The Evolution of Accounting Software: Review of Blockchain Technology in Audit

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Abstract. The rapid development of technology, especially in the scope of the industrial revolution 4.0 gave birth to Blockchain Technology. The purpose of this article is to further explore the impact of blockchain technology on auditing. Blockchain has an impact on processes, regulators and the audit profession carried out by auditors against a company. The findings of this study indicate that there is a positive impact of blockchain in auditing is the freedom of access to view key records so that the auditor can easily authorize transactions, the convenience of validating transactions, the existence of an integrity and reliable data guarantee, the verification process is carried out automatically, obtaining data directly without third parties, convenience in providing financial statement assessments, big data analytics features that are guaranteed to be true, and making the audit process more extensive. The application of blockchain technology will not have a negative impact on the audit profession. The presence of blockchain technology only acts as an assistant for auditors which will facilitate the work of an auditor. Audit regulators need to work together to determine the optimal approach to ensure that blockchain applications not only deliver the promised business value, but are also performed consistently with prudent and effective governance.

Keywords: Blockchain Technology; Audit

1 Introduction

New innovations in technology are born every day, as a result of technological developments. Current technological developments affect all aspects of life, including the world economy. The era of the Industrial Revolution 4.0 (The Fourth Industrial Revolution), which was introduced by Angella Markel in 2015 at the World Economic Forum, is a concept of automation by machines without the need for human labor in its application. New things found in the industrial revolution era 4.0 compared to its predecessor revolution era, including Big Data, Artificial intelligence (AI), Internet of Things (IoT), and genetic engineering. Another product of the 4.0 industrial revolution era is bitcoin. Bitcoin as one of the cryptocurrencies emerged in 2008, which was introduced by an anonymous person or group as Satoshi Nakamoto. To run the bitcoin, Satoshi Nakamoto created a database system which was later called blockchain. When someone buys bitcoin coins, a computer system connected to the blockchain network will record and provide validity automatically and the blockchain will

be publicly visible (open source) like a ledger in a bank that records all customer transactions [1]. Until now, the use of blockchain is not only for bitcoin, but also for other types of cryptocurrencies.

The application of blockchain has penetrated the economic field, including the auditing field. Blockchain is fundamentally changing the accounting profession as it introduces drastic new ways of recording, processing and storing financial transactions and information. In addition, blockchain is changing the auditing profession and the limitations of traditional auditing can be overcome by auditors by utilizing blockchain technology [2]. As explained earlier, blockchains are inherently resistant to modifications to the data already stored in blocks. Also, functionally the blockchain functions as an open and distributed ledger and records all transactions between two parties which is considered to be quite efficient, reliably verified, and a reliable level of security [3] . So that when auditors perform their duties to obtain audit evidence, blockchain can be used as a source of verification for transactions reported in financial statements. Simply put, the auditor asks the client for a bank statement or sends a confirmation request to a third party (eg suppliers). Auditors can easily verify transactions on available blockchain ledgers. Automated verification processes can be run so that the costs incurred will be more efficient in the audit environment.

In research in the field of Accounting and Auditing, blockchain technology raises two opinions, first this technology will eliminate the auditing and accounting professions, others argue that this technology actually helps the work of auditors and accountants in carrying out their duties [4]. While [5] revealed that the potential impact of blockchain on audit practices include that some processes and transactions will be automated, records of all transactions will be immediately available to auditors and will be automatically validated, audit checks are carried out with blockchain, auditors not only have to understand technology but also the underlying code, they must assess the associated risks and the possibilities that arise. In their research [6] the impacts of blockchain include bringing new business to auditors, changing the audit process beyond the traditional audit sampling process, enabling continuous auditing of each "on-chain" transaction. From these three studies, we can conclude that there are various variations of the impact of blockchain technology in the field of auditing. Based on the phenomenon of blockchain as a disruptive technology, there is no adequate understanding and knowledge of blockchain, there are various research results on the impact of blockchain technology. Therefore, researchers are interested in taking a deeper look at the impact of blockchain technology in auditing. With further review through previous literature reviews, this scientific article is expected to contribute in the form of adding insight and knowledge from blockchain technology, especially in the audit environment.

