The Impact of Blockchain Technology on Accounting and Auditing

The introduction of distributed ledger technology, or what is known as blockchain technology, has challenged current methods of doing business. One of these challenges is the significant shift in the roles of accountants and auditors.[1] Because accounting and auditing functions are both closely connected to organizations' transactions (transactions are translated into monetary values and assurance is provided regarding the value), they are affected by any new technology adopted. If the adoption of new technologies such as blockchain changes the process of conducting transactions, accountants and auditors should understand the changes to correctly reflect them in their work. If they do not, they will not be able to test controls included in the technology and trace financial transactions recorded using the blockchain, meaning they would not be able to correctly perform most of their work.

The Anticipated Effect of New Technology

The basics of accounting and auditing are not affected by the implementation of blockchain technology;[2] however, blockchain does add risk to consider and controls to test.

For example, during auditing, the evidence collected regarding payments to suppliers is changed from a supplier receipt to a transaction hash in the blockchain. External auditors need to enhance their technical skills related to evidence available in the blockchain and how the technology is used in recording transactions or risk losing their roles to other enterprises with more blockchain technology expertise.[3] To prevent this, auditors should learn about blockchain technology and include it in their services offered to clients. There are two assertions that management provides and auditors should give assurance on: completeness of recording all transactions and liabilities; and the existence of assets or occurrence of recorded transactions. Completeness is achieved when all transactions that occurred during the period are presented in the financial statements, and this assertion can be verified by auditors. For example, an entity's use of cryptocurrency in its operations can be verified by reviewing the transaction history of that entity in the blockchain. Similarly, auditors can verify that assets exist in the entity by tracing the transaction hash in the blockchain to identify the receiving party of the asset inside the entity and then confirming that the asset resides in the location described. The process of verifying other assertions can be done using the data stored in the blockchain; the difference is that these data are verified and can thus be considered more trustworthy than the traditional data provided by one party (i.e., the client).

The same approach to external auditing applies to internal auditors whose main duty is to provide assurance and consultation to improve the processes of governance, risk management and control systems. The same procedures executed by external auditors can be executed by internal auditors when completing a financial audit. However, during a compliance audit, internal auditors may need to review the code of the smart contracts in the blockchain to ensure that they contain the terms and conditions of the original contracts and then take a sample of each smart contract and follow

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its execution on the dates specified in the original contracts. A smart contract is a code that reflects the terms and conditions of a contract between the entity and the supplier and executes itself without any human intervention. For operational audits, internal auditors may review the flow of procedures by tracing all internal transactions in the blockchain that occurred during a specific period and ensuring that all objectives were met. In addition, internal auditors may test for governance issues in the blockchain by verifying who is responsible for creating transactions, who can verify transactions, and which party is responsible for reviewing transactions.

In accounting, blockchain technology can offer organizations more verifiable transactions with banks, customers and even internal parties.[4] This kind of verification can also be useful to external and internal auditors when they trace transactions to verify their authenticity.

Limitations of current accounting practices allow for payments to sometimes be made to fake suppliers or transferred to fake bank accounts. For example, a fraudster can pose as an organization's supplier and send an invoice with its own account number to the organization. Or it could hack the email system of a supplier and use it to send invoices and bank details to the victim organizations. However, this risk is removed when payments are processed by blockchain technology because all payments are verified by the supplier and recorded in the block with a transaction hash for later reference. Risk is also minimized because both the supplier and the organization can see the history of all of their transactions in the network, which gives them the ability to identify any fraudulent activity.

Another accounting aspect that blockchain has changed is related to the delivery of goods and services to customers. The receipt of goods and services can now be confirmed by customers directly by verifying the delivery transaction in the blockchain. In addition, the execution of contracts with suppliers can be completed using smart contracts in the blockchain. This execution is done according to the terms and conditions of the contract embedded in the code of the smart contract in the blockchain.

Conclusion

Blockchain technology is like any new technology utilized by organizations: It necessitates the

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development of accountants' and auditors' skill sets to understand, manage and assess new types of transactions. Entities implementing blockchain technology should train accountants to use it to initiate transactions, verify these transactions and trace the transaction histories. External auditors should develop skills to render new blockchain-related services and to improve current assurance practices or they may lose their roles to more technically adroit organizations. At the same time, internal auditors should incorporate blockchain technology in their testing of controls, risk and governance processes. Failure to do so will prevent auditors and accountants from recording and reviewing transactions when new technology becomes the sole technology adopted by organizations to record and verify financial transactions. In addition, external and internal auditors will not be able to test controls embedded in the blockchain if they are not competent in using the technology; this also will affect their compliance with audit standards that require auditor competency.

Endnotes

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