

Impact of Blockchain Technology on the Accounting Industry and Application Prospects

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Abstract

The blockchain technology that has emerged in recent years has the characteristics of high transparency, decentralization, openness, immutability of information and anonymity. It has begun to be applied in many industries, reshaping the style of the industry. The traditional accounting industry is gradually embracing this change. This article will analyze the connotation of blockchain, discuss the impact of blockchain technology on the accounting industry, and make relevant recommendations. This article provides a reference for the application of blockchain technology in corporate accounting.

Keywords

Blockchain Technology; Accounting; Application Prospects.

1. Introduction

At present, the problem of accounting information fraud is serious, and the phenomenon of fraud is endless. The development of accounting information is the general trend. Blockchain is having an important impact on accounting informationization due to its own technical advantages. Enterprises are trying to introduce blockchain technology into the accounting industry, creating a system that guarantees the authenticity and reliability of accounting data and information, which will greatly reduce the possibility of accounting fraud and prevent the occurrence of accounting distortions. This article will analyze the connotation of blockchain technology and study its influence on accounting.

2. Definition, Classification and Characteristics of Blockchain

2.1. Definition of Blockchain

Blockchain was originally used as the underlying support technology of Bitcoin. It originated from the paper "Bitcoin: A Peer-to-Peer Electronic Cash System" published by Satoshi Nakamoto in 2008. The basic idea of blockchain is to establish a distributed accounting database in which all participating users in the network keep accounting together. The data blocks are combined into a specific data structure in a chain with chronological order, and cryptographic encryption methods are used to ensure that the stored historical data cannot be changed. For new data, a consensus algorithm is used to allow all network users to form a consensus on it.

Seebacher and Schüritz (2017) believe that from a technical perspective, the blockchain is a distributed public ledger system that contains all transaction information. Each complete node in the P2P network stores a complete copy of the blockchain ledger. In the blockchain system, users do not need to trust other users in the system, only the system itself. In this way, the trust between people is transformed into the trust between people and technology.

2.2. Classification of Blockchain

Ethereum founder Vitalik (2015) classified blockchains according to their publicity and consensus mechanism: public blockchain, private blockchain and alliance blockchain.

(1) Public blockchain. The public blockchain is open to network users all over the world, and any user can send transaction information and have the opportunity to be certified as valid through a consensus mechanism. The consensus mechanism itself is also open to all users. The public chain implies economic logic—a combination of economic incentives and cryptographic verification of the use mechanism. This type of blockchain is generally considered to be "completely decentralized" and not exclusive (An Yongping and Zhang Kai, 2016).

(2) Private blockchain. Database maintenance and writing rights are concentrated in one organization and can be applied to the company's internal database management, auditing, etc. The private chain serves a single organization or institution, which is exclusive and closed.

(3) Alliance blockchain. The alliance blockchain is formed by multiple organizations or institutions for a common goal. The consensus process is controlled by a group of pre-selected nodes, and not all nodes can participate in the control formula process. The right to read the blockchain may be public or restricted to participants. This type of blockchain is usually considered "partially decentralized." The alliance blockchain will become the mainstream form of blockchain in the future (Zhu Jianming and Fu Yonggui, 2017).

2.3. Characteristics of Blockchain

Blockchain technology has the main characteristics of high transparency, decentralization, openness, information cannot be tampered with, and anonymity. Among them, decentralization is the most significant feature of blockchain technology. It no longer uses centralized hardware or management institutions, but uses distributed accounting and storage methods to make all nodes in an equal position. At the same time, nodes with special maintenance functions are jointly responsible for maintaining the data block information in the system.

In the blockchain, each block will be strictly sequenced and connected in chronological order, and the front and back blocks are linked together to form a chain. It can accurately locate and trace, thus ensuring the authenticity of information and records. This feature of blockchain technology makes it almost impossible to be forged and does not require third-party guarantees to conduct transactions. If you want to modify or rewrite transaction records, you must overthrow all past information and data, creating a brand new blockchain. This requires extremely high costs and is not worth the loss for fraudsters. At the same time, any client of the blockchain can save all data information, which has strong security performance.

3. The Impact of Blockchain on the Accounting Industry

3.1. Improve the Accuracy of Accounting Measurement

Under the traditional accounting model, the enterprise must first check the economic business that occurs, and then record the information, and it must be confirmed by a third-party financial institution. The business flow and the capital flow are separated. In the blockchain, the transmission of data is direct and reliable, so there is no longer a need for a separate confirmation by a third-party financial institution, that is, the data will be transmitted to complete the corresponding accounting when the economic business is confirmed, and the business flow and capital flow are put together. In the link of accounting information recording, because the blockchain is a chain data structure which is encrypted and protected by cryptography, it can not be tampered with. If the currency calculation operation program is set in advance, it can maintain relative stability. This can greatly improve the accuracy of accounting measurement.

3.2. Improve Accuracy of Accounting Transmission

In traditional accounting, the processing of information mostly relies on human operations. From the beginning of confirmation to the formation of statements, it will be affected by human factors. Blockchain enables the data to be exchanged without human intervention. If the operating procedure is set in advance, the data will be confirmed in accordance with the established rules, and only the correct data can enter the next procedure. The chance of error will decrease. At the same time, because the algorithm used by the blockchain is irreversible, it is irreversible in the process of information transmission. Once the transmission starts, it cannot be traced back.

3.3. Improve the Confidentiality of Accounting Information and Transaction Security

The publication of financial information in traditional accounting relies on trust. Information publishers must gain the trust of the public, and then the published financial information will be trusted by everyone. However, some privacy of the information publishers themselves will also be exposed, and in the blockchain system, each participating node is anonymous, and the data is judged by the set program whether it is valid or not. There is no need to gain trust by explaining their own identity. Information users exchange information without knowing whom the other party is. This improves the confidentiality of information and transaction security.

3.4. Reduce the Risk of Accounting Fraud

Once the information in the blockchain is verified and added to the blockchain, it will be permanently stored, forming the characteristic that the information cannot be tampered with, which can effectively avoid the problem of accounting information fraud. This also avoids the problem of accountants being forced to make fraud due to external factors to a certain extent, and increases the independence of accountants.

4. Discussions and Suggestions

At present, blockchain technology is gradually being applied in many fields. Based on the above analysis, blockchain will also have a lot to do in the accounting industry. However, at the same time, we should also see that blockchain has its own shortcomings, for example, not easy to implement, high cost, unwilling to disclose the privacy of enterprises, etc. In addition, the application of blockchain technology also requires the system training of certain technical talents.

Therefore, companies should proceed from reality, combine their own specific financial management characteristics and needs, rationally explore the use of blockchain technology, improve related systems and platforms, and build a team of high-quality technical talents. In this way, the role of blockchain technology in financial management can be better utilized, and the efficiency of financial management can be continuously improved with the help of scientific and technological means.

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