced stage of MIS development[3].

2 RELATED WORK

2.1 Overview of financial records management informatization

(1) The meaning of financial archives management informatization

Financial archives informatization refers to the use of modern information technology for the scientific collection, development, utilization and storage of financial archives information resources in Colleges and universities,

so as to make it a complete computerized and paperless archives with large scientific and technological content, convenient storage and rapid access. The construction of financial archives informatization will be a process of transforming from a simulation (paper object) to information digitization. It is the revolution of traditional financial paper archives. The informatization construction of financial archives is a systematic and complex process[4]. To plan as a whole, unify standards, construct a series of operation processes of security and confidentiality at different levels, as shown in Figure 1, we must strengthen the standardized management of the database of collection, filing and storage, and form the "three modernizations", that is, the digitization of archival information, the integration of archival information receiving, transmission, storage and utilization, The networking of archives information and the informatization of financial archives can provide the public with archives inquiry service on the Internet (except for the confidential ones), which can meet the requirements of improving the management and service level of financial archives [5].

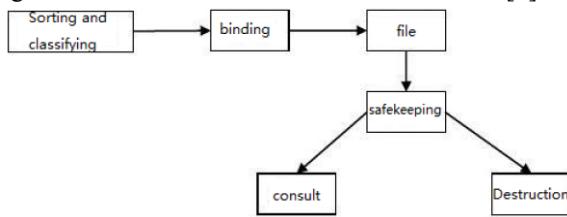


Fig. 1. Regulations on the management of financial archives

(2) The information of financial files in Colleges and universities is the requirement of the development of the times

Financial archives are a "element" in the national archives system, and a "cell" in the social information system. According to the "11th Five Year Plan" for the development of national archives, the archives departments are required to actively build the information of archives work. As an important part of the capital construction project management, financial management can effectively promote the financial organization to participate in the project management in all-round way, and achieve the goal of saving construction investment[6]. From this point of view, the more perfect and perfect the financial management work is. And influenced by the adjustment and development of national macro policies, financial management needs to further improve the scientific and refined level of budget management. However, under the macro background of the overall financial system reform, the financial management level is constantly improving, and the difficulty and intensity of financial work are increasing year by year. Therefore, with the development

of the scope of financial work and the improvement of management requirements, it is urgent to improve the management methods and efficiency of financial archives. The construction of electronic financial archives and the realization of network management of financial archives are not only suitable for the needs of modern management, but also the inevitable choice for the management of financial archives.

2.2 *The necessity of informatization of financial archives management*

With the expansion of the scope of financial work and the improvement of management requirements, there is an urgent need to improve the means of financial file management and improve management efficiency. The construction of electronic financial archives and the realization of network management of financial archives are necessary to meet the needs of modern management and to do a good job in the management of financial archives

(1) New features of modern financial archives

With the continuous development of national financial and economic work, financial regulations and standards change more and more frequently, and even the funding standards of some subjects are adjusted several times a year, and various indicators and standards are changing every year; All kinds of accounting books, statements and final accounts have different contents every year, and they are required to reflect not only the fund activities of the current year, but also the fund activities of the previous year, the next year or the next millennium: the division of various standards is more and more detailed, the projects are more and more complex, and the amount of information collection is increasing, which increases the difficulty of financial file management[7]. In order to solve this kind of problem, every industry has compiled annual financial documents, but these materials are often lack of comprehensiveness, continuity and timeliness, some standards are soon out of date and can not be updated in time, the cycle of reorganizing and publishing is long, the plan can not catch up with the changes, and a lot of manpower and financial resources are consumed, so many problems are still difficult to solve thoroughly.

(2) The advantages of information financial archives

Compared with the traditional manual financial file, the informatization financial file shows its superiority. First of all, the financial files are transformed into electronic information, that is, the financial files in electronic media can be stored in disks, CDs and mobile devices. In this virtual data mode, various bills, vouchers, account books, statements and other financial data are more convenient and flexible to carry, transmit and use. Compared with the traditional financial archives, the electronic financial archives have incomparable advantages, which can better

adapt to the development needs of high data volume of financial archives. Specifically: electronic financial archives are easy to modify, copy and reset, easy to correct, carry and transfer; electronic financial archives have various storage forms, which can be stored in floppy disk, hard disk, CD-ROM, or printed out to paper materials. In addition, with the development of information science, there are a lot of software for data statistical analysis. The data stored in an information way is easy to calculate and analyze, and can easily and quickly obtain the required results. Moreover, after the informatization of financial archives, it can also meet the needs of file information resource sharing and paperless access through computer operation and network communication. This not only saves office costs, avoids the wear and tear caused by frequent reading of original files, but also benefits professional management, facilitates the unified integration of file resources, and greatly improves work efficiency and work quality.

