Application of computer aided audit system and innovation research of enterprise financial audit under the background of big data

Kaiqi Zhang

Sichuan Normal University

ZCatch@163.com

Abstract. In the rapid development of social economy and science and technology, in the face of the continuous increase of network information resources, the Internet, computer technology, information technology, etc., has changed the content form of daily life and social production, and brought great convenience for people's life and work. From the perspective of enterprise financial audit, the financial audit work with big data technology as the core is much higher than the traditional financial audit work in terms of work efficiency and work quality. Therefore, after understanding the development trend of enterprise financial audit work under the background of big data, this paper mainly studies the relationship between the current enterprise financial audit work and computer-aided audit system according to the emergence of computer-aided audit system in the new era, and defines the development direction of enterprise financial audit work in the future.

Keywords: Big data; Computer; Auxiliary audit system; firm.

1. Introducion

Nowadays, although the enterprise finance work has begun to widely use the theory of big data technology, the relevant technology research and application is still in the initial stage of development, and the industry staff are faced with more problems that need to be solved urgently. From the perspective of the long-term development of enterprises, financial audit as a basic part of financial management, to improve the comprehensive level of financial audit is of great significance for enterprises to achieve financial management objectives. With the continuous development of social economy, the scale and management structure of enterprises are becoming more and more complex, and certain changes have also taken place in financial audit work. For example, more and more data and information need to be processed in daily life, the task requirements faced by department employees are becoming more and more complex, and the professional level of financial audit is constantly improving. Therefore, the traditional financial audit work mode can not meet the current audit needs. In order to further improve the efficiency of enterprise financial audit, under the background of rapid development of science and technology, big data is an effective channel for financial audit innovation. Through the rational use of big data technology in financial audit work, it can comprehensively improve the work efficiency and calculation time of financial audit, and effectively avoid the security risk of financial audit work. However, from the perspective of overall development, although big data technology has created favorable conditions for enterprise financial audit work, relevant technical theories are also systematic and complex. Therefore, researchers should focus on exploring the application and innovation of computer-aided design system in enterprise financial audit work under the background of big data.[1-3]

As a basic part of the financial management of enterprises, financial audit shall be conducted by the employees of the department in strict accordance with the laws and regulations of the industry, auditing and supervision of the financial status of enterprises, showing the real situation of the financial operation of enterprises in an all-round way, and carefully checking the illegal phenomena of the financial revenue and expenditure of enterprises. Nowadays, in the field of enterprise finance, the financial system with big data as the core guides enterprises to develop continuously in the direction of informatization and intelligence. Big data has become an effective tool to promote the development of enterprises, effectively breaking the restrictions of internal information

transmission, reducing the cost of enterprise management, and putting forward appropriate financial management strategies for the innovation and development of enterprises. It can be seen that the design and development of computer-aided audit system under the background of big data has the following effects on the financial audit work of enterprises: First, the use of big data technology to create a standardized and perfect database for the financial audit work of enterprises, so that department employees can efficiently deal with complex and changeable data information, and provide effective support for the financial management of enterprises; Secondly, according to the basic needs of financial audit work, the online processing platform is built, which can not only improve the processing speed of financial audit information, but also comprehensively deal with various financial work of enterprises. Finally, the big data technology platform can guide the enterprise financial audit to develop steadily in the direction of intelligence, digitalization and informatization, which is safer and more effective than the traditional manual audit processing mode, and can fundamentally avoid manual calculation problems in enterprise financial management. Therefore, this paper mainly studies the architecture of computer-aided audit system under the background of big data and the development direction of enterprise financial audit in the new era.[4-6]

2. Method

2.1 Computer-aided audit system analysis

Computer aided audit system is a software system designed by using computer distributed network architecture, which can be widely used in open system environment. The specific functions are as follows: First, it mainly evaluates the internal risk of enterprise application of computerized accounting software; Secondly, investigate and evaluate the implementation of the enterprise internal control system; Thirdly, verify the integrity of accounting data and assist auditors to do statistical sampling as soon as possible; Finally, auditors can use office automation software to manage audit documents to facilitate follow-up information inquiry and project access. According to the system function, the whole system is divided into four subsystems, including audit management, data transformation, auxiliary audit, WEB query.[7-9]

