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Blockchain technology impacts on accounting and auditing business

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ABSTRACT
The impact of blockchain technology in the accounting and auditing business has been demonstrated in the project. The blockchain method has been understood and the basic concept of the technology has been addressed. There are some key components that are used in the implementation of the technology that should be described in the project as well as the use of them also stated. The impact of the technology is noticeable and identified too and the challenges that have been faced during the implementation have been noticed. The methods that are adopted for the research have been discussed and the decision that is taken by the analysis has been stated as well. There are some possibilities that can be useful in the future are addressed and the overall conclusion has been done including the suitable solutions for the challenges. Auditing and accounting are considered the essential factors of a business as the profit and loss have been stated by them.
Keywords: Blockchain, Technology, auditing, accounting, Innovation, Business

INTRODUCTION

Blockchain technology is emerging as a ground-breaking innovation, and it has the potential to disrupt various industries. It is a decentralized, transparent and immutable digital ledger that enables secure and efficient transactions, and this also does not need any kind of intermediaries. This essay will put light on the comprehensive overview of Blockchain technology, its key components, its transformative potential across several sectors and its usage in the fields of accounting and also in auditing businesses.Blockchain technology represents a change in basic assumptions in the way the transactions and the data are stored or verified and then executed. Its decentralized, transparent and the immutable nature holds immense potential to change many kinds of industries, to drive efficiently and with immense security and also to generate trust in the whole process (Abdennadher et al. 2022). As Blockchain continues to evolve it is very much crucial for all the businesses and also for the organizations to explore the applications and adapt to this transformative technology.

- **Understanding block chain:**

In the core level the Blockchain is a distributed ledger which records the transactions across multiple computers which is known as nodes in a specific network. Each and every transaction or block contains a timestamp, which is eventually an identifier and also a cryptogenic hash of the previous block, which creates a chronological chain of blocks. This kind of interconnected structure makes sure the immutability and the integrity of the data which is stored on the block chain.

- **Decentralization:**

Unlike traditional centralized system, Blockchain works on peer to peer network where each of the participants has a copy of the entire ledger. This architecture eliminates any kind of need for a central authority to promote trust, transparency and resilience.

- **Transparency:**

Blockchain transactions are visible to the all participants present in that specific network. Every transaction is recorded in a transparent manner, thus making it way more difficult to manipulate or tamper with the data that exists in the system (Bonsón,and Bednárová,2019). This kind of transparency increases the accountability and also reduces the risk of any kind of fraud.

- **Immutability:**

Once any transaction is recorded on the block chain, it cannot be altered or deleted. The blocks are cryptographically linked to each other and thus make sure that any kind of attempt to modify a block will be evident, and thus it preserves the integrity of the data of the whole system.

- **Security:**

Blockchain employs an advance kind of cryptographic techniques which secures every transaction. Each and every transaction is verified and validated by the network participants and consensus mechanisms which is also a very significant part of the block chain. For example, proof of work or proof of stake ensures that only the legitimate transactions are added to the block chain.

LITERATURE REVIEW

The transformative potential of the block chain:

The Blockchain technology has the utmost potential to revolutionize various kind of industries, including finance, supply chain, healthcare, and more. In finance, Blockchain can facilitate faster, secure and cost-effective cross border transactions, and thus eliminates any kind of intermediaries and thus also reduces any kind of transactional friction. In supply chain management it also enables any kind of end-to-end traceability, which in terms enhances the transparency and thus it also combats any kind of counterfeit products. In the sector of healthcare, Blockchain can securely store and share many patients' data, and thus it improves the interoperability and also the patient's privacy (Schmitz, and Leoni, 2019).

Furthermore, Blockchain technology offers the potential for the decentralized applications and smart contracts. Dapps are a kind of software applications built on top of Blockchain networks, which provides a decentralized service without any kind of reliance on a central authority. Smart contracts

are self-executing contracts which has the predefined rules and conditions, automatically executing transactions when specific conditions are met.

Impact of Blockchain technology on Accounting

This article will also explore the impact of Blockchain technology on the accounting practices by highlighting the key area such as the financial reporting, audit, fraud prevention and also cost reduction etc.

