Accounting information system based on block chain technology perspective data reliability research

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Abstract: Block chain technology will cause the company's information production and management decision-making way change, information openness and efficiency in the large data greatly increases the big data been tampered with, accounting information disclosure, destruction, such as data security risks. Block chain technology development for the accounting information security protection of big data in the hardware and software update and accounting personnel skills, data privacy, provides a new perspective of accounting information system pattern and so on.

1. Introduction

Block chain, also known as distributed general ledger technology, is a network of decentralization to jointly maintain each node of the distributed database. The technology is mainly to participate in any number of nodes in the system through a series of associated with the use of cryptography method produce data blocks, each block contains a certain period of time of all transaction information of the system and can generate the data demonstrate the effectiveness of the rest of the information and links the next block of data. From the Angle of audit, chain block can reduce the cost of credit, reduce financial risk, reduce the human error, reduce the audit cost, increase the speed of data processing, is a kind of brand-new way of charge to an account. Chain went through three development stages: the block chain 1.0-2.0 - intelligent digital currency, block chain contracts, block chain 3.0 - decentralization.

Because of the virtuality of the accounting information data, access and transmission of openness, an increase in the number of participants, security features such as high cost, risk control of information assets have increased company information and data security concerns. But in the chain of blocks in this situation is almost impossible to happen, because the chain of blocks in the data on the hard to change once established, only you to or control of more than 50% of the global computer can only modify the information. Big data block chain technology architecture for accounting information security provides a new solution, big companies accounting information data and the technique of block chain will play a great role in corporate governance, will also impact on accounting theory research. In addition, the block chain technology company in the competition in the information resources gained a new core competitiveness, to the company data security control, improve the production and business operation supervision, enhance the company's operating results, etc are a whole new opportunity.

2. The Accounting Information System Reliable Data Definition and Security Features

Accounting information system data refers to the accounting information resources in a reliable, extraction, transport, use, storage and other applications of integrity, usefulness, information quality, confidentiality, authenticity, reliability and other aspects of security, to malicious damage and theft protection. Cao Wei (2014) big data is different from the past accounting informationization of accounting information is: open space separability of accounting data, data, data security, multidimensional readability, arbitrary extraction, meet the personalized needs, the company whole business chain to participate in and so on. But the difference and change a new data security risk,

security risk assessment mechanism must be established, ensure the safety of the large data of accounting information. Cloud computing and the Internet and information technology, the development of big data, prompted the company to achieve large data information management decisions, companies have basically completed the big data infrastructure decision-making information. Accounting information security features of big data:

(1) The man-made factors which affect the risk increase, compared with the traditional accounting computerization, the production and use of accounting information, and other participants in the human factors of accounting information in corporate data security caused the biggest threat. All information through the network transmission, information transmission process of comprehensive openness, participation and access to a huge increase in the number of data lead to theft, leak, attack, tampering with an increased risk of accounting information.

(2) Data of the controllable ability is reduced, in the virtual Internet open environment, data resources are no longer in print or independent storage way, safe in the company's financial institutions, but an open distributed in all kinds of Internet medium, the Internet media in terms of physical control completely beyond the control of the company. So, the company's accounting data of big data security technology, hardware, software, data, virtual control of accounting knowledge, for most of the accounting office and personnel knowledge is very limited. Once the company accounting information being threatened, it is difficult to take effective response, because of big data security is not shut off the computer power supply can manage well.

(3) The dangers of security risk is huge, big data security implications of accounting information, not only confined to a single department accounting, will affect every part company. Because of this, accounting information data security problems is wider.

3. Block Chain Technology under the Accounting Information System Data Security Risk Category and Reasons

Big data environment, the carrier of data by the company computers into servers and cloud storage distributed in all over the world. And computer equipment, no matter from the logical thinking or manufacturing can crack resistance, but is easy. According to the characteristics of Internet data sharing, while big data has the characteristics of scattered save to increase security, block chain technology, distributed technology of charge to an account but also increase the safety of data. But for individual specific company, its accounting data security and privacy still can let its produce worry, worry there are a series of safety problems, or lead to the company's commercial secrets leak problem. So the privacy and security will remain a major accounting data need to focus on top priority.

3.1. Accounting treatment results have not been solidified, information is easy to be tampered with.

In the original transaction records for accounting recognition, measurement, record and report, even if the original transaction records are reliable, accounting also there are some problems in the process. As a result of current accounting information system still belongs to the man-machine coordinated system, the man-machine coordinated mode, operational layer is accounting personnel, among its can be deleted, according to the need of accounting information is cancelled due to the current accounting information system audit, against Posting, checkout, and other functions, the accounting information of tampered with, delete, can leave no trace, and not easy to detect, cause a serious shortage of the reliability of accounting information. Original real reliability cannot guarantee of trading information, even if the subsequent accounting treatment is truthful and accurate, and the processing result of dubious authenticity, leading to the accounting information is not reliable

3.2. Large data of the accounting information disclosure accounting information risk

Big data record and transmit to speed up the accounting information, yong-hong zhou (2017) big data information security problems are mainly large data search accuracy due to the reduce the

information distortion, excessive mining \"data exhaust\" lead to information leakage, \"big data has erected trade\" induced by fraud, accounting personnel inadvertent disclosure accounting information data, etc. Big data asset attributes with more heavy competition competition for the business data and obtain at all costs. Accounting information disclosure is the era of big data of the company's accounting information security major issues.