2.2 Physical System Framework

According to the analysis of the system frame diagram shown in Figure 1 below, the overall system design belongs to the distributed three-layer structure, which pays more attention to the stability and ductility of the system operation, and ensures the system has the load balancing ability and fault tolerance ability. When a client application or WEB server needs to use the services of an enterprise object, you can dynamically determine which application server to connect to based on the current load of each application server and whether the service is provided. After the user completes the basic tasks, distributed computing should provide as much computer power and data access functions as possible to truly achieve the basic goals of effectiveness and high performance. Application server using JAVA language to write application server, you can define the interface definition language and CORBA distributed technology and WEB server, executable file client effective connection, as soon as possible to obtain browsing client, XML data and other content, after effective conversion, it is passed to the database server.[10-13]
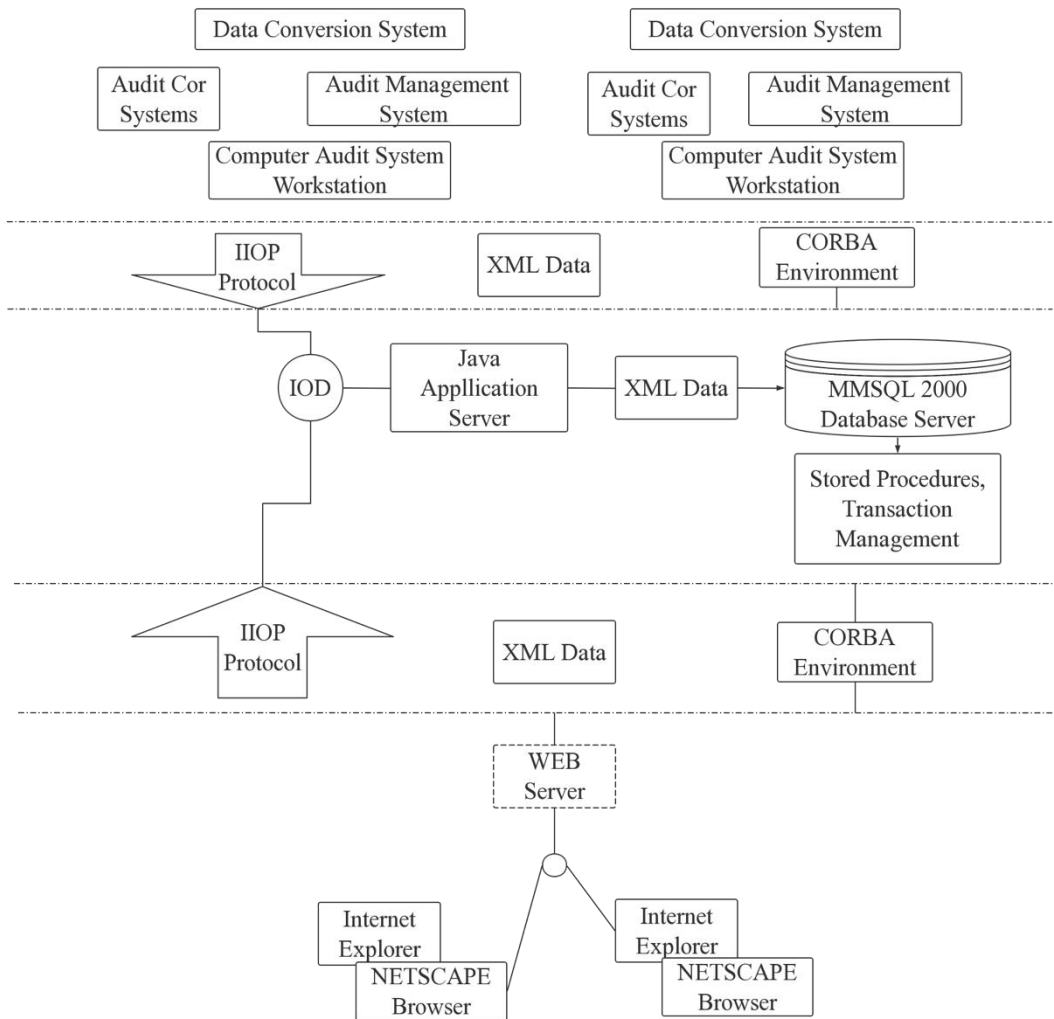
Figure 1 Physical system architecture diagram