2 Literatur Riview

2.1 Blockchain Technology Development

Web pages for trading cryptocurrencies and/or buying and selling digital assets such as www.indodax.com in Indonesia or www.Blockchain.info in the USA, both examples of these web pages can be easily accessed on clear webs such as google, mozilla , and explorers. While the web address for The Onion Router (ToR) regarding Blockchain is http://Blockchainbdgpzk.onion. ToR itself is software that is usually used to access things contained in the Dark Web, the purpose of using ToR is so that when accessing Dark Web sites our IP address is not tracked [7]. Blockchain is a sequence of blocks, which contains a

complete list of transaction records like a conventional general ledger or as expressed [8], the way blockchain stores transaction data, looks like figure 2.1. The blocks are linked together to form a chain. As the number of transactions grows, so does the blockchain. Each block contains a hash (digital fingerprint or unique identifier), a collection of timestamps for the most recent valid transaction, and a hash of the previous block. The previous block hash links blocks together and prevents blocks from being modified or or prevents blocks from being inserted between two existing blocks. Furthermore, each newly created block will strengthen the verification of the previous block and all data on the blockchain (the blockchain contains verified data).
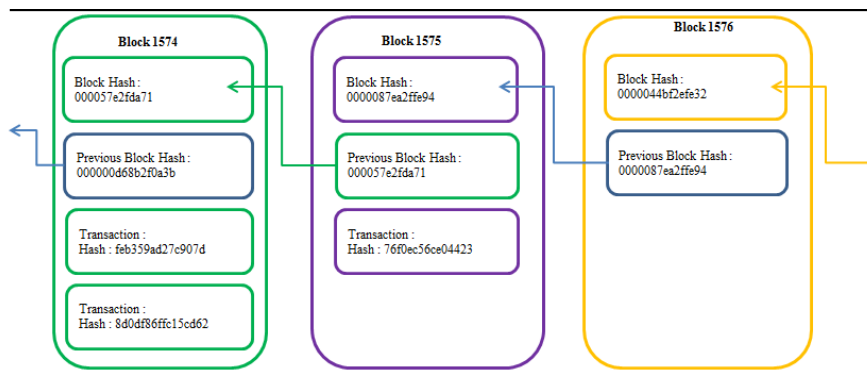

Fig. 1. The way blockchain stores transaction data
Source IB, 2017 : 14 [2]

Blockchain as a peer-to-peer system without a central authority manages the flow of data. Therefore, to maintain data integrity is to have a large network of various independent, distributed users. Blockchain consists of 3 main parts, namely [8]

a) Block

List of transactions recorded in the general ledger during a certain period. The size, period and trigger events for blocks are different for each blockchain. Not all blockchains record and secure cryptocurrency movement records as their primary goal. But all blockchains record the movement of their digital currencies or tokens. So blockchain is just a record of data. Assigning values to cryptocurrencies (as happens in financial transactions) is used to interpret what the data means.

b) Chain

Hashes that link one block to another, mathematically "chain""They are together. This is one of the most difficult blockchain concepts to understand. It is also the magic that blockchain brings and allows them to present confidence based on mathematical calculations. Hashes in the blockchain are created from the data that was in the previous block. Hash is fingerprint from this data and lock the blocks in order and time. While blockchain is a relatively new innovation, hashing is not. Hashing found more than 30 years ago. This old innovation is used because it makes function one direction that cannot be decrypted. The hashing function creates a mathematical algorithm that maps any size data to a fxed bit size

string. Bit string usually 32 characters long, which then represents the hashed data. Secure Hash Algorithm (SHA) is one of the cryptographic hash functions used in blockchains.SHA-256 is an algorithm that generates a unique 256-bit (32-byte) hash and fxed size. Simply put, think of the hash as a digital fingerprint of the data used to lock it in the blockchain.

