BLOCKCHAIN TECHNOLOGY IN DIGITALIZATION OF RECORDING ACCOUNTING TRANSACTIONS

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ABSTRACT

In the industrial era 4.0, the newest digital currency payments emerged, namely cryptocurrency. Cryptocurrency uses blockchain technology to manage and record transactions, so that the financial transaction system does not require a third party as an intermediary and makes transactions more transparent. Blockchain has an impact on the audit process carried out by the auditor. The purpose of this study is to examine the impact of applying blockchain technology in digitizing accounting records. The research method used is descriptive qualitative by finding sources of data from literature, articles, reputable international journals. This research shows that blockchain technology has the potential for implementation in the fields of accounting, auditing and finance. The results of this study indicate that the positive impact of blockchain in digitizing accounting records is the freedom of access to view key records so that auditors can easily authorize transactions, the ease of validating transactions, the guarantee of integrity and reliability of data, the verification process that is carried out automatically , obtain data directly without third parties, ease in providing financial report assessments, have big data analytical features that are guaranteed to be correct, and make the accounting process more extensive and real-time.

Keywords: *Blockchain, Corporate, Accounting, Digitalization, Transactions*

1. INTRODUCTION

The needs and demands of society have escalated along with the times. Likewise, the stakeholders consider the financial report information provided currently it is considered inadequate predictive information so that transactions in a timely manner adjacent to make the output of the use of double entry bookkeeping is not relevant enough and real-time. Financial statements prepared using double entry bookkeeping only present historical data, while stakeholders need financial information to make future decisions. This problem raises triple entry bookkeeping as a development configuration of a system that has been used previously (Yuji Ijiri, 2014). In Almira Keumala's research, 2019 stated that in 1494 the bookkeeping system double entry bookkeeping was introduced by Luca Pacioli in a book entitled "Summa de Arithmatica, Geometrica Proortioni et Propotionallia" in the subtitle "Tractus de Computies et Scriptoris".

The development of the times the world experienced significant development in the field of technology, various kinds of information and communication facilities can be accessed easily, one of the technologies that continues to develop is blockchain. Blockchain is a series of data records that are managed by a group of computers that do not have any entity, so that all information in it is open to anyone who wants to access it [1]. Blockchain identical to crypto coin and bitcoin but blockchain technology can be used for accounting operations. It is concerned with maintaining a common ledger, accurate financial information and thus directly has a major influence on accounting practices [2]. The accounting profession focuses on the measurement, communication and analysis of financial information. primarily involves the determination or measurement of rights and obligations over property, or planning the best possible allocation of financial resources [3]. Blockchain refers to a shared database that is maintained and verified by network participants to ensure transparency and immutability [4].

Blockchain has the potential to scale up the accounting industry at scale by reducing the costs of maintaining and checking general ledgers, provides simplified operations, and absolute certainty in asset ownership and records. It can also free up resources for accountants by eliminating reconciliations and providing certainty in transaction history, thus focusing on planning and valuation rather than just recording [5]. Traditional payment methods every transaction in the world is registered on privately owned databases owned by companies and state entities. This database is not accessible to the public and is therefore closed. They are also usually owned by a single entity. Because of this nature, they can be open to fraud or exposed to attacks that can cripple the network. The bitcoin blockchain is designed to be a decentralized network [27]. However, in doing so, a number of problems have arisen. One big problem is that transaction times and fees in bitcoin increase as the network becomes more congested. This has actually given rise to disagreement by a number of those who uphold the network as to how the technology should evolve in the future to address this issue. Blockchain technology that so far is interesting for companies, including the ability to have a joint ledger that records activities or shared ledger of activity to help make transactions more efficiently, reduce the number of intermediaries involved, and lower processing costs.

Blockchain would allow large-scale transaction-level accounting, but traditional accountants cannot. Therefore, the criteria for assessing the success of an accountant will change [6]. If the work is judged by the interpretation of the real economy recorded by the blockchain, the accounting will be considered successful. The current need is to reconcile accounting records with economic realities and valuations [7]. For example, ownership of an asset can be verified via blockchain records, but its actual status, location and value still need to be determined only by the human brain[8]. Therefore, it can be concluded that blockchain can expand the scope of accounting considering areas that are considered too difficult or cannot be measured [9].