2.3 Design of audit management subsystem

This time, the system design is mainly used to manage institutions, departments and staff related to financial accounting. According to the structural analysis shown in Figure 2 below, practical functions are reflected in the following points:
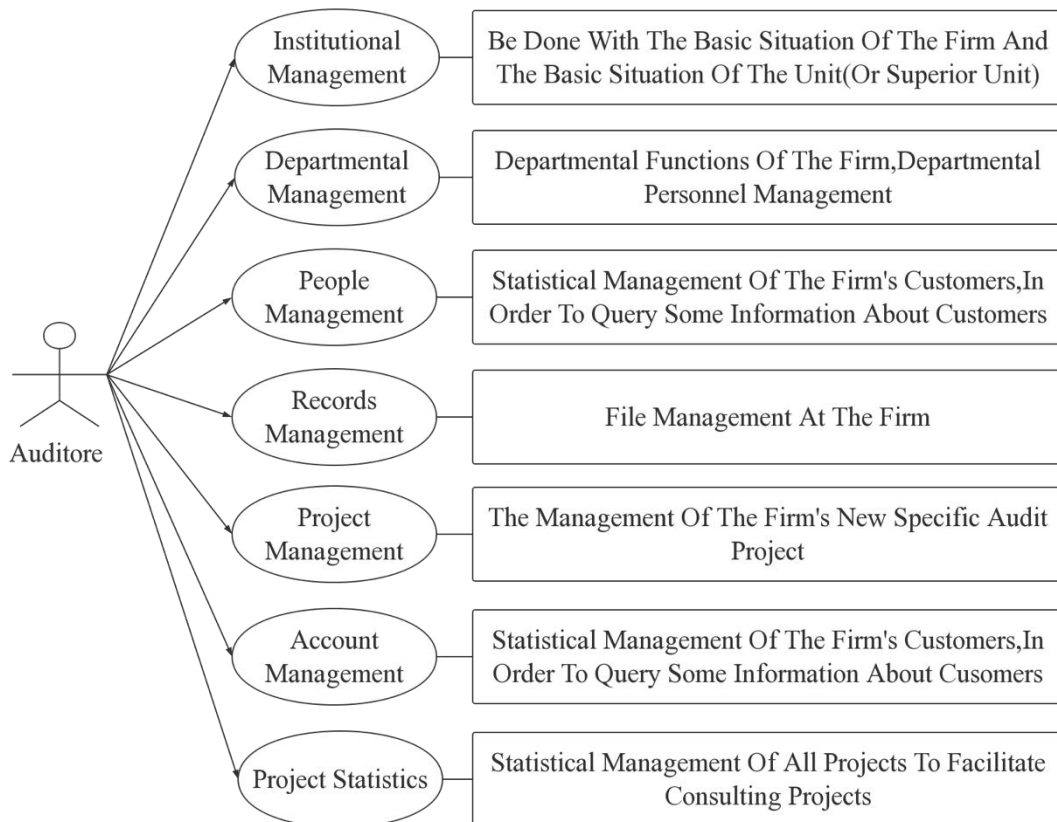
Figure 2 Structure diagram of audit management subsystem

First, institutional management. After mastering the basic situation of the firm and the basic situation of the affiliated unit, support to add, modify, delete items and contents, basic items include registration time, approval time, fax, contact phone, address of the unit, name of the unit, etc.; Secondly, department management. It is mainly used to control the department functions and department personnel of the firm, and supports the customization of department functions, but the internal employees of the department cannot be deleted; Third, file management. Comprehensive management of client statistics, facilitate the follow-up business processing inquiry application. The operator can select the archived project in the project name, after the selection of the system will automatically bring out the relevant information, the system window also provides basic functions such as borrowing management; Finally, project statistics. Statistics and management of all project information to facilitate follow-up inquiries by department staff. The system mainly provides various forms of project statistics tables, operators can search and view all the content related to the project, with the function of adding, modifying and deleting users.

