

Research on the Application of Big Data in Audit Analysis Program

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Abstract: Applying big data to audit analysis, through longitudinal comparison and cross-analysis with its own financial data, and horizontal comparison and analysis with industry data. The introduction of big data into audit analysis program can increase the object of analysis program, make it easier to determine the expected relationship and expected value, and improve the quality of analysis program. At present, the electronic level of enterprise financial and business data is getting higher and higher, and it is becoming more and more convenient to obtain the electronic data of the audited units. Therefore, electronic data audit has gradually become the main way of audit. In order to cope with the development of economic globalization, audit risk work is carried out throughout the audit process, the biggest change is the use of analytical procedures. As one of the important features of modern risk-oriented auditing, the analysis program helps auditors to fully understand the information of the audited entity. The research on audit procedures in big data environment is conducive to the improvement of big data audit theory.

1. Introduction

Big data is a hotspot in the field of information technology at present, and big data audit, especially the introduction of big data into the analysis program, is the inevitable direction of audit development [1]. With the gradual popularization of computers and the Internet covering our lives, the development of human society has entered a new stage. With the development of social economy, the internal and external environment faced by enterprises is becoming more and more complex. The audit of enterprises needs to analyze a large number of semi-structured and unstructured information [2]. At present, the electronic level of enterprise financial and business data is getting higher and higher, and it is becoming more and more convenient to obtain the electronic data of audited units [3]. Therefore, electronic data auditing has gradually become the main way of auditing. And big data technology has been widely used in various industries in China, and the introduction of big data in the audit analysis program has already had certain conditions [4]. It is more necessary and feasible to conduct optimization research on audit analysis procedures in the big data environment. In the near future, the existence of the audit environment, audit objects, and audit evidence will change [5]. On the one hand, auditing will gain more and more convenient evidence and more and more. On the other hand, further processing analysis of the data becomes particularly important.

Modern information technology has laid a broad road of data transmission, extending the human senses into the vast world. The concept and technology of big data is being applied. Use big data technology to find out the business operation rules reflected by the data. Based on the analysis of big data-based audit analysis program optimization, the combination of theoretical analysis and practical application provides some suggestions for the optimization of audit analysis procedures [6]. In order to cope with the development of economic globalization, audit risk work is carried out throughout the audit process, the biggest change is the use of analytical procedures [7]. With the increasing pressure of audit work, the traditional audit analysis procedures have begun to expose some limitations in the accuracy of analysis results, the determination of data expectations, and the adequacy of functions [8]. A lot of repetitive labor not only increases the company's labor costs, but also makes auditors tired physically and mentally. The study of audit procedure in big data environment is conducive to promoting the perfection of big data audit theory. The application of the analysis procedure in these stages can deepen the understanding of the auditees, and then discover anomalies and identify major risks [9].

2. Audit Analysis Procedure Based on Big Data

The emergence of big data environment provides favorable conditions for the reform and perfection of audit analysis procedures. Audit analysis procedure is an effective method for auditors to analyze various data and data fluctuations in order to comprehensively evaluate financial and non-financial information of enterprises. Large data makes the management of enterprises face a huge data flood. The data that enterprises rely on for decision-making come from many media, such as Internet of Things, Internet and social network. The audit of the auditee is not limited to the electronic data provided. Instead, the audit object is placed in the context of big data, and the audit object and its related information are mobilized. Applying big data and cloud computing technologies to the actual work of auditing, and at the same time strengthening analysis and monitoring, these will effectively improve the accuracy and timeliness of audit reports. Traditional data-based auditing, through the collection and transformation of data and analysis and verification, the construction of query analysis, multi-dimensional analysis and other technical methods to build a model for data analysis. The introduction of big data technology can solve the limitations of the analysis program, and continue to study the specific method of introducing big data to implement the audit analysis program, and design the workflow.

In the modern data processing work, the amount of data is large, and the traditional data analysis methods and methods can no longer meet the actual needs of modern data analysis. In the context of informationization, data sharing has become widespread, and the degree of networking has become increasingly rampant. Enterprises are increasingly demanding information management systems. The findings of audit trails are not limited to causal relationships, but rather to discover their intrinsic correlations from seemingly unrelated transactions. Through the comparison with manual audit, it is found that the computer accounting information system electronic data is audited. The data format and scope of the review are only different, but have the same audit objectives. Audit institutions can use Internet intelligent software to analyze the relevant data of the auditees. Under the background of large data, the comprehensive analysis of audit data has gradually developed from traditional verifiable analysis to mining analysis. Data thinking mode can enable auditors to strengthen horizontal data fusion, vertical data mining, and expand the depth and breadth of audit analysis.

When data of multiple periods are needed in the analysis process, an improved trend analysis method is usually used to make a continuous comparative analysis. Market structure affects enterprise behavior, so the degree of market power can be observed through market concentration. In the case of low saliency level, the audit accounting ability of enterprises has a greater impact on marketing performance. As shown in Table 1, the structural parameters of performance indicators are estimated and the significance test is carried out.