- **Financial reporting:**

Blockchain technology can significantly transform financial reporting by making sure the transparency, accuracy and timeliness of financial information. Through this usage of the smart contracts, which happens to be a feature of the Blockchain technology financial transactions can be recorded directly on the Blockchain technology, which eventually creates a tamper proof audit trail. This will eliminate any kind of need for intermediaries and thus will reduce any kind of errors and thus will enhance the reliability of financial statements (Liu et al., 2019). In addition to the real time access to all the financial data will allow for quicker and more informed decision making stakeholders.

- **Audit:**

Blockchain technology has the potential to revolutionize the audit procedure by providing the auditors with direct access to the underlying transactional data. With the help of the Blockchain auditors can easily verify the authenticity and the integrity of transactions without depending on any kind of third party documentation. This eventually will increase the efficiency of audit, and thus it will reduce the risk of any kind of fraud, and also will enhance the overall reliability of financial audits. Smart contracts can also automate audit procedure, ensuring the compliance with the previously determined rules and regulations.

- **Fraud prevention**

Blockchain has the inherent feature of immutability and transparency that makes it an effective tool in preventing and also in detecting any kind of fraudulent activities. By recording all the transactions on a distributed ledger, the Blockchain technology creates a transparent and temper proof system, which reduces the risk of any kind of fraudulent manipulation of the financial records of any specific institution (Maffei et al., 2021). Moreover, the decentralized nature of Blockchain eliminates a single point of failure, thus making it extremely difficult for the hackers to even approach it or to breach the system

- **Cost reduction**

By implementing the Blockchain technology in accounting processes, we can generate significant amount of cost reductions. By eliminating all the intermediaries, such as any kind of clearing houses and reconciliations or organizations can easily streamline their operations and thus reduce the transactional costs. Additionally, the automation of process through the smart contracts reduces any kind of need for manual intervention, thus it also minimizes any kind of errors and thus it improves overall operational efficiency (Dyball, and Seethamraju, 2022). Blockchain technology also provides a secure platform for sharing any kind of financial data and thus it reduces the costs which are associated with the data reconciliation and sharing among different stakeholders of a specific company.

- **Challenges and limitations:**

While the Blockchain technology offers various advantages, it also represents the challenges and limitations in accounting.

Firstly, scalability remains a concern in this field. Blockchain networks must address the issue of limited transaction processing the capacity to handle the high volume of the accounting transactions generated by specific businesses. However, the ongoing research and developments are completely focused on the scalability solutions, such as producing a two layered protocols which eventually aims to increase the output of the Blockchain networks (Al-Zaqeba et al., 2022).

Secondly, regulatory landscape surrounding Blockchain and accounting needs to be established. The implementation of Blockchain technology introduces new complexities related to data privacy, ownership and auditing standards. Regulatory bodies must develop appropriate frameworks to address these concerns and provide guidance for the usage of Blockchain in accounting practices.

Blockchain technology and its impact on Auditing in business

The impact of Blockchain technology has revolutionized various sectors including auditing of businesses. By providing a transparent, decentralized and immutable ledger the Blockchain has the potential to enhance the audit efficiency too, data integrity and fraud detection and overall trust in the auditing procedure (Qasim, and Kharbat, 2020).

Enhanced audit efficiency: Blockchain technology can significantly improve audit efficiency by providing auditors the direct access to reliable and transparent transactional data. Rather than depending too much on the client provided informational data or documentation, the auditors can independently verify the accuracy and the completeness of the financial information by accessing the data stored on the Blockchain (Dyball, and Seethamraju, 2021). This eventually will reduce the reliance on the manual procedure and any kind of third party intermediaries, thus eventually it will be streamlined and thus will also minimise the errors.

Data Integrity and Security: One of the key strengths of the Blockchain technology is its ability to make sure the data integrity and security. Once any transaction is recorded on the block chain, it becomes virtually impossible to alter or delete it without the consent from the network participants. This immutability feature enhances the reliability of audit evidence and also reduces the risk of any kind of data manipulation or fraud (Gökten,and Özdoğan, 2020). Additionally, the cryptogenic technique used in the Blockchain technology also provides a robust security, thus protecting the integrity and confidentiality of the data stored on the Blockchain system.