2.4 Auxiliary audit subsystem design

This subsystem is the core content of the operation of the computer-aided audit system, which is mainly used to realize the whole process of financial audit business, including audit sampling, report management, data query, plan making and other functions. The specific operation is shown in Figure 3 below:
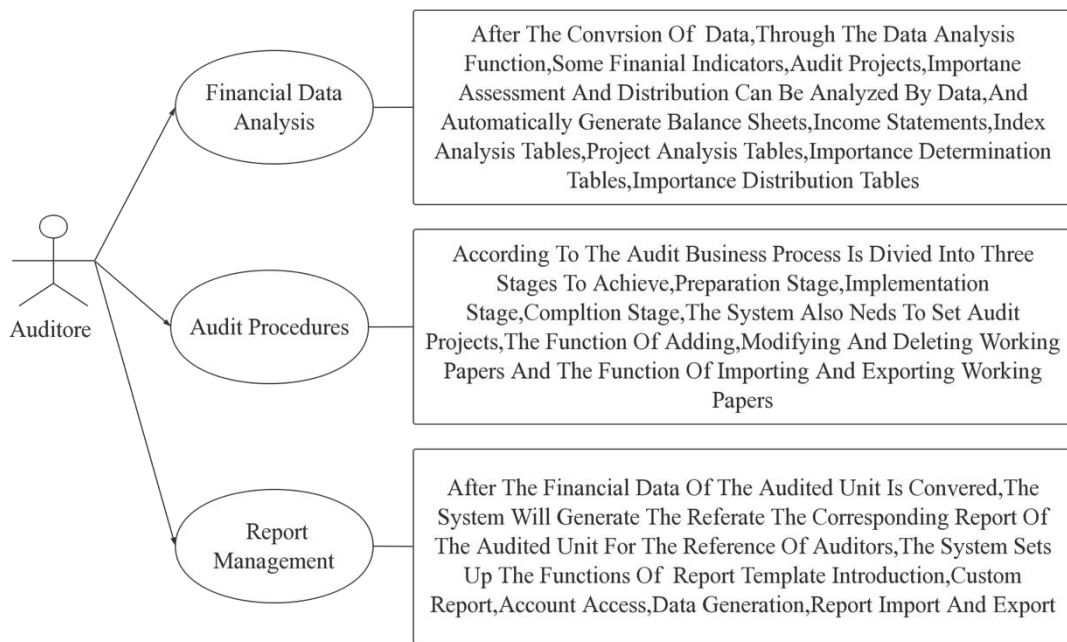
Figure 3 Operation flow chart of auxiliary audit subsystem

According to the analysis of the above figure, the implementation of evidence collection is the key of financial audit and the core basis of computerized accounting audit. According to the information and operation methods determined in the preparatory stage, the staff shall comprehensively evaluate the audit evidence after effective evidence collection, so as to form the audit conclusion and publish the audit opinion. This system will provide users with some of the industry's standard audit templates and various forms, the staff can use according to their own needs.

2.5 Other Security measures

During the operation of the computer-aided audit system, in addition to involving the user rights and ensuring the security and stability of the database, the following operations should be proposed for common security risks: First, not only rely on the security management of the software itself to ensure the operation quality of the system, but also store important data in a separate physical coal system or network; Secondly, different techniques should be used to ensure the security and effectiveness of the system password. Finally, it is necessary to strengthen the security management of the overall operation of the system, such as the relevant operations of the local network in today's network, to ensure that all nodes accessing the network are closely monitored.[14-15]

3. Result analysis

3.1 Experimental results

During the system test, the application effect of the overall system design function is mainly studied in view of the prototype development process of the current application of computer-aided financial audit system. The specific process is shown in Figure 4 below:
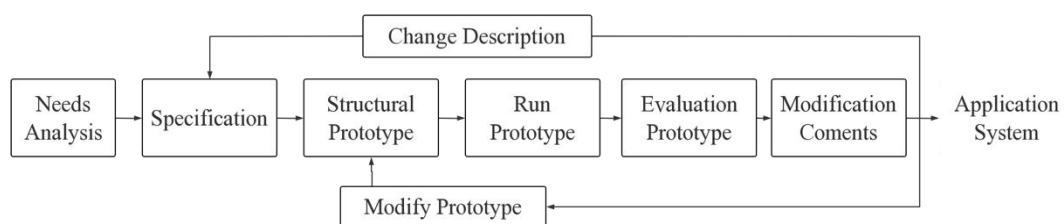
Figure 4 System development flow chart

In the research experiment of this paper, the query and application of database information is mainly taken as an example to judge whether the data information has integrity and consistency, and whether it can provide key information for database table design. The specific results are shown in Table 1 below:

Table 1 Experimental results

titles for columns	data type	length	Empty no	describe
Pzr	varchar	10		approver
Pzrq	varchar	10		Date of approval
Bh	int	4		number
Fhnr	varchar	100		Composite content
Sf	varchar	10		Is the content approved?
Bz	varchar	255		remarks
Hzqx	varchar	10		Is it approved in full?

According to the above analysis, although the overall design has the advantages of database management, strong application functions, friendly operation interface, etc., the operability of the system needs to be enhanced, and some interface styles need to be improved. Therefore, in the future, Chinese researchers should continue to explore the computer-aided audit system architecture under the background of big data to truly meet the work needs of enterprise financial audit management in the new era.