c) Network

This network consists of "full nodes". Think of these full nodes as computers running algorithms that secure the network. Each node contains a complete record of all transactions ever recorded in the Blockchain. The nodes located worldwide and can be operated by anyone. In summary, the main characteristics possessed by blockchain as expressed by [9] are as follows:

1) Decentralization. In conventional centralized transaction systems, every transaction needs to be validated through a central trusted agency (e.g., a central bank) inevitably results in cost and performance bottlenecks in the central server. Differently, online transactions blockchain can be done between any two peers (P2P) without authentication by agent center. In this way, blockchain can significantly reduce server costs (including development costs and operating costs) and reduce bottlenecks performance on the central server.
2) Persistence. Because every transaction that spreads on the network needs to be confirmed and recorded in blocks distributed across the network, it is nearly impossible to tamper with. In addition, each broadcast block will be validated by other nodes and transaction will be checked. So any counterfeit will be easy to detect.
3) Anonymity. Each user can interact with the blockchain network with generated address. Next, the user will generate multiple addresses for avoid identity exposure. Thus, the central party no longer keeps user's personal information. This mechanism maintains a certain amount of privacy on transactions included in the blockchain.
4) Audit Ability. Since every transaction on the blockchain is validated and recorded with a timestamp, users can easily verify and track previous records accessing any node in the distributed network. In the Bitcoin blockchain, each transaction can be traced to the previous one iteratively. This increases the traceability and transparency of the data stored in the blockchain.

2.2 Blockchain and its Types

In 2008 an anonymous person or group by the name of Satoshi Nakamoto created a database system which was later called blockchain to run bitcoin (a type of cryptocurrency). There are several types of blockchain technology, namely:

a) Public blockchain, is a blockchain that is not controlled by individuals or organizations so that it can be accessed and used by anyone.
b) Private blockchain, is a blockchain that facilitates the private exchange of data between a group of individuals or organizations so that it cannot be accessed by anyone unless the user is known or received a special invitation.
c) Consortium blockchain, is a combined public and private blockchain, there is no single responsible organization that can control the network but several predetermined nodes. These nodes can decide who can be part of the network and who can become miners [10].

2.3 Blockchain Concept

The blockchain concept can be defined as a distributed ledger used to record transactions and track assets within an available business network. This information ledger operates with encrypted data to implement identification, authentication, and authorization of access to information. The goal of this blockchain technology is the integrity and trustworthiness of data. Blockchain is a technological tool for complying with data integrity, in terms of completeness, correctness, and freedom from contradictions, in distributed software systems. A distributed software system is a number of independent computers that cooperate with each other on various informational transactions, without having a centralized computer to control or monitor those transactions. In a centralized system, only one computer can control all the information that occurs in a particular context or network. In our daily economic life, we know that transactions should not only be on one computer to prevent the risk of fraud, but rather on many computers. For this reason, companies use decentralized information systems. In this decentralized system, ownership of information must be authenticated, proof of ownership has three elements: (1) identification of the owner, (2) identification of the object owned, and (3) mapping of the owner with the correspondent object. These objects and mappings to their owners are stored in the ledger, according to proof of ownership [11].

2.4 Application of Blockchain Technology

Blockchain technology can be applied in other ways that are far from what it was originally designed for (as the foundation of cryptocurrency and digital asset transactions). The following is an example of the application of blockchain in several industries other than cryptocurrencies and digital assets as revealed by the United States company that manufactures and sells computer hardware and software, International Business Machine Corp. Financial Services: The use of blockchain technology in the financial services industry, among others, is in the fields of: (a) Insurance, (b) Government, (c) Supply Chain Management, (d) Health Services.

2.5 Audit

Auditing is an examination carried out critically and systematically by an independent party on the financial statements that have been prepared by management, along with accounting records and supporting evidence, with the aim of being able to provide an opinion regarding the fairness of the financial statements [12].