Fraud detection and prevention:Blockchain technology offers the enhanced fraud detention and preventing capabilities in the auditing procedure. The transparent nature of the Blockchain allows the auditors to analyse any transactional data in the real time basis and thus to identify any kind of patterns, or anomalies or suspicious activities that will indicate any kind of fraudulent behaviour. Furthermore, the immutable and decentralized nature of the Blockchain makes it difficult for the fraudsters to manipulate financial records without leaving a trace. The auditors can also leverage smart contracts, which are self-executing agreements programmed on the platform of the block chain, to automate the predefined audit procedure, improving the detection and prevention of fraudulent activities (Alkafaji et al., 2023).

Lastly the decentralized nature of the Blockchain technology mitigates the risk of a single point of failure or manipulation. Traditional auditing often relies on the centralized authority, by making it susceptible to manipulation or unauthorized access. By distributing the ledger across multiples nodes, Blockchain enhances the security and reliability of the auditing procedure, making it more resistant to the cyber threats.

Challenges and considerations: Despite the potential benefits, there are some challenges and considerations too which are associated with the implementation of the Blockchain technology in the sector of auditing of the businesses. These include scalability concerns, any kind of regulatory issues technical complexities and the need for specialized skills, auditors will need to develop a thorough understanding of the Blockchain technology and its impacts for the auditing standards and practices (Qasim, and Kharbat, 2020). Collaboration between two or more auditors, or other Blockchain developers and other regulatory bodies too would be crucial for the sake of addressing these challenges and establish the guidelines regarding this. This will make sure the effective and ethical usage of the Blockchain technology in audits.

Secondly, interoperability between different Blockchain platforms and existing legacy systems is a real challenge. Many organizations still up to now rely on the tradition database and systems which may not integrate seamlessly with Blockchain technology. Presently to establish compatibility and

connectivity between different systems is very much essential to leverage the benefits of Blockchain in auditing (Kend, and Nguyen, 2020).

RESEARCH METHODOLOGY

The research methodology is the method that is adopted for executing the overall project with minimum error and maximum accuracy. There are some concepts that are used for the methodology of the research and they are inductive and deductive methods. The method by which a new research thesis is invented using some records and any old research is the inductive method. The research approach that is used for the project is the inductive approach and the modification of a research or thesis has been done here. The research strategy that is adopted for the research is the mixed strategy which is the combination of quantitative and qualitative methods. The perspective of the human being can be identified by using qualitative methods. Human emotion about a specific topic can be analyzed by using the qualitative method and the quantitative method is used to analyze the data that are recorded from the market. The combination of the two methods is adopted for this specific project. Data collection is one of the most essential factors of research. There are basically three methods for data collection such as primary, secondary, and mixed (Khan *et al*. 2023). The mixed method is used for the project where the point of view of the researcher is stated as well as the data that are already recorded somewhere authentically or collected through surveys and interviews.

ANALYSIS AND DISCUSSION

The method by which all the information is recorded by a certain technology where the recorded data cannot be damaged, changed, or hacked. The data are recorded as nodes and they are connected through chains. The relationship between each and every node is very significant and simple for any analysis that is helpful for the decision-making of a business. There are many transactions that are related to producing a product and the transactions should be very easy and simple and without any risk of unwanted problems. The transactions that are recorded should be accurate and the errors should be eliminated as much as possible. As an example, there are many transactions that are related to one single purchase from a shop such as the salary of the employees that are working there, the maintenance cost, and the transactions done.