Blockchain technology has the potential to provide a much faster and cheaper alternative to traditional cross-border payment methods. Blockchain can enable lower fees in traditional cross-border payments, as well as guaranteed real-time transaction processing speeds. however, there are hurdles to overcome, including regulation of cryptocurrencies in various parts of the world and security concerns.

Based on the background, the formulation of the problem that will be studied in this paper is regarding the concept of blockchain technology starting from features, types, and applications in various industries. Based on the above background, it can be seen that the objectives and benefits of writing this paper are:

1. Knowledge of blockchain concepts in distributed ledger technology.

2. Know the features and processes of blockchain.

3. Understand the difference between centralized and decentralized ledgers.

4. Identify the impact of blockchain on accountants and auditors.

5. Knowing the impact of blockchain technology on accounting methods.

6. Know the industries that are affected by blockchain technology.

The benefits obtained based on the background in writing the thesis are be able to understand the concepts of distributed ledger technology, blockchain processes, the difference between centralized and decentralized ledgers, and the various areas of finance in which blockchain can be applied.

2. LITERATURE REVIEW

2.1 Blockchain

2.2.1 Definition Blockchain

Blockchaincan be defined as a database that can be shared, maintained, and verified by all users. This ensures the permanent and timely maintenance of financial records of transactions. It also ensures transparency and no subsequent changes. The biggest advantage is the high probability of fraud detection [6].

According to Yaga et al. (2018), blockchain is a distributed, encrypted digital ledger of transactions that is signed and grouped into blocks. After verification and consensus decision making, each block is encrypted and linked to the hash value of the previous block [5]. When a new block is

successfully created from the mining process, the data in the previous block is impossible to change or manipulate.

Based on the definition of blockchain by Yaga et al. (2018), on the general definition of blockchain, it can be concluded that blockchain is a distributed database that records every transaction or exchange in each block and is protected by cryptographic security methods, so it is secure, cannot easily change its value.

2.2.2 Blockchain Development

According to the development of Blockchain to date, it is divided into three eras since it was first introduced with the discovery of Bitcoin at the end of 2008 (Bashir, 2017), the three eras of Blockchain development are:

    a.   Blockchain 1.0

The first generation of blockchain started with the emergence of the term Bitcoin, which is mainly used for encrypted currency or digital currency, and also includes financial cryptography technology to protect the process and application of transactions publicly.

    b.   Blockchain 2.0

The blockchain implementation of financial services and smart contracts was specifically introduced in blockchain generation 2.0 via a network platform called Ethereum. In addition, various other services such as marketing companies have also started using blockchain services. In this generation, blockchain is also more flexible to meet user needs.

    c.   Blockchain 3.0

In the third generation, Blockchain has been used to be implemented in applications outside the financial services industry and is used in more general industries such as government, health, ownership of works of art, judicial processes, and so on.

2.2.3 Advantages of Blockchain Technology

The advantages of Blockchain technology are:

a.   Transparency or openness.

Blockchain manages silent transactions so that the processes in them can be seen and shared with everyone [7].

    b.   Eternal or permanent,

writing data on the Blockchain only once if the data is changed, then the stored data cannot change all existing data because the data to be changed will affect the transaction records afterwards, so by changing the data, efforts are needed to change almost all existing data records. To prevent data changes, the security system must be strong by applying cryptography to verify data and maintain data changes.

    c.   Has the convenience of tracking every transaction data on the Blockchain network.

transaction data stored on the Blockchain network will certainly refer to previous transactions, so this can facilitate the verification process and search for transaction data.

    d.   Anonymous, even if the data is stored on the Blockchain public network

anonymous/transparent that can be accessed by the user. However, related to the identity of each user who sends or receives transactions from the Blockchain network, there must be a specific address or so-called public key, the true identity of each user is not displayed on blockchain network transactions.

2.2.4 Blockchain Structure

Behind the operation of the blockchain, there are important parts that are structured so that the blockchain can be used. According to Laurance (2017), the structure of the Blockchain consists of 3 main component parts, namely:

    a.   block (block)

Blockchain is composed of many blocks that represent a list of valid and stored transactions. Each block has a cryptographic hash as a pointer or as the identity of each block so that they can be connected to each other.

