Application and Optimization Suggestions of Big Data Technology in Auditing

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Abstract: Big data auditing is the auditing of various electronic data and documents. It is an extension and extension of computer auditing. It is an electronic auditing method for multi-industry and various forms of massive data. Big data auditing needs to deal with various unstructured and structured data, which puts forward higher requirements for audit objectives, content, technology, etc. The application of big data technology to design work is an inevitable trend of the times. This paper puts forward some suggestions for the application status and optimization of big data technology in audit work for reference.

1. Foreword

With the rapid development of modern technology and the gradual deepening of the degree of informatization, the amount of data used by people is also increasing, and the importance of data is becoming more and more prominent. In the face of massive data, how to effectively apply it is a new topic of research. In this process, big data technology has emerged and has been effectively applied in various fields, of course, it is also out of proportion in audit work. The application of big data technology in audit work has greatly improved the efficiency and accuracy of audit data processing.

2. Analysis of the application status of big data technology in audit work

2.1. Update of audit objectives and content

In the early stage of the development of network information, computer audit can find doubts through the observation and analysis of data and provide reference for the design. And in the era of big data, great changes have taken place in the audit target, gradually toward the clues, risk assessment, attaches great importance to the benefit level, the audit is not only to find illegal problems, the key is to expose the system problems, a more scientific assessment of internal control risk, through the economic and social big data collection, analysis, understand the industry dynamics, explore the law of development, to the country, the society, to the development of the strategic analysis.

The traditional level of data generally refers to the number, such as turnover, revenue and expenditure amount, etc., from simple numbers or text composition, as long as the use of traditional data analysis supply can meet the requirements. And big data is no longer limited to a single number, but involves a wider range of content. The meaning of "data" has also changed. It is a complex and

heterogeneous data generated in each time period, involving audio, video and other forms.

2.2. Gradually expand the application field

First, big data contributes to the efficient completion of my country's poverty alleviation work. In poverty alleviation work, most regions use big data technology to conduct poverty alleviation audits, supervise and review financial poverty alleviation funds for natural disaster hedging and relocation, and renovation of dilapidated rural houses, which is more conducive to the implementation of targeted poverty alleviation policies [1].

Second, the application of big data technology in financial auditing. Affected by the epidemic, the government and relevant departments conducted audits by submitting materials for review. Based on the collected electronic data, auditors used information technology to understand the specific situation and accurately locate them, so as to minimize the amount of manual verification.

Third, the application of big data technology in economic responsibility auditing. Taking the audit bureau of a city in Hunan Province as an example, in the audit work on the departure of natural resources assets, the audit team used image interpretation technology and box comparison technology to compare unstructured data, and found many clues of doubts. On-site evidence collection was carried out on suspicious spots and spots, and many problems were finally found. Then, through the advantage of "clairvoyance" of geographic information unstructured data, the problems were analyzed one by one, implemented, and a long-term mechanism was built [2].

2.3. More abundant technical means

In the era of big data, the audit thinking mode has changed, which is embodied in the following aspects: First, the comprehensive non-sampling audit has been realized, and the full coverage audit of state-owned assets, public assets and other aspects has been realized. Second, the audit data is mixed but not accurate. Traditional audit takes financial data as the core of audit, and the key lies in structured statements and related vouchers. The big data has data mixing and many data types, including structured data, unstructured data and all kinds of valuable information data. Third, big data reflects the relevant relationship of things. Big data has not changed the causal relationship of audit work. Second, it attaches importance to the development and application of related relationships, which greatly reduces the dependence of data analysis on the causal logic relationship.

In the previous audit work, auditors generally used some traditional methods such as review method and appraisal method to conduct audit, but in the era of big data, auditors can use modern technical means, such as visualization technology, artificial intelligence Technology, etc. permeate the entire process of auditing.

Before the audit, the design project team will carry out preliminary business activities to consider the audit unit and conditions to see whether it has the audit ability, so as to determine whether to sign the relevant agreement and carry out the follow-up audit work. At this stage, if big data technology is used, unstructured materials can be processed quickly. For example, some audit data analysts mine and analyze the complaint data information of various units in the entire region through techniques such as keyword extraction and semantic analysis, and find many functional problems before the audit begins.

2.4. Promoting innovation in audit organizations

The implementation of big data audit not only meets my country's need to protect poverty alleviation, finance and other aspects of funds from being lost, but also creates conditions for the application of my country's innovative audit mode of "no project audit". "Project-free auditing" is not

a blind audit of massive data, but a multi-angle comparative analysis of various data across industries based on audit problems that have arisen in the past, so as to efficiently carry out audit work. The implementation of "no project audit" can shorten the audit time, prompt audit efficiency, speed up the integration of resources, and build a perfect coordination mechanism. At present, most regions in my country have implemented the "no-project audit" work with the help of big data technology. For example, in order to ensure people's livelihood in some regions, many problems of continuous receiving subsidies have been found through the "no-project audit" [3].