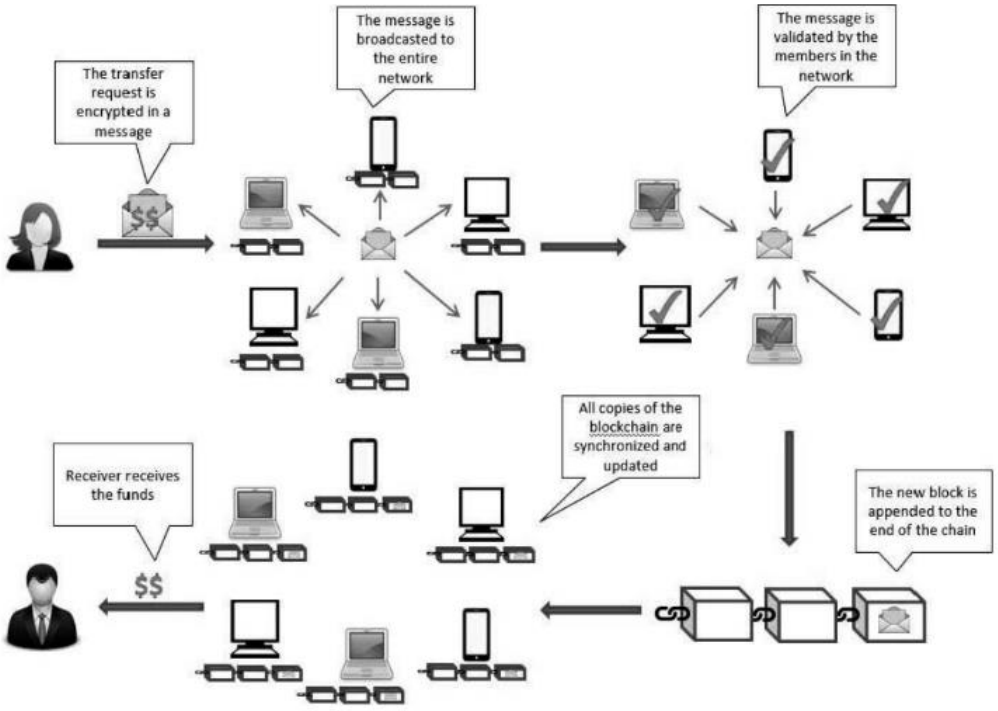

Figure 1: Blockchain technology

(Source: Denter*et al*. 2023)

Security can be a huge concern to record the data of the transaction and any mistake can become a huge error in the future that can affect the overall decisions of the business. The error elimination has been done after introducing the blockchain method where the accounting technology has been provided and the records of each supplier and customer are recorded separately. There are many duplications that can be seen in the chain which is very complicated to analyze the situation. The blockchain provides a common platform by which anyone can access the overall transaction system and can save time. The blockchain has been connected to the business and the transitions are recorded as well the mode of transaction can be money or even crypto currency. The technology modernized the industry and the accounts are recorded safely. The customers, suppliers, and all the related persons are connected through this technology, and for that auditing can become easy as well.

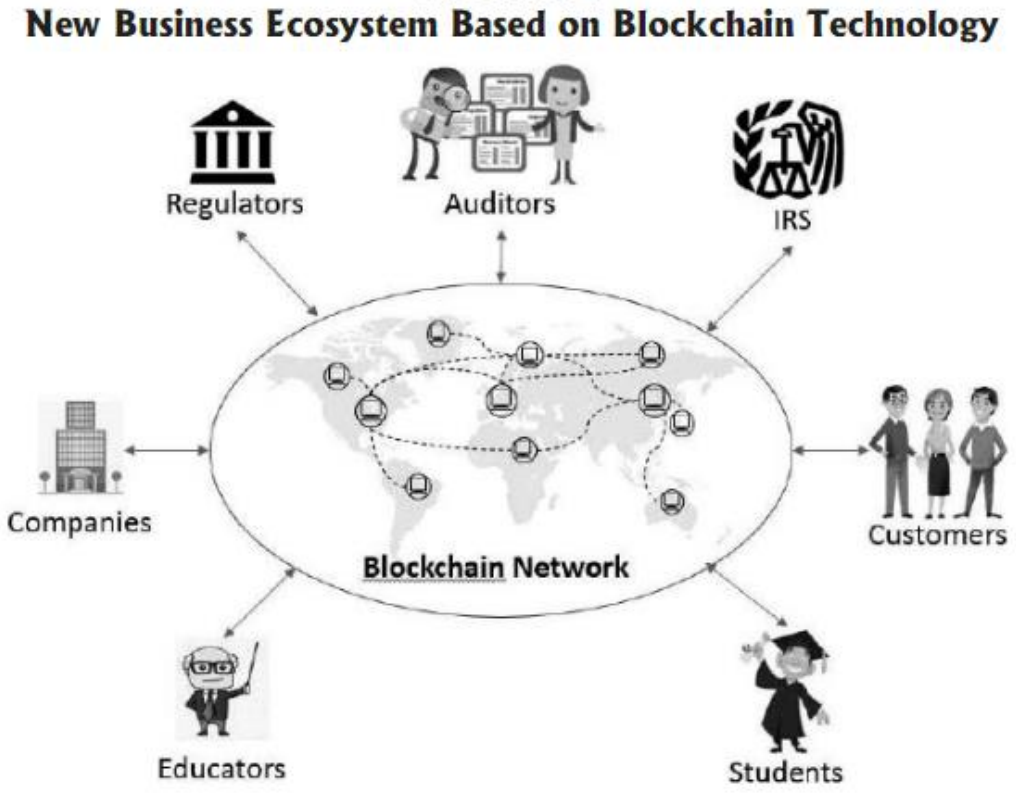

Figure 2: Steps of blockchain technology

(Source: Liu *et al*. 2023)

