Research on the Application of Blockchain Technology in Financial Statement Auditing

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Abstract. The audit of financial statements is an important content of business management, improve the quality of financial statements audit work can understand the business status of enterprises, combined with the actual financial status of enterprises to develop in line with the enterprise's own development of enterprise planning. This paper firstly explains the deficiencies of financial statement auditing and the concept and advantages of blockchain technology, and at the same time puts forward countermeasures and suggestions for the development of audit industry under blockchain technology for the reference of readers.

Keywords: Block Chain Technology, Audit Of Financial Statements, Risk Control, Operating Conditions

1. Introduction
With the continuous development of block chain technology, block chain technology has been widely used in various fields. The traditional audit of financial statements has the defects of low level of information authenticity and low level of enterprise internal control. Through the use of block chain technology, financial statement audit can summarize all kinds of information data of enterprises, and realize the digital and intelligent management of enterprise financial statement audit.

2. Deficiencies in the audit of financial statements

2.1. Low level of authenticity of accounting information
The accuracy of auditing depends directly on the improvement and quality of accounting information. In order to prevent enterprises from creating false and illegal operation conditions, many enterprise auditors intentionally make up for their operating losses or deliberately exaggerate their operating benefits, or even deliberately fabricate false accounting documents and information. And, because enterprise's relevant rules and regulations are not perfect, the loopholes that exist in the internal risk control, the enterprise and the related accounting personnel in practice there are some error or the professional technology level is low, lead to enterprise in the financial statements of related inventory and content integrity and accuracy of accounting information.
2.2. Low level of enterprise internal control
The audit of financial personnel and statements will be seriously affected by the internal control system and system construction of enterprises. Every enterprise management and operation may need to audit department set up the audit administration to regulate and supervise the enterprise management, enterprise internal financial statements audit should be determined by the enterprise by the administrative departments of the audit department, auditing department supervisor, general manager and the auditor, but many enterprises have not established according to this kind of management structure of specialized finance supervision, but to set up, only individual professional auditors, or is the enterprise directly from the overseas recruitment short-term special auditing of financial personnel to conduct financial audits. Because short-term audit institutions and personnel do not know enough about the actual operation and development status and future development of the whole enterprise, and a large number of turnover of auditors is not conducive to the stability of public opinion, they cannot make the most professional financial assessment in a timely manner. In addition, there will also be more and more employees relying only on their relatives. Promoting and appointing cronies for personal gain is not only detrimental to the development of enterprises, but also may directly distort the financial management of enterprises and the personnel and organizational structure of audit institutions [1].

2.3. The independence of audit is restricted
The objective and independence of auditing is mainly to ensure that its financial affairs are not controlled by the auditing enterprise, so as to guarantee the independence of the whole enterprise's financial accounting statements and the objectivity and accuracy of auditing to a limited extent. On the one hand, the audit committee of the audited enterprises lure the auditors with high expenses, which makes the auditors violate their professional ethics to help the audited enterprises forge or conceal false accounting information. In fact, some accounting firms themselves are very dependent on audited enterprises. In order to avoid losing these important clients, the rigor and independence of their auditing process will be seriously affected. On the other hand, due to the high cost and professional requirements of audit, the audit department of some enterprises in order to effectively save audit costs, improve the efficiency of audit work, reduce the audit procedures, which will also affect the audit of the strict [2]. Due to the serious lack of professional and technical literacy and auditors' professional ethics, it is impossible for enterprise audit to be professional and independent in auditing, which seriously affects the professional auditing level of Chinese enterprises' financial statements. At the same time, the development of enterprises is also affected by the rigor and independence of external audit. As the local government is essentially the organization that has jurisdiction over external audit, when the local government intervenes too much in the work of audit service departments, it will also destroy the rigor and independence of audit service institutions, leading to the staff of audit departments can not audit enterprises fairly and impartially. However, in modern society, many auditors hold multiple jobs, which, to a certain extent, directly restricts the development of the independence of an enterprise's external audit system. Therefore, how to ensure the audit independence of enterprise auditors should also be paid attention to.

3. Concept and advantages of blockchain technology

3.1. Concept of blockchain technology
Block chain is a new database of the system, which is composed of small blocks established by computer network. According to the time sequence of a certain transaction, each cell block automatically records and stores the data information of the transaction, and the information is connected through the Internet, also known as the "chain", forming an information network. Block chain blocks can be called to each other [3].

Block chain technology is to make use of the way of data invocation between each block, to summarize massive and scattered data through each block, to integrate the data, and to realize the
effective link between the data. In short, blockchain is a database of systems. Blockchain technology is a distributed accounting method that integrates mathematics, cryptography, economics and other multidisciplinary technologies (Figure 1 blockchain technology).

3.2. Features of blockchain technology

3.2.1. Decentralization
Decentralization is the most prominent feature of blockchain technology. The accounting and storage of data is not restricted by a fixed node, and the data is scattered and stored on each node of the network. When a node is inputting data, other nodes will record and backup the information data synchronously, so that the data of each node is consistent, and each node can effectively realize point-to-point connection. It can be seen that each node on the blockchain system can realize self-management without relying on the central node, making the data more secure and reliable (FIG. 2 Application of blockchain technology in various industries).