2.6 Objectives and Benefits of Audit

In the increasingly advanced development of the business world, interested parties in the business need an audit report as a basis for making reliable decisions. The audit objectives will not be the same depending on the implementation of the audit. The audit objectives include:
   a) Control Assessment: The company has internal controls that are used to oversee all stages of operations so that they can run properly and effectively. Companies can use audit services to assess controls as expected so that objectives can be achieved
   b) Performance Assessment: Companies can develop and improve performance by evaluating the performance that has been implemented. Audit assists in assessing

performance based on the information obtained to determine the performance has been in accordance with the plan that is effective, efficient, and economical.

c) Management Assistant: Audit plays a role in assessing the operational and compliance stages within the company with the results provided in the form of recommendations. With a recommendation

d) Auditors, company management can be helped in improving quality and improving unexpected aspects

2.7 Audit Process

The method or steps of audit work according to [13] are divided into 3 major stages. the first stage contains procedures for assessing risk, the second stage contains procedures for responding to risks, and the third stage contains procedures related to reporting. The following is an explanation per procedure in each stage.

a) Stage I Audit
   1) Acceptance of Assignments - The standard ISA used in this stage is ISA 210.
   2) Comprehensive Audit Strategy - The standard ISA used in this phase is ISA 300.
   3) Determining and Using Materiality - The ISAs that are used as reference in this stage are ISA 320 and ISA 450.
   4) Audit Team Discussion - The standard ISAs at this stage are ISA 240,300, and 315.
   5) Identifying Inherent Risks - ISA 240 and ISA 315 are the reference standards in this audit phase.
   6) Assess Inherent Risk - This step assesses the identified risks and determines the importance of those risks for auditing financial statements.
   7) Significant Risk - At this stage the auditor identifies, responds to, and documents matters related to significant risks.
   8) Understand Internal Control
   9) Evaluating Internal Control
   10) Communicating Internal Control Weaknesses
   11) Completing the Risk Assessment Stage

b) Phase II Audit
   1) Responsive Audit Plans - ISA 260, 300, 330, and 500 are audit standards that are the reference in this stage.
   2) Further Audit Procedures - The reference in this stage is ISA 330, 505, and 520.
   3) Sampling - The ISA standards in this stage are ISA 330, 500, and 530.
   4) Documenting Audit Work - in accordance with ISA 230 and 500.
   5) Written Representation – The standard used in this stage is ISA 580.

c) Stage III Audit
   1) Formulating the Auditor's Opinion - ISA 700 is used in this stage.
   2) Evaluating Audit Evidence - The ISA references used in this stage are ISA 220, 330, 450, 520, and 540.
   3) Communication With TCWG - ISA 260, 265, and 450 are the standards used in this stage.

3 Methodology

4.1 Types of Research

The research uses qualitative research methods with the nature of literature review. Qualitative research emphasizes the quality aspect, so it requires a thick description. Thick description in question does not refer to the thickness of the page of a research, but rather to a thick explanation. So that requires researchers to always look for deeper meaning structures. Thick research is certainly needed in terms of thick descriptions which are presented in reflectivity and reflexivity, placing theory in qualitative research, and guaranteeing the validity and reliability of qualitative research [14]. Literature review means research is a study of written documentary materials [15] such as books, articles, journals, news and other types of literature related to the theme as the main object. Reading sources used for data sources must be selected by researchers because not all of them can be used. There are 2 principles that researchers can use to determine criteria in choosing reading sources, namely the principle of recency and relevance. This is because reading sources published in the past may contain theories and concepts that are no longer in line with current conditions. Therefore, to get reading sources in accordance with the two principles above, researchers need perseverance, foresight, and craftsmanship in finding reading sources that will be used as data sources [16].

4.2 Data Source

The data collected is accurate and systematic data so that it can analyze and interpret the data well and produce conclusions in accordance with the objectives of this study. Data is vital in any research, because it is the basis for discussing a topic. The source of data in this study is derived from secondary data. The main references that will later be used as a reference source in this research are journals, articles, books, and other reading sources or documents regarding the impact of blockchain technology in auditing in the industrial revolution 4.0 era. Supporting data or secondary references that will be used in research as a complement to data Primary are journals, articles, books, and other reading resources or documents about cryptocurrencies, digital asset transactions, and auditing, and the latest issues regarding current technology in the world of economy. Details on the literature materials that have been used by the author in this study will be shown in the appendix in the form of a table, according to the discussion of the theme of each literature material.

