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Blockchain Accounting Technology A Revolutionary Innovation- An Overview

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ABSTRACT

Blockchain accounting is one of the most welcomed technologies of this new era. The blockchain is a public ledger where lacks of people are connected to that ledger. Blockchain also called as distributed ledger, could help accountant to gain clearly over the available financial resources and obligations of their organization and to utilize available resources, concentrate on planning and valuation, rather than the record keeping .Blocked chain which was originally developed in2009 to record crypto currency transactions. Blockchain technology has the potential to upend entire industries. Especially the financial sector may undergo disruptive change. Although this technology caught the attention of many of the largest financial institutions, use cases still remain in the experimental phase.

1. Introduction

Blockchain can be described as chronological recording the transactions in form of blocks. For secure the transactions cryptography is used. Each block is a cluster of transactions which are added to block by reaching consensus about its authenticity among the users. This is then broadcast to each users of the network for updating their database. In other words a blocked chain is a kind of distributed database and is one of the distributed ledger technology where data is recorded, stored and sorted into blocks. Unlike centralized data base in block chain data is stored in various participating modes. Block chain is an enumerated list of record containing information The individual enumerated records are called blocks and chained together using cryptographic hash that linked to previous block together these blocks are called as distributed ledger. The origin of the block is called genesis block and is the starting point of the chain .The data stored in block chain are inevitable which mean blocks created once cannot be altered without having cascading effect on previous blocks. A blocked chain is a type of distributed ledger can contain financial or non financial transactions.

A major advantage of blockchain technology is its distributed nature. In today's capital markets, the transfer of value between two parties generally requires centralized transaction processors such as banks or credit card networks. These processors reduce counterparty risk for each party by serving as an intermediary but centralize credit risks with themselves. Each of these centralized processors maintains its own separate ledger; the transacting parties rely on these processors to execute transactions accurately and securely. For providing this service, the transaction processors receive a fee. In contrast, a blockchain allows parties to transact directly with each other through a single distributed ledger, thus eliminating one of the needs for centralized transaction processors. In addition to being efficient, the blockchain has other unique characteristics that make it a break through innovation. Blockchain is considered reliable because full copies of the blockchain ledger are maintained by all active nodes. Thus, if one node goes offline, the ledger isstill readily available to all other participants in the network. A blockchain lacks a single point of failure. In addition, each block in the chain refers to the previous blocks, which prevents deletion or reversing transactions once they are appended to the blockchain. Nodes on a blockchain network can come and go but the network integrity and reliability will remain intact as long as it is being used. In this way, no single party controls a blockchain and no single party can modify it or turn it off.

Blockchain technology offers the potential to impact a wide range of industries. The most promising applications exist where transferring value or assets between parties is currently cumbersome, expensive and requires one or more centralized organization. A specific activity attracting significant interest is securities settlement, which today can involve multi-day clearing and settlement processes between multiple financial intermediaries. Certain financial services experts believe the financial services industry is on the verge of being disrupted: advances in innovative technologies such as blockchain are expected to transform the industry and its workforce by automating many of the activities currently performed by humans.

Blockchain can also support other functions. For example, smart contracts can be embedded in blockchain networks. These are commonly agreed terms between parties which will automatically execute once conditions are met. Ethereum is an example of a blockchain platform which has an embedded capability for smart contracts. The implications of smart contracts, particularly when embedded in blockchain networks, could be significant. It is not necessary to start with a joint register for all accounting-entries. The Blockchain as a source of trust can also be extremely helpful in today's accounting structures. It can be gradually integrated with typical accounting procedures: starting from securing the integrity of records, to completely traceable audit trails. At the end of the road, fully automated audits may be reality.

2. What is Blockchain Technology?

A blockchain is a digital ledger created to capture transactions conducted among various parties in a network. It is a peer-to-peer, Internet-based distributed ledger which includes

all transactions since its creation. All participants (i.e., individuals or businesses) using the shared database are "nodes" connected to the blockchain,5 each maintaining an identical copy of the ledger. Every entry into a blockchain is a transaction that represents an exchange of value between participants (i.e., a digital asset that represents rights, obligations or ownership). In practice, many different types of blockchains are being developed and tested. However, most blockchains follow this general framework and approach. When one participant wants to send value to another, all the other nodes in the network communicate with each other using a pre-determined mechanism to check that the new transaction is valid. This mechanism is referred to as a consensus algorithm.6 Once a transaction has been accepted by the network, all copies of the ledger are updated with the new information. Multiple transactions are usually combined into a "block" that is added to the ledger. Each block contains information that refers back to previous blocks and thus all blocks in the chain link together in the distributed identical copies. Participating nodes can add new, time-stamped transactions, but participants cannot delete or alter the entries once they have been validated and accepted by the network. If a node modified a previous block, it would not sync with the rest of the network and would be excluded from the blockchain.