According to Antonopoulos et al., (2017) the structure of a block consists of a header, followed by metadata and a list of stored transactions. Based on the explanation above, there are components that exist in each block on the Blockchain network, namely:

1. Block Size is the first part of the block structure that stores information related to the size of a block in bytes.

2. The Block Header is part of a block that has a size of 80 bytes and stores a set of metadata, such as:

- Version: Stores version information of a block and is 4 bytes in size.

- Previous Block Hash: a data store that has a hash on the previous block, also functions as a "chain" that connects the block with the previous block and has a size of 32 bytes.

- Merkle Root: Is a collection of information from all transactions that have been hashed on the block with a size of 32 bytes and aims to provide conclusions from all transactions carried out by the block.

3. Timestamp: Stores information related to timestamp or when the block was created with a size of 4 bytes.

4. Difficulty Target: Stores information related to the difficulty level of the POW (Proof of Work) algorithm used and has a size of 4 bytes.

Notes: This is a random number stored with a size of 4 bytes and used in the process of mining new blocks.

5. The number of records is the part of the block that counts the number of transactions carried out and usually has a size of 1-9 bytes.

6. Transaction List is a section that stores a collection of transaction data that has been carried out on a block with varying data sizes.

b. chain

each block on the Blockchain is connected to each other, a "chain" in the form of a hash is needed that connects one block to another block. The hash mechanism is one of the mathematically complex concepts to be applied to Blockchain. Although Blockchain is considered the latest technological innovation. However, not with hashes. The concept of hashing is known to have existed since about 30 years ago, and is used in the Blockchain concept

because hashes can only create one-way functions that cannot be decrypted. A hashing function creates a mathematical algorithm that maps data of all sizes into character bits which are usually 32 characters long, where the length of the bit size represents the hashed data.

c. Network (network)

The term network or network in Blockchain is a representation of the number of nodes or computers that are connected to each other and run an algorithm to secure the network. Each node has a record of all transactions recorded on the Blockchain. These nodes are located all over the world and are managed by everyone who is part of the Blockchain network. It is very clear related to the network topology used by Blockchain, namely Peer-to-Peer, where all nodes can communicate with each other between one node and another to receive and send messages.

2.2.5 Utilization of Blockchain Technology

It is known from the discussion of the development of Blockchain technology, starting from the era of Blockchain 2.0 to 3.0, where Blockchain technology has in fact begun to be implemented in several sectors other than the financial sector, but is applied to other fields such as health, industry, law, and others to provide solutions in services that are affordable. relating to the integrity or authenticity of data (Laurance, 2017). Here are some examples of the use of Blockchain technology as follows:

- The legal field can certainly apply Blockchain technology, especially when it is needed in the judicial process, by utilizing Blockchain, information about evidence is maintained its integrity and prevents case data falsification.

- The health sector can also apply Blockchain which can be implemented especially in relation to the interests of confidentiality of patient medical history data through electronic medical records.

- Supply chain fields such as Walmart which is a company from the United States that operates a network of department stores. In collaboration with IBM, Walmart has implemented Blockchain as part of new food safety requirements for its suppliers. This is based on so that Walmart can track

food information from farms to stores in the near future, using a distributed blockchain ledger system and avoiding counterfeiting and other losses.

- The financial sector is related to conducting digital currency transactions (cryptocurrency) which can be carried out on any various platforms provided that they must be connected to the internet network. Examples of its implementation include Bitcoin, Litecoin, and Ripple.

3. RESEARCH METHODS

3.1 Methods

This research is a qualitative research using the library method (library research). This research approach uses a qualitative approach, because both data sources and research results in library research (library research) in the form of descriptions of words. With sources secondary data, namely data obtained from a literature review, both through books, journals, magazines, scientific papers, and internet access which are considered relevant to the themes raised in this research. The journal articles collected come from indexed journals on scopus.com, Emerald, Elsevier journal, IEEE, ACM by using the word key "blockchain technology, Digitalization, Recording, Accounting Transaction". The data in this study uses secondary data. Secondary data in this study were obtained from scopus.com, Emerald, Elsevier, Taylor and Francis, IEEE, ACM and other sources. The type of data that the author uses in this study is in the form of quantitative data in the form of numbers and can be measured in size.