4.3 Data Collection

The data collection technique used in this study to obtain relevant information in this literature study research is to collect reading sources that have been searched for, selected, analyzed, and presented as data sources according to the research theme. The presentation of the data in this study will be in the form of words that have been processed so that they are concise and systematic.

4.4 Data Analysis

The data obtained from the research and the validity of the data has been tested for data analysis. There are several steps to analyze the data in this study. The steps of data analysis that will be applied in qualitative research according to [17] are as follows:

The researcher's efforts to process the selection, separation, and attention to make the data simpler. Data from various literatures will be reduced, summarized, and focused on the main things according to the research theme. So that the data will be described in full and in detail. This step is done so that it is easy for researchers to see the overall picture of their research. The presentation of limited data as a collection of information arranged to facilitate researchers in order to draw conclusions and take action. Efforts made by researchers in order to draw conclusions in this study are to carry out continuous verification during the research process (data collection). Researchers will try to analyze to find relationships between things that arise and then later will be poured into tentative conclusions (can be changed).

4   Results and Discussions

The era of the industrial revolution 4.0 is marked by many automated processes, carried out by machines without much human intervention in them. In addition, the need for timely data retrieval and/or exchange is increasing. The current accounting system is considered still in the growth stage compared to other industries. The reason is because the accounting system requires regulations with respect to validity and integrity. The entire accounting system is built in such a way as to avoid counterfeiting. Rapid technological developments have resulted in new innovations, updates, and the latest discoveries in the field of technology. Technology easily invades all aspects of human life, because in essence technology makes it easier for humans to carry out their activities, especially in the current era of the industrial revolution 4.0. The world of accounting and auditing cannot be separated from the invasion of technology. Audit is a process carried out by the auditor in critically and structured examination of the financial statements prepared by the company's management, accompanied by supporting records and evidence. In carrying out the audit, it is carried out by an independent party from a certain party so that the final result can be obtained in the form of an opinion about the fairness of the financial statements that have been given [12]. In the audit process, the auditor has access rights to blockchain technology which can be done at any time to view key records, so that the auditor can examine and directly assess the suitability between the company's financial statements and actual transactions. Therefore, auditors with the help of blockchain technology have been given access to retrieve information from the company's blockchain, so that auditors can easily conduct audits in their activities to examine and directly assess the suitability of the financial statements that have been provided by the company regarding transactions. what actually happened. In a private or limited blockchain, granting access to this blockchain is not arbitrarily granted to unauthorized parties, so only the auditor concerned who has been granted access permission can access the company's blockchain.

The ledger in the blockchain is distributed and decentralized, so that the storage of every cryptocurrency transaction is not stored on a central server [18]. With its distributed and decentralized nature, blockchain does not require a third party to verify or validate transaction data. For example, when a company uses bank services to carry out all types of payment transactions, in validating financial data, the auditor requires a report from the bank. Blockchain technology is decentralized, distributed, and can be used publicly so that it does not depend on external parties for validation and integrity of data authenticity, and information in the blockchain can be verified and controlled by anyone including auditors who will carry out the audit process. In addition, the positive impact of the decentralized nature of blockchain makes recording transactions safe from fraud because basically blocks on the blockchain cannot be changed easily. Blocks cannot be changed easily because the data stores form an

interconnected chain in a linear chronological order. When fraud can be minimized, it certainly brings the audit process more effectively and efficiently. Blockchain technology indirectly provides many benefits that make the transaction process completely automatic because it is more secure and transparent. This is because blockchain is equipped with value exchange protocols, cryptographic algorithms, and peer-to-peer networks. Blockchain technology will also take the auditing profession to a new level, where all processes are fully automated and there is an increasing use of data analysis. Embrace and leverage new technologies in performing audit tasks, such as adopting artificial intelligence (AI), blockchain technology, and smart robots. However, auditors must understand how technologies such as blockchain work and how to use them in organizations. Auditors should take advantage of machine learning and data analytics in the audit process.