Table 1 Performance indicator structure parameter estimation and significance test

Path description	Path coefficient
Income accounting ability → Impact performance	3.36
Cost accounting ability → Marketing performance	3.45
Tax accounting ability → Marketing performance	3.79

Information on the financial status, operating status and capital flow of the audited object can be obtained by means of information on the speed of the company's development and the speed of its growth. In the traditional audit analysis process, from the determination of the analysis object to the analysis of the results, the CPA's subjective experience is judged. It is necessary to introduce big data technology based on traditional analytical procedures to ensure audit efficiency and audit quality. The most obvious change in thinking in the era of big data is that big data emphasizes the correlation between data rather than causality. There are many kinds of data, including structured data and unstructured data. In the past, data was usually structured in the form of documents, but now there are more and more unstructured data. The audit analysis program in the big data environment puts forward optimization countermeasures from the aspects of data platform, data analysis method, audit software and auditors. The function and data flow structure of audit analysis

program based on big data are mainly constructed by software design method. In forecasting and analyzing problems, the traditional way of thinking is based on causal logic.

3. The Impact of Big Data on the Application of Audit Comprehensive Analysis

The audit analysis process evaluates financial information by studying the intrinsic relationship between different financial data and between financial data and non-financial data. Businesses have made big data a strategic task that has had a huge impact on the entire business community. The strategic of big data is not the data itself or the amount of information, processing and specialized processing of data [10]. Both the traditional audit analysis program and the big data-based audit analysis program need to perform the analysis object, the expectation value determination, and the calculation and rationality evaluation of the difference. The audit evidence provided by the observation is limited to the time when the observation occurs, and when the person concerned is known to be observed, the person concerned may engage in activities or carry out procedures that are different from the routine practice. With the development of social economy, auditing objectives change with the times and the specific forms of companies. At the same time, technological progress and technological information progress also affect the audit industry.

Because the big data is produced in the real production process, the content extracted from it is the most objective and has guiding significance. There is also a great distance between the setting of audit subjects and the requirements of audit system. The advance payment is not carried out according to the requirements. There are also many problems in revenue and expense management, and inconsistencies between the books and the actual situation occur from time to time. The existence of agency problem makes the time preference of asset managers inevitably internalized in the investment decision-making activities of financial institutions. Figure 1 shows the relationship between financial risk weights and evaluation values.

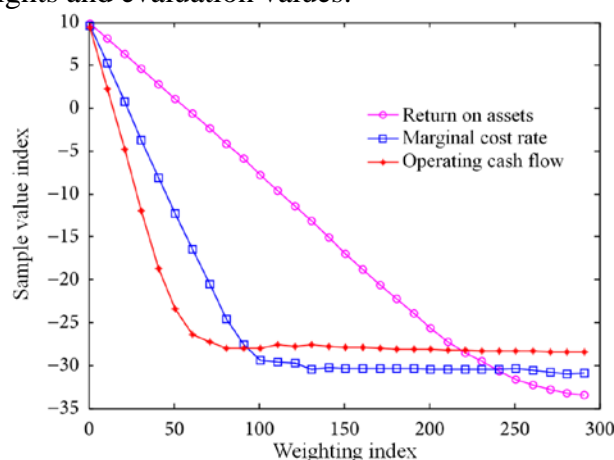


Fig.1. Relationship between financial risk risk value and evaluation value data

In the early stage of audit development, the organizational structure of enterprises is generally simple, and the business nature is simple and not complicated. In the period when the social economy did not reach the developed stage, the application of audit in the enterprise organization was relatively simple, and its main purpose was only to satisfy the property owner's accounting of the property. Institutional basic audit refers to a series of procedures based on the various control links of the internal control system. Find problems and find out why by finding weaknesses in internal controls. In a large amount of data information, through data mining, we can understand the information that is difficult to find in traditional analysis methods, thus improving the effect and role of large data analysis. In order to improve the efficiency of audit, staff members have developed audit technology accordingly. This not only ensures the quality of audit, but also promotes the development of audit. At this stage, it can highlight the development process of audit. Before auditing accounts, auditors should evaluate the internal control of the audited unit.

4. Conclusions

With the economic development and technological progress, the traditional audit model can not meet the practical needs of modern audit. With the development of technology, auditors will devote most of their time and energy to professional judgment in the future. In terms of data volume, big data provides more evidence choices for audit analysis, and builds a better foundation for analysis procedures. In the current big data environment, the rational application of big data analysis mode and method in audit data has become the inevitable trend of audit data analysis. With the construction of large data platform and information sharing, audit efficiency is improved and audit cost is reduced. It is necessary for the state to implement a standard underlying architecture at the institutional level to achieve consistency in data structure. China's big data audit analysis is still in its infancy, and the big data platform has less data and the data usage method is not standardized. To truly demonstrate relevant applications in the field of auditing, there is a clear need for legal and regulatory support. Auditors should strengthen research and learning on big data analysis, and constantly innovate and transform existing audit data analysis models to improve the effectiveness and accuracy of audit data analysis.

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