3.2 Data Collection Methods

Primary data is a data source that directly provides data to data collectors. Secondary data is a source that indirectly provides data to data collectors through intermediary media, such as obtained or recorded by other parties. In this paper, the data source used by the author is based on how to obtain it, namely studying literature from various supporting literature sources. Sources are obtained from secondary data through books, national journals, articles, Deloitte reports, online articles, and other sites for analysis [8, 16].

Data collection techniques are the most important stage in a study that aims to obtain data. Data collection can be done using various sources and

various ways. In this paper, the author uses data collection techniques by means of literature study. The collection of data and information is done by searching, collecting, and studying various data and information from references such as previous research journals, books, scientific articles, reports, and other literature that has a relationship with the problems discussed in this paper, namely discussing various aspects of blockchain technology and its possible impact on a number of industries within the accounting field [9, 19].

3.3 Data Analysis Techniques

A study requires data analysis and interpretation to answer the researcher's questions and reveal the results of certain phenomena. The purpose of analyzing data is the process of simplifying the data that has been obtained into a form that is easier to read and interpret. In this paper, the author uses secondary data analysis techniques by collecting journals as supporting data for this research. The following are supporting research data according to experts as follows :

Mark Pilkington (2015) discusses decentralized ledger technology and its possible applications in banks, voting systems, digital identity providers, sports, tourism, the arts and social creation. The study also highlights the potential risks of a publicly distributed ledger requiring multiple hybrid solutions. Decentralized ledger technology is the core concept of blockchain. Blockchain is expected to reshape the banking industry by providing many enhanced services to today's unbanked population.

Deloitte Deutschland (2016) in its annual white paper stipulates that in the future, blockchain can be adopted at all stages of accounting from record integration to fully automated audits. It lies in deriving the benefits of blockchain and how it will help overcome today's traditional challenges of accounting and auditing. Blockchain can enable conclusive verification of transactions without the need for any intermediary whereas traditional accountants can put themselves up for a fight to detect fraud. Transactions can be written directly in the joint register whereas accountants need to maintain records manually. Nowadays, manipulation is easy to do but under blockchain, it is impossible to falsify records as they are cryptographically sealed [12, 17].

Dr. Saifedean Ammous (2016) discusses the background of blockchain technology used in the field of digital currency since circa 2008. Potential

applications of blockchain using decentralized currency principles are possible in areas such as digital payments, smart contracts, and database and record management. The study also highlights the challenges in the way blockchain adoption for the

	Permissionless Blockchain	Permissioned Blockchain
Central Party	No central owner or administrator	Controlling administrator
Access	Anyone can join	Cleared parties who can join the network
Level of Trust (Trust)	No need for trust	Higher level of trust
Openness	An open and transparent ledger is shared with all parties in the network	The level of openness of the ledger and transparency of the ledger is not high
Security	The level of security is an important factor because many have access	Security using access control
Speed	Slow and limited transactions	Faster transaction and load a lot
Identity	User identity anonymous or protected by pseudonyms	Identity verification performed by network owner/administrator is required
Consensus or agreement	Fewer consensus mechanisms	Allows multiple consensus mechanisms
Asset	Cryptocurrency, other assets possible	All assets
Legal ownership	There is no legal ownership	There is clarity of legal ownership
Example	Bitcoin, Ethereum	R3's Corda, Hyperledger Fabric

aforementioned areas. Redundancy, scalability, regulatory compliance, irreversibility, and security-related concerns are some of the economic

drawbacks in the way of wider blockchain adoption. Redundancy is associated with sharing every transaction with every member of the network. Scaling refers to large network sizes that increase storage and compute load.

Hossein Kakavand, et al. (2016) discuss regulatory issues and security-related risks in the field of blockchain technology. It also highlights the EU and US hoes of framing regulations for this emerging technology. In the EU, the European Securities Market Authority and the UK Treasury are framing blockchain-related regulations. In the US, the Commodity Futures Trading Commission, SEC, FinCEN and the Internal Revenue Service review blockchain-related rules and regulations. Some of the operational risks stem from possible bugs in the software, vulnerability to attacks, software changes that are always changing and the difficulty of understanding for the masses. Effective governance is also highlighted as critical for successful implementation of blockchain technology [10].