3.2 Development Trend

In the context of big data, in order to give full play to the application value of computer-aided audit system, the integration between financial audit and big data and data should be strengthened from the following aspects in the future: First of all, enterprises should combine the background of big data and the innovation needs of financial audit work, gradually strengthen information construction, constantly update the organizational structure of financial work, standardize the behavioral consciousness of department employees, and promote reasonable coordination and effective connection among departments, so as to guide the development of corporate finance in the direction of digitization and information. Secondly, when using big data technology to carry out corporate financial audit, it is necessary to pay attention to the issue of corporate information security, use effective technical measures to ensure the quality of corporate financial information, and actively hire professional and technical personnel to do daily maintenance, inspection and update, so as to avoid affecting the efficiency and quality of financial audit. Finally, in order to deeply integrate financial audit and big data technology, enterprises should attach great importance to data analysis, and at the same time use data analysis, data fusion, data, modeling and other ways to explore potential value, which can not only provide strong support for corporate financial work, but also build corporate financial management information processing system. Rectify the problems existing in the financial work of the enterprise as soon as possible.

4. Conclusion

To sum up, under the development trend of economic globalization, corporate financial audit has begun to innovate in the direction of intelligence and informatization. How to use big data technology to promote the development of financial audit informatization is the main issue

discussed by corporate financial managers in the new era. At present, China's enterprises are facing many challenges and opportunities in financial audit work. Through the use of big data technology, information and data can be efficiently processed and integrated into categories, which can provide reliable support for financial audit work and is of great significance to improve the efficiency and quality of financial audit work. Therefore, in the future, scientific researchers should follow the needs of enterprises in financial audit. Comprehensively consider the application architecture and main functions of computer-aided audit system under the background of big data, comprehensively improve the comprehensive level of enterprise financial audit, and lay the foundation for enterprises to achieve sustainable development goals.

References

[1] Li Yong. Research on the effectiveness of Financial audit innovation under the background of Big Data [J]. Market Research Information: Comprehensive Edition, 2021(22):3.

[2] Zhang Wenying. Application of Big Data technology in the audit and analysis procedure of financial statements [J]. Management and Technology of Small and Medium-sized Enterprises, 2022(2):191-193.

[3] Liu Li. Research on Enterprise Financial Audit Informatization Innovation under the background of "Internet +" and big data [J]. China Collective Economy, 2021, 000(006):164-165.]

[4] Shi Zhilin, Jiao Shufeng, Jiang Hongli. Research on Enterprise Financial Internal Audit Innovation under the background of Big Data development [J]. Time-brand Marketing, 2022(8):3.

[5] Wang Weizhe. Discussion on the causes and countermeasures of enterprise audit risk under the background of big Data [J]. Enterprise Reform and Management, 2023(2):3.

[6] Zhang Yufang. Exploration of enterprise financial Internal audit innovation from the perspective of Big Data [J]. Management and Technology of Small and Medium-sized Enterprises, 2022(1):70-72.

[7] Li Hui, Liu Yuan. Research on financial audit innovation under the background of big data development [J]. China Management Informatization, 2021, 24(15):2.

[8] Wang Dakai. Audit method innovation and practice research under the background of big data [J]. China Production & Economics, 2021, 000(004):P.81-82.

[9] Wang Jianhui. Problems and innovation paths in financial auditing under the background of big Data [J]. Chinese Science and Technology Journal Database (full-text Edition) Economic Management, 2022(5):3.

[10] Li Rui, Zhang Wen, Wu Shuxin. Research on financial Internal Audit Innovation of Feed enterprises under Big Data Model [J]. China Feed, 2022(12):4.

[11] Dong Guiling. Research on the necessity and strategy of enterprise Internal Audit innovation under the background of Big Data [J]. Knowledge Economy, 2023(9):3.

[12] Ge Jianwei. Research on innovation and Development of Enterprise Internal Audit under the background of Big Data [J]. Audit Abstracts, 2022(6):3.

[13] Wang Ting. Innovation strategies of enterprise internal audit under the background of big data [J]. Technology and Market, 2022, 29(8):193-194. (in Chinese)

[14] Ge Jianwei. Research on innovation and development of Enterprise Internal Audit in the context of Big Data [J]. Audit and Finance, 2022(3):60-62.

[15] Sun Qin, Song Xiayun. Research on the application of Big Data audit model in the audit of financial statements [J]. Audit Abstracts, 2022(5):6.