3.3. Of the accounting information under the large data of the accounting information risk of data corruption

Accounting information transmission are realized through the network, the management process, the network provides a convenient data transmission mode at the same time, difficult to guarantee on the safety. Technical aspects of hard obstacle hard to overcome, and the compatibility of software needs to be improved. The security of the accounting information system includes the following two aspects, the hardware and the security of network information system.

First, from the consideration on the safety of the hardware itself, its natural factors were the major influencing factors and management factors.

In the second place, from network system to security considerations, although network can realize enterprise in the information resources sharing, explore potential opportunities, looking for the right trading partner, but at the same time, also exposed the defect of enterprise itself in an insecure network environment. Risk mainly exist in social outlaws of malicious attacks. These people to the enterprise network illegal invasion makes the enterprise network environment extremely unsafe. They for the interception without means of information, virus and other means. Part of this risk exists in the enterprise internal, data of illegal access, malicious leaks are in need of improvement. The accounting information risk of big data is broken will affect the company decision-making accuracy, bring huge economic losses to the company.

4. Block Chain Technology Perspective the Reliability of Accounting Information System under the Data Protection

Block chain technology in accounting data security control provides a new protection perspective, Gongshiguang (2016) block chain technology by the government, technology companies, technology companies, financial investment institutions, accounting department and other business chain on the joint efforts of all participants, big data, credit reporting system, data security, books, records, such as block links to establish links with some fusion, will build China's big data of macroeconomic ecological security environment.

4.1. Block chain technology innovation perspective data network and processing center

Block chain technology under the structure of accounting data processing, will enable the company to strengthen technology to strengthen. Processing of data at the same time of the original data processing result detection together, through the system completely check, make sure to data processing. After processing the data, block chain books scattered synchronous store implements data backup immediately, money this record optimization model effectively prevent the loss of data. Zhang Xiuguang (2016) block chain with its decentralized, reliable database, irreversible changes, such as characteristics, the data processing center, distributed accounting contract and credit, business credit system, management, risk prevention and control, big data audit, data information processing decision has had a subversive and restore, etc. Block chain large data grid to improve the accounting information processing requirements, hardware and software facilities are replaced by the mobile terminal, the processing of large data structure and diverse information system can improve the accounting information processing center of material and technical basis.

4.2. Improve the financial personnel under the block chain technology of data technology and safety management skills

Block chain technology under the accounting information system implementation of the key factors finally still is a person. Manipulation, it not only requires the accounting personnel have

certain computer foundation, also asked them to solve problems in the work of the. So, should actively cultivate can master the modern information technology, and with modern accounting knowledge and management theory and practice of interdisciplinary talents. Based on the present situation of our current accounting personnel quality level is generally low, should be in a planned way step by step, targeted to block chain technology of accounting information system under the employees to provide the appropriate training and learning opportunities, let them on the basis of the traditional accounting theory knowledge, knowledge of block chain technology and information technology as soon as possible, so as to improve the knowledge structure of accounting practitioners, continuously updated knowledge. In addition, to establish a new incentive mechanism, strengthen the accounting personnel's professional accomplishment and moral construction, to cultivate the accounting personnel to abide by the professional ethics, finances, and impartially in accordance with the master consciousness. At the same time to strengthen the security of financial personnel and accounting information big data knowledge education, confidential consciousness education, information technology skills training, big data encryption structured analysis technology, accounting processing capacity, the software upgrade and virus prevention and control, data management system construction of internal control.

4.3. Strengthen the large data block chain accounting information technology security supervision

Block structure chain technology provide an opportunity for the company's big data confidentiality supervision, hong-mei sun (2016) in the era of big data information security management to improve the company's information security management system, to ensure the safety of the company's accounting information data, improve the company's management informationization level, enhance company development under the new normal power has important value. In addition, yong-hong zhou (2017) big data accounting information security measures to improve search engine safety, clear the responsibility of the data access, improve accounting cautious behavior, improve the data security legal protection, and so on. Block chain technology structure under the company should improve the system of regular maintenance and inspection, the system administrator to web sites and computer maintenance, shall be accompanied by accounting and internal audit personnel, supervise the behavior of the system administrator, ensure that block chain technology signs of operation. And in a timely manner to the snatched the data stored in the node access to conduct a comprehensive screening, to ensure that the block chain technology under the structure of accounting data privacy.

4.4. Building block chain technology accounting information system under the artificial intelligence operation new pattern.

Accounting information system operating mode is refers to the accounting information system in the treatment of the accounting information when the steps and methods. Whether to need accounting personnel to join us for the division standard, the accounting information system operation mode can be divided into artificial intelligence and human-machine collaborative model two kinds, for two different model needs to have different accounting information system based on the technology of block chain corresponding safeguard mechanism. Artificial intelligence model refers to the accounting information system of trading information processing without the participation of accounting personnel, was done by the system intelligence programs, to accounting treatment of input of the original voucher automatically, automatic for subsequent recognition, measurement and reporting of the work, and to automatically generate financial information. The west of the SAP system, for example, has intelligent will be applied to practice. In line with industrial 4.0 era gradually, under the background of the study is very necessary of artificial intelligence, artificial intelligence model will be the inevitable trend for the future development of accounting informationization.

5. Conclusion

Accounting information system reliability is the root of the accounting profession. Accounting information distortion and the problem still affect the accounting credibility, restricts the accounting profession and benign and healthy development of the economic and social. In an age of connectivity, timely introduction of the technique of block chain to accounting information system, accounting information system, to build credibility is not only help contain distortion of accounting information and accounting fraud, more important is can reshape the social credibility of the accounting profession.

Acknowledgment

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