Lawrence J. Tractman (2016) discusses the history of virtual currencies and the impact of bitcoin on the financial industry. It stipulates that it is the reduction in the cost of storing and processing data that will increase the possible expansion of blockchain technology. Could be applied in areas such as transaction processing, government cash management, DR commercial bank ledger. LR Paliwal & Ms. Pooja Khatri: Blockchain: Digitizing Accounting Records141administration and clearing and settlement of financial assets. The potential blockchain adoption path has been established which says that its full adoption may take more than ten years as regulatory challenges remain [11].

CPA Canada, and the American Institute of CPAs (2017) highlight several possible uses: blockchain technology in the financial sector as well as other industries. The study says that technology can be applied in various areas of financial services but also in areas such as life sciences, public sector, energy and resources, and consumer and industrial products. Blockchain can help maintain the integrity of records, claims, billing, registrar, etc [13, 18].

Deloitte Access Economics, et al. (2017) highlight the meaning of blockchain technology and

Distributed ledger technology. It also highlights possible blockchain applications. The study discusses the benefits of blockchain for businesses and regulators. This clearly raises the distinction between a centralized ledger and a decentralized ledger based on intermediary costs, transparency, security, and privacy. It is said that recording and settlement of transactions are two core functions of blockchain based on which can be applied to various areas. Operational simplification, reduced fraud, greater transparency, and a single source of people's credentials are some of the benefits a business derives [14, 16].

Nadine Ruckeshnser (2017) discusses how management, boards, and internal control systems can work together to give rise to accounting fraud. With the help of case studies, generalized fraud patterns and relationships between internal and external control systems are established. Studies say that the application of blockchain in accounting leads to the maintenance of permanent, decentralized and transparent records of financial transactions and thus the probability of fraud detection or misrepresentation of transactions is very high. Blockchain through decentralized consensus leads to organizational transformation in many ways.

4. RESULTS AND DISCUSSION

4.1 Blockchain Concept in Distributed Ledger Technology

Distributed Ledger is a form of implementing Ledger for data storage and distribution in an accessible blockchain [26]. There are 2 types of Distributed Ledgers, namely, permissioned and Permissionless (open) without access to join the Blockchain network, and another Permissioned or have access to join the blockchain network. Distributed Ledger can be Open (permissionless) Ledger or Permissioned Ledger. There are fundamental differences between the two types of Distributed Ledgers. There are several aspects that can distinguish them, namely: Blockchain is for Bitcoin, like the internet is for email. A large electronic system, on which can build applications. Currency is only one," In simple words, Blockchain is a platform where can build applications. There are thousands of blockchain applications and cryptocurrency is one of the blockchain applications [25].


Blockchain provides the answer to digital trust because it records important information in the public sphere and does not allow anyone to delete it. Transparent, timestamped and decentralized.

Cryptocurrency is a Blockchain application

Even today, many people think that bitcoin and blockchain are the same, when in fact they are not. Those who started to realize on the block around 2014 that blockchain can be used not only for cryptocurrencies but also how blockchain can change different types of operations.

At the heart of the blockchain is an open and decentralized ledger that permanently records transactions between parties without the need for third-party certification. This creates a very efficient process, and one person estimates that it will greatly reduce transaction costs.
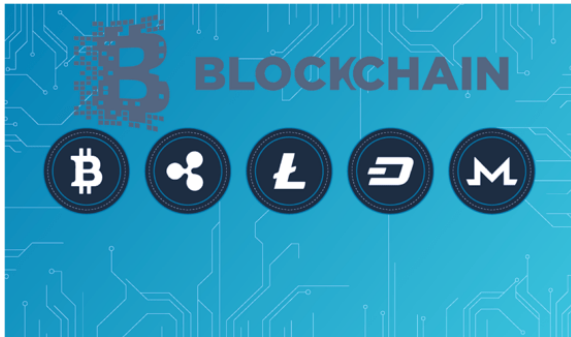
As entrepreneurs understand the power of blockchain, there is a lot of investment and discovery to see how blockchain affects supply chains, healthcare, insurance, transportation, voting, contract management, and more. Nearly 15% of financial institutions currently use blockchain technology.

