

Intelligent Information Audit System Construction: Integration of Big Data and Artificial Intelligence Technologies

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Abstract

Big data and artificial intelligence technologies have become a key force driving change in all industries. As an important part of this trend, the intelligent information audit system can effectively improve the efficiency and accuracy of the audit work by integrating the big data technology and the AI algorithm. This paper first analyzes the development of the information audit system, and the scholars research, from the core elements of intelligent information audit system and the main research content, to discuss how to build an efficient and reliable intelligent information audit system, and put forward some suggestions, aims to promote the big data and artificial intelligence technology in the application of information audit system, improve the audit efficiency, promote the development of audit.

Keywords

Big Data; Artificial Intelligence; Information Audit; High Efficiency and Development.

1. Introduction

In the 21st century, a new wave of technological innovation has been set off. Artificial intelligence and big data technology have gradually separated from the laboratory and penetrated into various fields of social and economic development. The promotion and application of these technologies have brought subversive changes to various fields of social economy, and the audit industry has been subjected to unprecedented impact. The disadvantages of traditional network information audit mode are gradually obvious, which has been unable to meet the needs of modern network information audit.

The intelligent information audit platform based on big data and artificial intelligence technology is different from the traditional audit platform, and its performance requirements for data retrieval and analysis are greatly improved. The traditional data screening by sweeping tables and reading database is far from adapting to the current data capability analysis of big data. The current popular artificial intelligence, machine learning, Solr full-text search service and Hadoop big data platform have pointed out the way out for the new network information audit platform. At present, the research on intelligent audit system at home and abroad is in full swing, and a variety of systems are being realized. The research on intelligent audit platform will have a far-reaching impact on the network era.

The research ideas and framework of this paper are as follows:

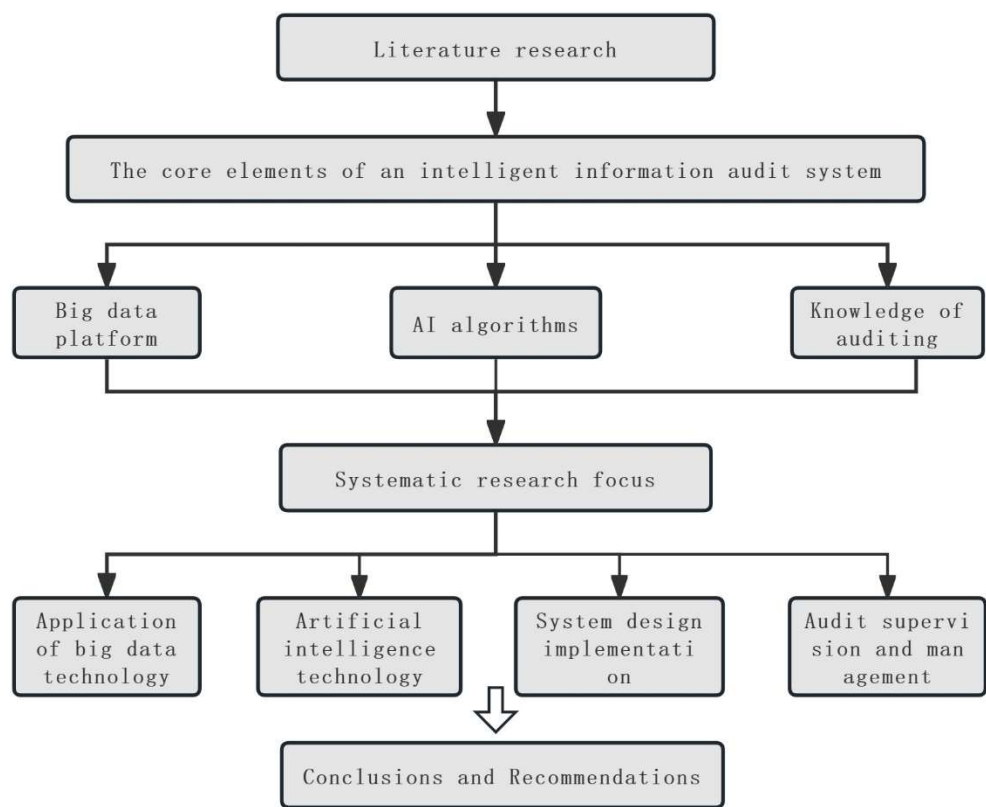


Figure 1. Research Framework of Information audit system

2. Literature Review

Before conducting the research, this paper summarizes the current research status of some scholars in the field of information audit. Among them, Wang Fang and Gao Suyu [1] emphasized the importance of information audit tools in information data management. Among them, Liu Chanzhen and Yan Yu [2] compared the traditional information audit system with the current one, and pointed out the defects of the traditional audit system and the feasibility and advantages of the intelligent audit system. Hao Miao [3] pointed out that many industries have a large demand for intelligent audit, as well as the application of SDK, C / S architecture in the intelligent audit system. Tong Ming, Zhang Rui [4] pointed out the significance and feasibility of AI deep learning algorithm in the intelligent audit system.[5] Dong Weifeng systematically elaborated on the challenges and opportunities faced by the audit in the era of big data, and conducted an in-depth discussion on the core issues such as the big data audit platform construction, talent training and information security. Cheng Ping, Yu Chang [6] and other scholars are committed to studying how to apply generative artificial intelligence technology to enterprise internal audit, aiming at improving audit efficiency, quality and risk management ability, and analyzing the risks that may be encountered in the application process and their coping strategies. Yang Manlin [7] made a comprehensive review of the application status, potential advantages and challenges of artificial intelligence technology in the audit field, and put forward the future research direction, in order to promote the intelligent development of audit work.