3 DATA ANALYSIS

3.1 *Methods to improve the quality and efficiency of archives management*

(1) Strengthen infrastructure construction and improve the quality of office archives management. In order to improve the quality of office archives management, the state and relevant units must pay attention to the management of office archives, improve the construction of office infrastructure and improve the work efficiency of office archives managers. In addition, the office archives management shall have a special independent storage room to ensure the safety of office archives and relevant personnel by means of installing moisture-proof equipment, improving the construction of supervision system and strengthening fire prevention measures. In addition, the archives room shall also be equipped with dehumidification, air conditioning, anti-theft alarm, disinfection equipment, computer and other equipment.

(2) Strengthen the construction of archives management talent team and improve the level of office archives management. Relevant enterprises should correctly understand the importance of office archives management to enterprise development, formulate the assessment system of archives management and recruit talents to realize the standardized management of office archives. In addition, the archives management personnel shall pay attention to the division of labor, so as to avoid confusion of data and untimely update of data, which will affect the normal progress of other work. Therefore, strengthening the construction of archives management talent team is the basic

condition for the completion of archives management with quality and quantity.

(3) Pay attention to archives management and improve the professional quality of archives managers. Management is a science. Relevant personnel must have certain professional quality in order to make the archives management work smoothly. Archives management has high requirements for office archives management staff because of its three natures of management, service and politics. In order to meet the requirements of archives management, firstly, archives managers must improve their management awareness, fully understand the relevant systems of archives management and strictly abide by them. Secondly, the archives management personnel must clarify their responsibilities and complete the archives management work in time according to the work flow[8]. Finally, relevant units should strengthen the quality education of archives management personnel, improve their safety awareness and clarify their management responsibilities, so as to ensure that archives management can be carried out safely and effectively, so as to avoid the loss of archives in the process of archives management.

(4) Improve the efficiency of archives management with the help of modern archives management software. With the continuous development of modern electronic technology, the current archives management is no longer just paper management. With the help of various archives management software, it not only improves the speed of relevant personnel querying materials, but also further strengthens the security of archives. In order to solve the problem of large workload of archives management, relevant units can continuously improve the office archives management system based on the existing computer software, and give full play to the advantages of accurate computer statistics and complete preservation, so as to improve the efficiency of archives management.

(5) Standardize the management of office archives and improve the quality of archives management. In order to meet the needs of office file users, in the process of office file management, its managers should manage in strict accordance with the refined file management process. At the same time, in order to avoid data loss, data confusion and other problems, archives management staff must carefully record the sorting, preservation and borrowing of archives, so as to promote the effective implementation of archives management.

3.2 *Design of computer file management system*

Design and implementation of archives management. The system is used for remote description, sorting and handover of archives. The archiving department can sort

out the archived documents of the Department independently or together with the archives management department through the main interface of Web description operation at any time; Access the archives database through the Internet to realize the web query of archives related contents. Users can download the required archives at any time according to their needs. Its operation algorithm is as follows:

$$(1) \quad \begin{cases} E(t)\dot{x}_k(t) = f(t, x_k(t)) + B(t)u_k(t) + d_k(t) \\ y_k(t) = C(t)x_k(t) \end{cases}$$

$$(2) \quad \begin{cases} E(t)\dot{x}_d(t) = f(t, x_d(t)) + B(t)u_d(t) + d_d(t) \\ y_d(t) = C(t)x_d(t) \end{cases}$$

Users can complete the query and browsing of archives at any time on the network. Web query includes the query of ordinary visitors and registered members. Ordinary users can input the qualified data of the archives into the search for query and retrieval. Of course, they can also conduct high-level query according to keywords, and save or print the query results. The system flow is shown in Figure 2.

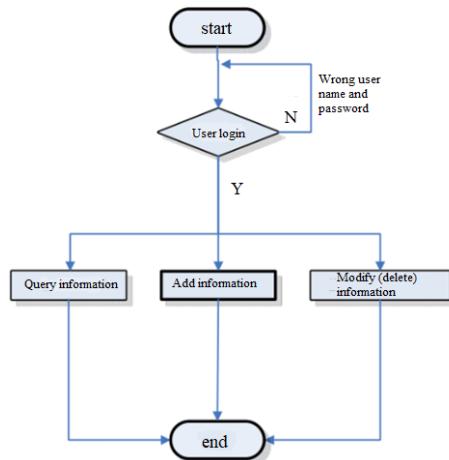


Fig. 2. System flow

According to the design requirements of the file management system, the senior management implements the collection and entry of file information into the system. After entering the information, the senior management user can further modify, delete and query the entered information, and set the management user at the same time. The flow chart of senior management user's entry and deletion of employee basic information is shown in Figure 3 below.