4.2 Types of Blockchain

1. Public Blockchain

Refers to a decentralized blockchain. Blockchain systems can access anyone's transactions, forward transactions and expect them to be included in a series of blocks, and participate in the consensus process. This blockchain is guaranteed by the crypto economy which means a combination of cryptographic checks and economic incentives. It is a general principle that the degree of influence of a participant in the consensus process is proportional to the amount of resources they put into the system. Examples: Bitcoin, and Ethereum.

2. Blockchain Consortium

the consensus process is controlled by a pre-selected set of nodes. A cover is simply a copy of the blockchain that exists on any type of hardware. The nodes are controlled to keep track of the cryptocurrency transactions that have taken place on the blockchain. For example, there may be a consortium of 15 financial institutions. each institution will operate its own node, provided that at least 10 institutions need to digitally sign the block to be valid. There may be different rights for nodes according to the policies set by the

consortium. They are also a kind of fully decentralized blockchain. Examples: R3, and Corda.

3. Blockchain Personal

permission to write a transaction is stored centrally in one organization. Permission to read them can be published or restricted, depending on the application and Manager's analysis. Example: Monax, and Multichain.

4.3 Key Features of Blockchain

Blockchain a platform for business accounting and not an application or business model. The most important aspects of blockchain technology are three key terms. This is also how the blockchain differs from today's traditional or electronic ledgers, which are databases owned and run by a single user. Key features include:

1. Propagation

Propagation is the main factor of the features blockchain because there are multiple copies of the blockchain ledger, and no 'master' copy. All participants have access to a complete, identical, and equivalent copy of the ledger. There is no central party that controls the ledger. New transactions are posted quickly and propagated to all participating copies. It also refers to the feature of honesty.

2. Permanent

each user has their own copy of the user ledger, historical transactions cannot be edited without majority approval indicating that blockchain records are permanent. The entire ledger is always kept by each participant and can be checked and verified by all. This creates transparency.

3. Programmability

Some blockchains allow program code to be stored on them along with ledger entries. It can create automatic journal entries that are automatically executed (smart contracts). The contract here is made by self-execution.

4.4 Difference between Centralized and Decentralized Ledgers.

Traditional accounting systems are centralized ledgers, but with blockchain support, accounting is fully decentralized. In both cases, the reasons are

comparable: a decentralized ledger is more expensive to maintain because it must be verified by all participants in the system and added to the general ledger [24]. On the other hand, the intermediary costs of a centralized ledger are higher due to the dependence and trust in intermediaries. Blockchain technology provides greater transparency and security because it is impossible to modify transactions or add fraudulent transactions to records. The use of cryptographic keys also increases the level of confidentiality in distributed ledger technology.

4.5 Impact of Blockchain for Accountants and Auditors

TRIPLE ENTRY ACCOUNTING
digitalis.id
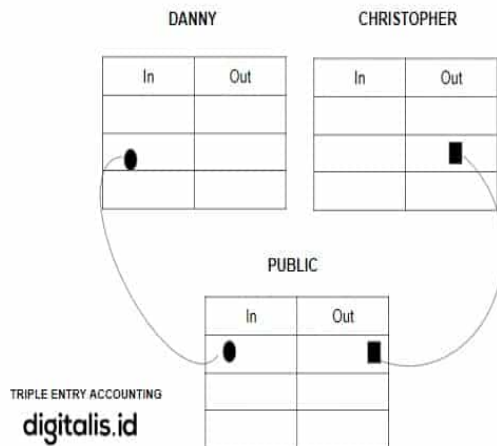
With blockchain, all participants of a particular ecosystem can share their detailed ledger of accounting entries. The shared ledger can serve as a single source of information for all players. Blockchain will have a huge impact on the accounting and auditing professions. CPA firms and their accountants and internal auditors must now rethink how their organizations manage their accounting, bookkeeping, and auditing processes [23]. Blockchain integration, analytics and artificial intelligence can detect anomalies in real time. Participants must wait until the reporting period is complete and accounting is complete to detect anomalies. The traditional job of an accountant sitting in his cabin comparing debits and credits is gone. Distributed ledger technology is revolutionizing traditional record keeping using cryptographic tools and distributed consensus. This eliminates the need to double-check trading patterns to detect fraudulent transactions. Significant misstatements and financial misconduct can be detected in real time and completely corrected or prevented. However, this does not mean the