It is not difficult to find that the trend of applying big data and artificial intelligence technology to the information audit system is growing, and most scholars have achieved considerable results, which fully verifies the promotion of big data and artificial intelligence technology to intelligent information audit.

3. The Core Elements of the Intelligent Information Audit System

First of all, we will talk about how to build an efficient and reliable intelligent information audit system. Through learning materials and reviewing the literature, this paper believes that a successful intelligent information audit system cannot be separated from the following three core elements:

3.1. Big Data Platform

The big data platform is the cornerstone of the whole system, responsible for collecting, storing and processing huge amounts of data. On this platform, we can integrate data from different sources and in different formats, such as financial statements, business data, user behavior data, etc. Through the big data platform, we can realize the centralized storage, unified management and efficient access of data, providing rich data sources for the subsequent AI algorithm.

3.2. AI Algorithm

AI algorithm play a vital role in intelligent information audit system. Through machine learning, deep learning and other technologies, AI algorithms can deeply mining and analyze the data in the big data platform. It can help auditors to quickly identify risk points and abnormal data, and improve the efficiency and accuracy of audit work. At the same time, AI algorithms can also be learned and optimized adaptively, and constantly improve their audit ability to adapt to the changing audit needs.

3.3. Audit Expertise

Audit professional knowledge is the key factor in constructing the intelligent information audit system. Audit expertise provides direction and guidelines for the entire system to ensure the accuracy and compliance of audit work. When building the system, we need to introduce professional audit teams to integrate their expertise and experience into the system. At the same time, we also need to constantly update the audit standards and norms to adapt to the changing audit environment.

4. Research Focus of Information Audit System

This paper discusses the research content of intelligent information audit system from four aspects, in order to provide useful reference for the modernization and intelligence of audit work.

4.1. The Application of Artificial Intelligence Technology in Information Audit

Artificial intelligence technology has a broad application prospect in the field of information audit. Among them, natural language processing (NLP) technology can realize automatic interpretation and analysis of audit documents and improve audit efficiency; machine learning technology can automatically discover abnormalities and rules in audit data by training data model and provide strong support for auditors; deep learning technology can handle more complex data types, such as images and audio, and further broaden the source and type of audit data. The application of these technologies will greatly improve the intelligent level of audit work.

4.2. The Application of Big Data Algorithm in Information Audit

The application of big data algorithm in audit is mainly reflected in data mining, data analysis and data visualization. Data mining technology can help auditors extract valuable information from massive data to provide clues for audit; data analysis technology can conduct in-depth statistics and analysis of data to reveal the rules and trends behind data and provide support for audit decision; data visualization technology can present complex data in an intuitive and

vivid way to help auditors better understand and analyze data. The application of these technologies will greatly improve the efficiency and accuracy of audit work.

4.3. Design and Implementation of Intelligent Information Audit System

Based on artificial intelligence and big data algorithm, the design and implementation of an intelligent information audit system is an important task in the current audit field. The system should have the functions of automatic data collection, data analysis, abnormal detection, risk assessment and other audit processes, and can realize the comprehensive, efficient and accurate audit of network information. At the same time, the system should also have scalability, flexibility and customability to adapt to different audit scenarios and requirements. Through the application of this system, the efficiency and accuracy of network information audit will be greatly improved.

4.4. Information Audit Process Supervision and Management Research

In the process of information audit, how to realize the supervision and management of the audit process is also an important research content. Through artificial intelligence technology, the intelligent allocation of audit tasks and the efficiency of audit process can be improved. At the same time, the accuracy of intelligent audit reports and readability can be improved to provide strong support for audit decisions. In addition, artificial intelligence technology can also be used to realize the real-time monitoring and early warning of the audit process, and timely find and correct the problems and deficiencies in the audit process, to ensure the quality and effect of the audit work.

5. Conclusion and Suggestions

As an important product of the development of information technology, the intelligent information audit system has brought great changes and opportunities to the audit industry. By building an efficient and reliable intelligent information audit system, we can effectively improve the efficiency and accuracy of the audit work, and provide strong support for the risk management of enterprises. However, in practical applications, we also need to focus on the issues of data security, algorithm interpretability, and personnel training to ensure the stable and safe operation of the system. In the future, with the continuous progress and innovation of technology, it is believed that the intelligent information audit system will play a more important role in the audit industry.

Through the research, this paper puts forward the following suggestions for the development of information audit under big data and artificial intelligence technology:

Continuous learning and research: Information auditors need to continue to learn and study the latest developments of big data and artificial intelligence technology, understand their application in information audit, and maintain the updating and improvement of professional knowledge.

Investment in technical training and resources: The organization provides the necessary training and resources to enable audit teams to master big data and artificial intelligence tools and improve the efficiency and accuracy of information audit.

Strengthen data security and privacy protection: When using big data and artificial intelligence for information audit, it is necessary to strengthen data security and privacy protection to ensure that sensitive information will not be leaked.

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