2.5. Talent shortcomings need to be resolved, and data risks still exist

Big data auditing has relatively high requirements on the ability level of auditors, but now there are very few audit human resources in my country, especially those who can efficiently apply big data technology to audit work. The shortage of talents makes it difficult for our country to go from traditional audit to big data audit, and it has caused some risks. For example, the audit risk faced by the application of big data technology may be caused by system loopholes or external force majeure factors. At the same time, the application of big data technology also faces legal risks. Because big data auditing has the characteristics of extensive data collection, high accuracy of audit objects, and strong systematic audit results, the existing audit regulations and systems can no longer meet the requirements of big data audit. Therefore, my country needs to further update and issue relevant regulations system. However, because big data technology is a new technology that has emerged in recent years, although my country has also formulated relevant laws and regulations for big data technology, the legislation on big data auditing still needs to be improved [4].

3. Suggestions for application optimization of big data technology in auditing

3.1. Optimize the working mode of big data

The traditional audit mode can no longer meet the requirements of big data audit, so it is necessary to break through the departmental boundaries, take the audit project management as the main line, set up a large audit team, and do a good job in flat management. The group can be divided into leading management group, data analysis group and problem review group, among which the leading management group mainly sets the audit scheme and decision management, which is established by the leading organization; the data analysis group mainly implements the audit work and finds the audit doubts; the problem verification group mainly extends the verification on the spot. For example, for the "peer review" project, the collection department finds after the centralized data analysis whether the budget items lack of scientific demonstration, which is unfavorable to the financial information of the budget department sets the new budget, and the overall data analysis, the problems of poor budget implementation effect and inadequate budget distribution.

3.2. Complementary advantages of traditional auditing and big data auditing

With the comprehensive advancement of the construction of smart auditing, big data technology plays an increasingly important role in auditing work, and can replace auditors to complete tasks with a high repetition rate. Auditors will inevitably face various forms of problems during auditing, which requires auditors to analyze and make audit decisions from a professional perspective, but big data technology does not have the ability in this regard. If manpower and artificial intelligence technology are integrated. It can not only use the convenience advantages of big data, but also maintain the professional judgment that auditors must have, and can maximize the use of big data technology to achieve the sustainable and healthy development of big data auditing in my country.

3.3. Increase efforts to cultivate big data technical talents

The upgrading and development of audit work has a great demand for talents. Today's auditors must not only have rich audit knowledge, but also master modern technical means. However, in the relevant departments in various regions, the number of auditors is still obviously insufficient, especially the ability to apply modern technology is relatively weak, and it is impossible to scientifically mine and process data. Therefore, we must increase the training of audit technical talents in big data. Audit institutions should regularly arrange training activities to enrich the professional knowledge of auditors and strengthen their awareness of applying modern technical means. At the same time, managers should increase management efforts, urge auditors to actively participate in the learning of big data technology, efficiently apply big data analysis, help designers accumulate more advanced experience, and improve their business level. The role of data auditing has come into full play [5].

3.4. Use the data analysis operation platform to do a good job of follow-up audit

Through the construction of audit data analysis platform, the core industry network audit system is developed, and tools such as Hadoop are used to process semi-structured and unstructured data, and scientifically integrate and process data information. For example, regarding the local tax audit, the local tax network audit system can be applied to centrally analyze the local tax data of the whole province to ensure the linkage audit of the whole province. At the same time, through the establishment of query analysis, multi-dimensional analysis model, the optimization of audit ideas, the systematic analysis of the local tax data, focus on the tax collection, payment and other related information. For financial audit, the department budget analysis platform can be used to integrate the decentralized budget preparation, indicators and other data, to ensure the horizontal correlation of various funds, and to make a comprehensive analysis of the allocation and specific flow of funds.

3.5. Coordinate relevant departments to issue big data technology application specifications

China should vigorously promote the legislative work of big data technology, so that big data auditing has rules and regulations to follow. First of all, the relevant state departments should fully grasp the industrial structure of big data, summarize the application experience of big data technology, solicit opinions from the public, and put forward proposals to create conditions for legislative work. Secondly, relevant departments need to make corresponding adjustments to audit regulations and systems from the aspects of audit object, purpose, and content, optimize the power of audit institutions, improve the audit system, and make existing laws more suitable for big data auditing. Finally, relevant departments need to combine the big data audit process to find out which levels of big data audit lack a sound legal basis, and thus optimize the audit standards [6]. In order to make the audit work more rigorous, the government will also introduce relevant laws and regulations to strengthen network construction and strictly control access to data. At the same time, audit institutions should also use forward-looking thinking to provide risk warnings before problems arise, effectively integrate pre-event analysis, in-process monitoring, and post-event resolution, so as to discover risk factors in a timely manner and carry out risk management and control.

4. Conclusion

All in all, in the information age, big data technology has been applied to all aspects of auditing, and technical means have become increasingly abundant, greatly improving the quality and efficiency of auditing work, and broadening new auditing models. To this end, in the actual audit work, we must

effectively grasp the advantages of big data technology, increase efforts to cultivate big data technical talents, coordinate relevant departments to issue specifications for the application of big data technology, and fully implement the audit work.

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