elimination of accountants and auditors. The nature of the work of auditors and accountants can be very different. Business analysis is applied to manage risks and identify opportunities. Accountants and auditors who need to understand, monitor and improve analytical and cognitive systems and processes will be needed and rewarded in the future of blockchain technology. Expo accounting will be as automated as possible. Accountants and auditors need to develop, track, and coordinate business intelligence [15]. They are responsible for overseeing the automation of accounting and auditing processes. And in the process of developing and implementing a new system. And, they will still continue to evaluate the underlying assumptions and estimates. The smart and judgmental part of the job will be the most important part of the job [22]. Therefore it will not require as many people as is done in a traditional system, but it will require a much more skilled use of analytical tools. It is believed that the impact on accountants and auditors will be very positive. Blockchain enables change that increases auditor productivity and provides more time to apply professional judgment to customer behavior trends, operations, and other key business drivers.

4.6 Impact of Blockchain on Accounting Methods

Blockchain accounting technology. Traditionally, this has involved transferring ownership of an asset with financial information taken into account. It is broadly concerned with the measurement and communication of financial information, and the analysis of that information. Blockchain can improve the accounting profession by reducing operating costs, and providing absolute certainty over transactions [21]. This tends to increase transparency and reduce the occurrence of fraud due to manipulation of transactions. Thus, the blockchain will be able to work to assess the real economic interpretation of blockchain records. By freeing accountants from the more redundant nature of account maintenance, blockchain can enable an increase in the scope of accounting. Blockchain means a replacement for traditional bookkeeping and reconciliation work by accountants.

Blockchain technology in Indonesia has indeed been implemented beyond cryptocurrencies. As example in the banking industry, PT Bank Central Asia Tbk (BCA) claims to have adopt blockchain in its internal system in order to speed up payment transactions,build a more diverse payment system ecosystem, and reduce transaction complexity at

backoffice. There are also public companies (BUMN) that are interested in adopting blockchain, namely PT Indonesian post. The logistics company developed "Digiro.in", a current account service that using blockchain technology. In addition to the above fields, blockchain technology is also used in taxation sector. In Indonesia, blockchain is implemented by a tax application service provider named Online Tax.

The main sector that can utilize blockchain technology is financial or financial. In the financial sector, blockchain is likened to a digital cash book that can be accessed by anyone, anytime, anywhere easily without having to get approval from the party or financial institutions in general. Blockchain makes all transactions in it more transparent and safe. So as to minimize data misappropriation such as bribery, corruption, fraud of financial statements and so forth.

5. CONCLUSION

Blockchain technology provides a new paradigm in accounting. blockchain there is a smart contract feature that acts as automatic control in storing and transferring relevant accounting information so that increase security from the possibility of error or fraud is higher compared to the double entry bookkeeping system. Blockchain technology has been widely applied by various start-ups in Indonesia, for example start-ups that are members of the Indonesian Blockchain Association (Online Tax, indodax, indonesia crypto network, etc). Blockchain refers to a specialized distributed ledger solution that simplifies functionality. It is based on distributed ledger technology which does not guarantee accuracy, transparency and intermediary in financial reporting [20]. There are three types of accessibility-based blockchains: public blockchains, consortium blockchains, and private blockchains. It features real-time transaction input, decentralized consensus, and transparency. Due to the above characteristics, it can be successfully applied in digital payment systems, real estate, healthcare, smart government, artificial intelligence, smart contracts, transaction processing, government money management, commercial bank ledger, tourism, sports, social integration, digital technology [7, 18]. Identity, energy and resource provider. It changed the work of accountants and auditors so that bookkeeping, debit and credit balance, and detection of all fraud attempts is done automatically in real time and in a transparent manner. Auditors and accountants must learn to identify their skills to take advantage of new

technological opportunities. It enables more efficient work by making accounting and auditing fast, transparent and secure. This frees up more time for value-based activities. Other industries where blockchain technology will impact are healthcare, politics, human resources, entertainment, real estate, public sector, energy and resources, and financial services. The role of accountants and auditors is no longer limited to accounting and reconciling records. However, as blockchain technology develops, it has to act as an intermediary between the engineering world and the business world.

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