Blockchain as a ledger has a role as a database of cryptocurrency financial transactions. The data set on the blockchain is more valuable and accurate because it is verified. When auditors conduct audits, they must carry out responsive audit planning by formulating appropriate strategies in order to provide an appropriate assessment of what is being audited. Evaluation of audit evidence is done to reassess materiality, fraud, and ensure that the audit evidence that has been collected is sufficient and appropriate. Cryptocurrencies as digital currencies carry out their transactions using the blockchain. When an audit is conducted, blockchain as a technology to run cryptocurrencies has an impact on the audit process. Blockchain not only records transactions but also automatically verifies transactions without intervention or the need for intermediaries [19]. When all data on the blockchain is verified, this will reduce fraud on transactions that occur. The data collected is more secure. The integration of transaction data on the blockchain will strengthen accuracy so that auditors can speed up their steps in evaluating audit evidence against cryptocurrencies. Even with the use of blockchain technology, the synchronization of accounting records allows for automatic audits to take place [20]. That way, the cryptocurrency audit process will be faster and the emphasis of the audit process will shift to other things. This has a good impact when collecting audit evidence from data that has been collected on the blockchain can be guaranteed truth, guaranteed security and minimized from the manipulation of certain irresponsible parties.

Governments and private organizations are investing heavily in big data and blockchain technology because of their huge potential in solving many real-world problems. In general, big data applications obtain data from diversified sources in different formats (unstructured data). This data cannot be processed in its original form. Blockchain with its ability to handle very large data effectively provides structured data to make predictions. Blockchain ensures data integrity through a consensus algorithm thereby reducing data attacks. Blockchain services for big data acquisition include secure big data collection and secure big data transmission/sharing [21]. In an audit, sufficient, material, relevant and reliable evidence is needed to assess the conformity of the financial statements submitted with the standards set apply. Audit evidence can support the opinion that has been issued by the auditor. In a blockchain that helps solve the problem of analyzing unstructured big data into a structured format, auditors have confidence in the process of collecting and sharing data because it is secure. The data collected can be a source of information for the auditor in collecting audit evidence. The audit data collection process is changed with blockchain, where auditors do not need to request and wait for clients to provide data because the complete cryptocurrency transaction record is on the blockchain. In addition, auditors can save more time, cost, and energy in the data collection process. All virtual currency transactions will be recorded in a ledger which is distributed publicly among users. Moreover, the ledger uses a peer-to-peer

network where users are given the freedom to access, share and download data. Peer-to-peer networks are useful for blockchain users to have a copy of the entire ledger on their devices.

Blockchain technology has a good impact on the process of storing data that can be updated in real-time [22]. Blockchain technology is useful for sharing information between users which will help in achieving the goal of public participation. Auditors can monitor and verify transaction accounts in real-time and do not need to wait for the manual submission of annual reports [18]. It can be seen that this technology is based on a peer-to-peer network so that users in the same network can share data easily and in real time. Auditors as parties conducting audits of financial statements can freely access in real time via the internet without having to go directly to clients to request financial reports on digital currency transactions. Sophisticated blockchains have real-time verification characteristics that make it easier for auditors to assess financial statements. In addition, costs in the audit environment are also more efficient due to the automation of this verification process. This is because transactions on the blockchain ledger can be verified directly via http://www.blockchain.info or http://www. blockexplorer.com is compared to verification to a third party first, which will take more time and cost. Therefore, it is clear that the characteristics of this real-time verification can assist the audit process, where the assessment of the financial statements is not only carried out at the end of the period or temporarily but is carried out continuously throughout the audit period. If technology such as blockchain continues to be developed to automate the audit process, it is possible that a fully automated audit process will soon become a reality [23].