There are some steps by which blockchain technology is working and the steps are illustrated in the section. The blockchain is actually the combination of some leading technologies that are very common nowadays such as cryptographic keys, a peer-to-peer network, and some more. Cryptographic keys are basically two types, private and public keys. Successful transactions can be done between parties using those keys. A secure digital reference can be produced using the keys as everyone have access to both keys. The reference is actually the identity of the translation that is used for every case. The unique identity is providing the security that is the main concern of the system. The digital signature is used to maintain the authorization for the control of the transaction in the world of cryptocurrencies.

The overall process is then connected to the peer-to-peer network and the authenticity has been provided after that (Guru *et al.* 2023). The digital signature secures each transaction and that is recorded as a certificate that cannot be modified or changed at any cost so the security can be maintained. The audit can be done on the system very easily as they are connected through chains.

There are many kinds of blockchains that have been noticed in the market and used very frequently by big companies. The private blockchain network is used to operate the closed network that is used for confidential transactions and used in many small companies and businesses. Next is the blockchain network that is used in the public platform and that access can be done by anyone. This type can also eliminate some issues that are faced by the blockchain like centralization and security flaws.

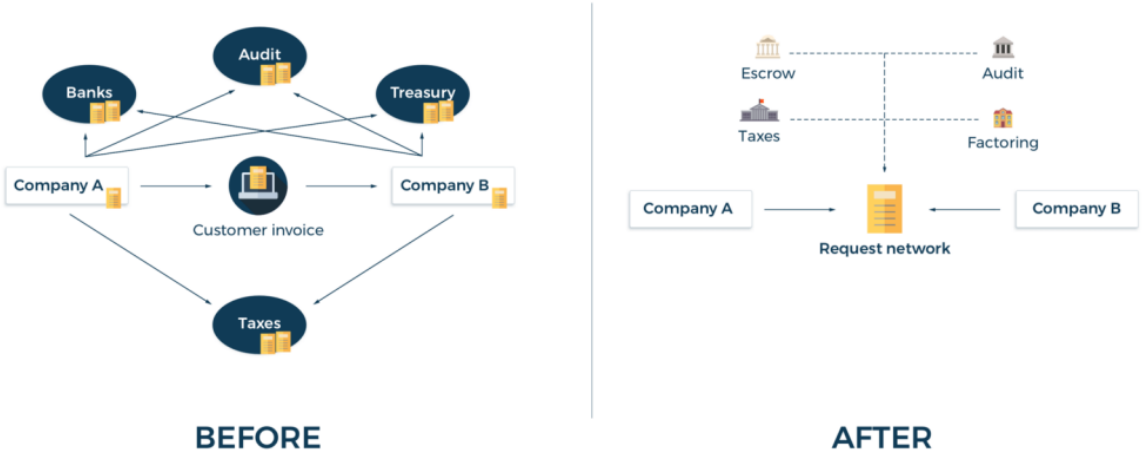

Figure 3: Impact of technology on accounting

(Source: Wasiq*et al*. 2023)

The permission blockchain network is used for the person who has permission access for the translation and the control. The hybrid blockchain has been used to modify the network for both the use publicly and privately and the centralization and error detection have been done using that. There are layers of blocks that are working in parallel and the network is known as the slide chain network. There are some layers that are connected and used in the transactions called the blockchain layers. There is always proof of every work that has been stored securely. The security of a blockchain has been increased by mining which is related to bitcoins. There are many decisions that can be taken using the records which can be very helpful for the business. The security of each transaction has been provided very carefully. Hacking is a process by which many data can be changed and manipulated but using blockchain technology the security is increased as no modification can be done.