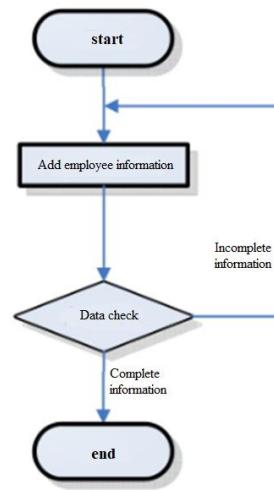


Fig. 3. File information entry process

4 EXAMPLE ANALYSIS

4.1 Information construction and application service of financial archives

In the construction of financial informatization, units and enterprises should establish a professional informatization archives catalogue database, and gradually realize the full-text retrieval of electronic archives. The directory data of informatization archives can be divided into two levels: file level and file level. For management financial archives, we should focus on establishing file level directory database, while for daily application financial information archives, sometimes file level directory may be more convenient to use. For digital financial archives and electronic documents archived by various information systems, the archives department shall provide timely and effective network services according to the set utilization authority. Several conditions should be met: first, the system of hierarchical management and application of financial archives should be established to follow rules; second, the financial archives management system has the authority management function for different users; Third, the financial archives department has classified (controlled and managed) the data of the catalog database and full-text database of financial archives.

The confidential financial archives management system shall be physically disconnected from the Internet, and the non confidential financial archives management system can be logically isolated from the Internet. In addition, the financial archives management system should take security and confidentiality measures such as identity authentication, authority control and installation of firewall. Secondly, the financial file management server

should take reliable backup and recovery measures. A good data backup and recovery scheme should do the following: first, data remote backup. Second, the data backup interval should not be too long. It should be backed up at least once a day. Of course, due to the consideration of hard disk space and data backup efficiency, the strategy of full backup once a week and other differential backup can be adopted. Third, when restoring financial information, you should be able to restore specific content. For example, when a financial folder is accidentally deleted, you can restore only this specific folder without affecting other folders[9]. Each financial information system shall have a module or interface for generating electronic document filing function. When developing various information systems, the unit shall design modules or interfaces with automatic archiving function at the same time to facilitate data transfer (reception) and integration with the archives management system to realize automatic archiving of completed documents.

4.2 Realize the software requirements of financial information archives management system

The financial archives management system shall have the basic functions of collection and reorganization, data management, retrieval and browsing, borrowing management, statistical summary, authority setting, security and system maintenance, and can assist the entity's financial archives management and expand other corresponding functions as required. The sorting and cataloguing module shall have the basic functions of data collection, category setting, classification and sorting, data verification, directory generation, data statistics, printout and so on, and can adjust and add the automatic indexing function of subject words (or keywords) and classification number at any time according to the needs of daily financial management.

The realization of financial data management module should have the function of managing all kinds of financial information, file directory and original information, mainly including the establishment, modification and deletion of financial information database, and the input, storage, modification and deletion of file data. The retrieval and query module shall have the basic function of multi-channel retrieval and query of financial archives information data, and have auxiliary functions such as borrowing management. The borrowing management function shall include the recording, analysis and statistics of users, utilization purpose, time, content, effect and other information, as well as the functions of file reminder, renewal and return. User authority management shall include operation authority management of all parts of the system and data operation authority management.

The system shall be able to automatically judge and classify all operators on the machine, reject and warn illegal operations and record them. System security and confidentiality monitoring must be able to strictly monitor and record various operations in the system.

While providing data backup and recovery processing functions, the system maintenance module should also be able to provide convenient maintenance for some code tables of archival data[10]. The financial information file management system shall be connected with each information system, and can receive and be compatible with the electronic documents generated by each information system. In the process of financial archives informatization, the investment in computer and other infrastructure is the key for medical insurance units to realize the construction of financial archives informatization. The investment of these hardware will directly determine the success or failure and level of financial archives information construction. The construction of archives informatization infrastructure of medical insurance units should include the construction of hardware platform and network platform. The construction foundation of informatization financial management system lies in network construction, and the key to the successful implementation of informatization financial management lies in the construction of financial system software. In the construction of financial archives informatization infrastructure, a certain balance should be formed between hardware construction and software construction, especially in the process of selecting and developing application software, we should strive for perfection and keep improving. Only by improving the infrastructure construction can the informatization of financial archives be successfully constructed and applied.

5 CONCLUSION

To sum up, in the information age dominated by network and information technology, network economy will become a popular economic form. The informatization of financial archives management is a part of accounting informatization. With the joint efforts of financial personnel and archives management personnel, financial management departments and archives management departments should give full play to their own advantages and make the informatization construction of financial archives a bright spot in the modernization construction. In practical work, they should actively explore a "smooth collection channel, coordinated operation, high efficiency" mode. The archives management service mode of "reasonable structure, scientific management and efficient service" aims to provide high-quality and efficient service for economic development.

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