With blockchain technology, it can make it easier for auditors to examine or inspect records and documents, thus enabling a thorough evaluation of the data in the system. This is because in blockchain technology data is transparent and distributed among users. So the auditor does not have problems in the audit process because of the difficulty of accessing data, relevant and required data by the auditor is already available transparently and completely on the blockchain, and can be used at any time by the auditor because he has access rights. One of the factors that affect audit quality is the availability of data owned by the company that the auditor needs to support the audit process, without blockchain technology there may be lost documents or the company conceals data from the auditor. However, with blockchain technology, data is available comprehensively and transparently, so it can support the efficiency of the audit process and improve the quality of audits carried out by auditors. When blockchain is combined with the right data analytics, it can help resolve transactions involving audit processes more quickly. Further explanation, on how AI affects auditing explains that operationally, for the audit area, artificial intelligence is a set of complementary technologies that can change the audit process. Audit procedures are the most impactful thing when technology invades the auditing world. The advent of computers changed the scope and methods of examination. The advent of analytics will change the scope of audits (more proactive than reactive), efficiency, and the costs and benefits of work. The emergence of AI will instill human activities into things that are completely automated [24]. A table about a brief explanation of how AI affects the audit process can be seen in the appendix Comparison of Traditional Auditing Processes with AI Auditing Processes.

5 Conclusions

The conclusions obtained from the results and discussion of the chapters that have been described previously are as follows:

a) In today's technological developments, it has an influence on the economic activities such as is the emergence of blockchain technology as a distributed ledger that facilitates the financial recording of digital currencies such as cryptocurrencies. With the cryptocurrency digital currency facilitated by the blockchain, the flow of transactions can be decentralized with a peer-to-peer network system between users. So it can be concluded that blockchain technology can have an impact on auditors who audit financial records. The perceived impact in the audit environment is that auditors have the freedom to access blockchain technology, have a high level of data validation and integrity, make financial data more transparent, minimize the risk of fraud and error, make transaction processes more automated, have a high level of data accuracy, have the ability to analyze big data, performs the audit process in real-time, provides convenience in the assessment of financial statements, facilitates inspection and observation procedures.

b) The application of blockchain technology will not have a negative impact on the auditing profession. The presence of blockchain technology only acts as an auditor assistant which will facilitate the auditor's work. Blockchain technology will take the auditing profession to a new level, where all processes are fully automated and there is an increasing use of data analysis. Embrace and leverage new technologies in performing audit tasks, such as adopting artificial intelligence (IA), blockchain technology, and smart robots. Auditors must understand how technologies such as blockchain work and how to use them within the organization. Auditors must utilize machine learning (machine learning) and data analysis (data analytics) in the audit process [25].

c) Blockchain technology can have a very positive impact on the audit environment (processes, professions and regulators) and bring much-needed optimization to existing processes. It is possible to change the sample-based testing process to population-based, so that a wider audit coverage and real-time auditing process is possible with blockchain technology, if all information about transactions is uploaded in blockchain technology and auditors have official access permissions to access the data. This kind of scheme will not only increase the value of the audit, it will also bring audit quality to a new level and errors and/or fraud can be detected early, so that auditees can quickly correct them [23]

d) Audit regulators need to work together in determining the optimal approach to ensure that blockchain-based applications not only deliver the promised business value, but are also carried out in a manner consistent with prudent and effective governance. Massive application of blockchain technology in various fields and countries, including in Indonesia, must carry out various trials and in-depth studies regarding the benefits and risks that will be faced. The series of trials and implementations in several countries and or companies that have already implemented them can be used as benchmarks. In addition to technology and business readiness, regulations regarding blockchain technology must also be carefully prepared with the aim of advancing the industry and protecting consumers [26].

Suggestions for further research are expected to also examine the negative impacts that occur in audits using blockchain technology so that later auditors can evaluate and take preventive actions as well as problem solving for the negative impacts of the audit. Even though in the world of auditing the use of blockchain technology is relatively new, it is recommended that the party conducting the audit can be more literate with this blockchain technology so that later they can make adjustments to this digital currency audit easily.

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