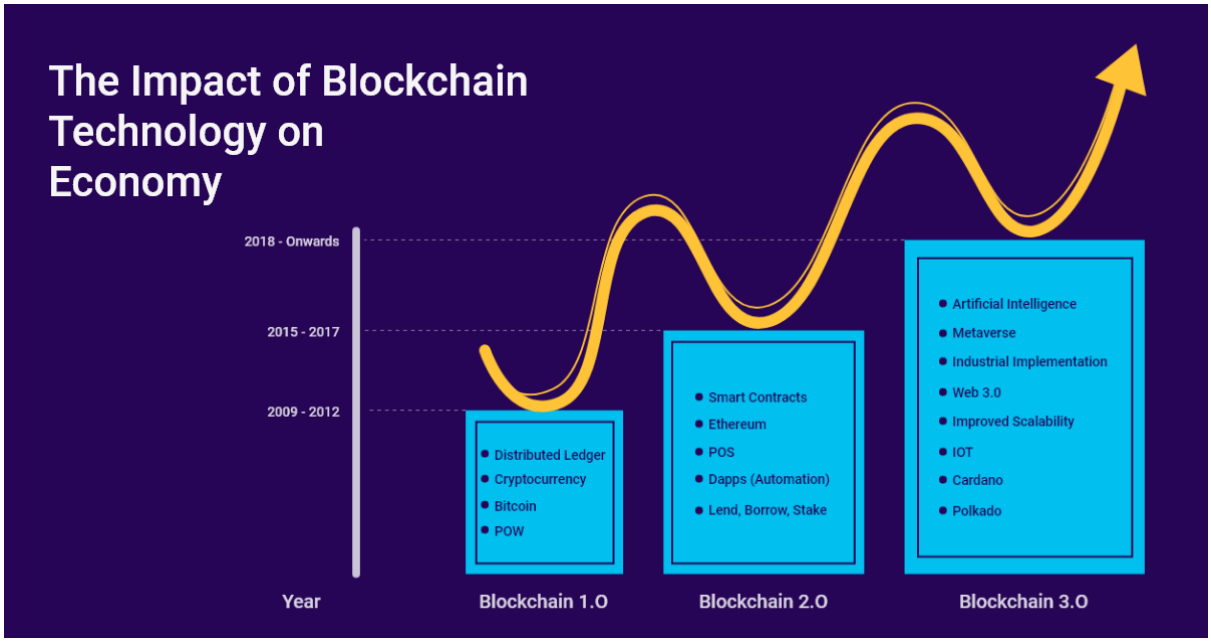

Figure 4: Impact of blockchain technology on the Economy

(Source: Najjar *et al*. 2023)

The unique code and the digital signature should be unique as a password that is proof of the authentication of the transaction between two parties. The transaction process was very haphazard in the early days and the analysis and audit can be very tough and complicated as well but after the introduction of the new technique named the blockchain technique, the audit process can be simplified. All the data that was recorded has been secured and stored using blocks that can be worked layer by layer. This arrangement of data can be very helpful for the audit. The analysis is used to make any decision and error identification. The accuracy of the audit has been addressed in the process and an error-free result has been produced. The process has been very effective nowadays when moneyless transactions are becoming very popular and by which the theft and misuse of security and trust have been noticed too. The certificate of each and every transaction that has been provided can ensure the authenticity and uniqueness of the transaction.

FUTURE POSSIBILITIES:

Looking ahead the Blockchain technology holds many promising potential for the transformation of the auditing practices in the businesses. As Blockchain technology continues to be more and more mature, the scalability issues are likely to be addressed through advancements in technology, such as sharing and layer two solutions. Interoperability standards and the protocols will be developed gradually to enable the seamless integration with the existing systems.

CONCLUSION:

Blockchain technology holds tremendous potential to transform the auditing of business by improving the efficiency, thus enhancing data integrity and strengthening fraud detection capabilities. Through its transparent, decentralized and immutable nature, Blockchain provides the auditors with direct access to reliable and tamper proof transactional data, which eventually reduces the reliance on the manual processes and the intermediaries. However, the implementation of the Blockchain technology in the auditing process requires overcoming the challenges and must develop the necessary skills and regulatory frameworks. As businesses and auditors would adapt to this innovative technology, they can leverage the benefits of the Blockchain to enhance audit effectiveness and foster greater trust in the auditing profession.

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