3.2.2. Openness and transparency
After a node enters data into the blockchain, the data is synchronized to other nodes in the blockchain, so that the data is stored not only on a single node, but also in all the blocks. The data on the blockchain is open and transparent [4]. This feature of block chain technology facilitates information users to query the information of any node on the block chain through the exposed interface, which greatly improves the efficiency of information usage.
3.2.3. It is difficult to tamper with
Blockchain technology uses cryptography, and the data above is not easily tampered with. On the one hand, the data information of one node in blockchain technology will be synchronized to other nodes, and only after verification by all nodes can the data be stored in the database, which increases the difficulty of data tampering. On the other hand, data on the blockchain has a time stamp, or timestamp. Over time, data is less likely to be tampered with arbitrarily, or even unmodified.

3.2.4. Anonymity autonomy
During the data exchange, each node in the block chain does not need to authenticate, but only needs to follow the previously agreed protocols and specifications to exchange data in an anonymous manner. Each node can view the data information without knowing the identity information of the other party. Following consistent protocols and specifications and exchanging data freely in a de-trusted environment saves both time and cost.

3.3. Advantages of block chain technology in the application of audit technology
The reason why traditional audit technology is gradually lagging behind the development of The Times is that traditional audit technology needs to be innovated in form, technology and concept. Therefore, blockchain technology stands out among them.

The first advantage of blockchain technology is that it makes auditing more comprehensive. Blockchain technology technically blocks the huge financial information of an enterprise, making each data exist independently. Meanwhile, the data in the block chain is accurate and open and transparent, which is very helpful for auditors to search and analyze the financial information of the audited entity.

Second, the audit risk of using blockchain technology is lower than that of traditional audit technology. This has to do with the nature of the blockchain. The data in the blockchain is open and transparent and not easily tampered with. Since the data uploading of blockchain is carried out by all nodes together, any node that wants to modify the data must obtain the consent of other nodes, which virtually forms mutual restriction among each node. Moreover, the data in blockchain is complete, which also facilitates the use of auditors.

Third, blockchain technology has greatly reduced the cost of auditing. Blockchain technology does not require auditors to obtain materials at the site of the audited entity before conducting the audit, thus reducing the travel expenses of the firm.

Fourth, blockchain technology has significantly improved audit efficiency. Because blockchain saves data accurately and completely, auditors can trace the original data of enterprise business to the greatest extent, so as to ensure the integrity of the whole audit and avoid the low audit efficiency caused by information asymmetry that often occurs under traditional audit technology.

In addition, blockchain technology is an information technology, which can reduce the time required for auditors to go to the audited entity and improve the efficiency of auditing (FIG. 3 Software sharing of blockchain technology).

![Figure 3. Block chain technology software sharing](image-url)
4. Countermeasures and suggestions for the development of audit industry under block chain technology

4.1. Improve the comprehensive ability of auditors

In the context of blockchain technology, in order to promote the better development of the auditing industry, the comprehensive ability of auditors should be improved.

First of all, colleges and universities should improve the talent training program, set up the industry-university-research collaborative innovation platform, and focus on cultivating comprehensive talents who not only master the professional knowledge of auditing but also the knowledge related to computer and block chain [4]. Employers should strictly check the recruitment of audit talent, from the educational background, experience, qualification certificate and other aspects of talent screening. Auditors should constantly change their ideas according to the actual work needs, set up blockchain thinking suitable for audit development, and pay attention to improve their comprehensive ability. Auditors should take an active part in training or in in-service education, in the study of audit professional knowledge at the same time, study block chain technology related knowledge, to seize the opportunities brought by chain block technology to the auditing profession, positive to face the challenge of the auditing profession is introduced into block chain technology, improve their comprehensive ability, become a master block chain technology and comprehensive auditors audit professional skills.

4.2. Improve the block chain technology

The auditing industry will encounter some problems in the process of applying block chain technology, so it is necessary to constantly improve the block chain technology to adapt to the transformation of audit work [5-6]. First of all, compared with developed countries, China's block chain technology is still in its early stage of development, so we can learn from the successful experience of developed countries and break through the difficulties encountered in the application of block chain technology in the field of audit in China. The development of block chain technology needs the joint efforts of governments, enterprises, universities and other forces. The government should introduce corresponding policies and increase capital investment to support universities, research institutions and enterprises to carry out block chain technology research and development. The regulatory authorities should play a leading role, strengthen the cooperation among various departments and units, make full use of superior resources, and better promote the development of the auditing industry under the blockchain technology.

4.3. Establish and improve laws and regulations

Under the block chain technology, in order to improve the data information security system, each unit should formulate confidentiality system and responsibility system, strengthen the confidentiality of data, and conduct irregular inspection to ensure the good implementation of various systems. In addition, the state should establish and improve laws and regulations related to blockchain, keep pace with the development of digital economy, constantly improve the existing auditing standards, make the auditing work more standardized, and ensure the smooth implementation of the auditing work.

5. Conclusion

To sum up, the use of block chain technology in the auditing process of corporate financial statements can make corporate financial information open and transparent, and standardize the auditing work of corporate financial statements. Therefore, at the same time, the enterprise should improve the comprehensive ability of auditors, improve the block chain technology of the enterprise, establish and perfect relevant regulations, make full use of the block chain technology, and improve the competitiveness of the enterprise in the market.
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