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3. Review of Literature

Jesse YliHumo (,2016) In his paper the author explains why there is alteration to the block chain technology .He says that because it's central attributes which provide security data integrity and anonymity without any intermediary in control of transactions are some of the reasons he quoted for the attraction towards the technology and in his study his objective is to identify how many people focus on bitcoin and block chain .He also says that many focusing on improving the limitations of the technology but many of them lack concrete evaluation for the solution provided.

Anderson(2016) The author explains the potential of block chain in accounts. He says that financial sector may undergo disruptive change. In his paper he explains the benefits of block chain technology in specific to the accounting practices .double entry process revolutionized the field of accounts and by using the block chain technology we can create an interlocks system of accounting records instead of individuals And he says this process is similar to verification done by a notary but in an electronic way.

Watson and Mishler (2017) explored the technology in many areas including stock trading, Intellectual property contracts and accounting records. They observed its utility for accountants to manage ever growing value transactions ,prepare trial balance and financial reports and analyse results in timely manner similarly Brobynad Paul(2017) also discusses the importance of block chain in financial settlements and in enhancing the reliability of financial statement. Block chain as a technology to revolutionised economic sectors resulting in lower transaction cost and highlighted numerous advantage of this technology.

4. Salient features of Block Chain Technology

Blockchain has the potential to revolutionize financial accounting as did the double entry booking system post the renaissance period. Rather than accountants managing and maintaining separate financial records using blockchain, they could instead write their transactions directly into a shared repository, creating an interlocking system of accountingrecords2. All entries would be distributed and encrypted on the immutable platform making it highly improbable for an unauthorized party to access the secured data. Accountants could use this either as a back-up / shadow system or effectively monitor the decentralised database system themselves, replacing the existing bookkeeping system, saving time and shifting focus areas to more complex accounting related activities. The salient features of blocked chain accounting may be enumerated as follows

1. Sharing of one common Digital ledger:-Block chain is decentralized distributed ledger technology using cryptographic tools allowing the share of a digital ledger across a network of computers
2. Measurable in crypto currency:- The monetary values of the transactions is usually measured in crypto currency i.e. digital currencies
3. Transparency:-Blocked chain is a digital ledger which is fully public, continuously updated by countless users. It is a list of continues records in blocks.
4. Reliability:-The block chain are fully reliable and cannot be corrupted because the transactions cannot be altered retroactively
5. Automatic system:-It is also possible to progress the block chain to record transactions automatically
6. Securities and privacy:-Block chain is secure as it cannot be hacked at all . It protects transactions and secures privacy.
7. Revolutionising internal record keeping:- Block chain has the potential to change the way how records are kept and transactions are processed.

5. Types of Block Chain

Public Block chain:-In case of public block chain any one can transact on the network transactions are transparent but they are anonymous. Bit coin and ethereum are best examples of public block chain. In case of bit coin and Ethereum transactions participants of this network can see the transactions but the identity of the participant is anonymous

Private Block Chain:-In case of public block chain the data is not available for public view. A private Block chain network requires an invitation to join also a participant cannot read or write the block chain unless permission to do so. Private block chain is used by large enterprises with permission defined between various stakeholders of the enterprise Blockchain. A bank can have its own block chain network for its private use with restricted access To its various stakeholders, employees, suppliers, customers, shareholders etc

Consortium block chain:-Consortium block chain is a hybrid model of public and private block chain in this use a group of companies or institutions can have their own block chain networks to show the data among the consortium participants' good example of consortium Block chain can be

credit Information Bureau Of India Ltd. It is neither public nor private only a consortium of banks and financial institutions can access complete elements of CIBIL network

6. Conclusion

The practiced application of block chain is limitless and researches are still exploring the ways to fully exploit the potential of this technology .As per the report of world Economic Forum 10% of global GDP will be stored on block chain – related technology by 2025. But the implementation of block chain technology accounts needs to acquire technological skill it require time to get updated with this new technology. The blockchain technology has the potential to shape shift the nature of today's accounting. It may constitute a way to vastly automate accounting processes in compliance with the regulatory requirements

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