The Blockchain Technology and Modern Ledgers Through Blockchain Accounting

P. Maithili
St. Joseph's College of Arts and Science for Women, Hosur, Tamil Nadu, India.

Abstract: One of the world's newest technologies is blockchain. At its core, blockchain technology is an accounting and finance tool. This article addresses the use of Distributed Ledger Technology (DLT) in accounting, Triple-Entry Accounting, the advantages of blockchain-based accounting, and a drawback to blockchain-based accounting. This paper aims to provide an overview of the current state of the blockchain market, including its size, top countries for blockchain adoption, prominent companies utilizing blockchain technology, how blockchains were formed, their types, and essential components.

Keywords: cryptocurrency, triple-entry accounting, distributed ledger technology (DLT), blockchain technology, blockchain technology in India.

1. Introduction

Blockchain technology is a cutting-edge, disruptive digital technology that is revolutionizing business models worldwide. (Dhiman Bhattacharyya) (2019) Technology is king in the twenty-first century. Because modernity is becoming more and more necessary in our daily lives, people are more receptive to new technologies.(Explaining Blockchain Technology) Distributed public ledgers that store immutable data securely and encrypted and guarantee that transactions cannot be changed are made possible by blockchain technology. Although the most well-known applications of blockchain technology are related to Bitcoin and other cryptocurrencies, "distributed ledger technology" (DLT) is finding a wide range of applications. Numerous applications, including asset management, real estate, financial transactions, and data storage, are being investigated.

2. The Global Blockchain Technology

Forecasts suggest that global blockchain technology revenues will experience massive growth in the coming years, with the market expected to climb to over 23.3 billion U.S. dollars in size by 2023. The financial sector has been one of the quickest to invest in blockchain, with over 60percent of the technology's market value concentrated in this field (Liu, S. 2019) Blockchain is the underlying technology that originated in the form of a public ledger to keep a track of all crypto currency transactions. The technology works as an electronic transaction-processing and record-keeping system. This allows various participants that are connected to the network, usually public, to track information through a secure network, thereby eliminating the need for any kind of third-party verification.

Technology In the World

The monetary system of our world has constantly been subjected to change. Starting from the ancient barter system to cashless payment systems, the financial system has undergone advanced modifications. Currently, there is a very new alternative system of blockchain technology which has now reached its peak with many countries introducing it into their payment systems, investing in them, and putting it to a practical test by embracing this technology for the secure functioning of their businesses. (Sharma, T. K.) 1. Australia2. China3. Japan4. United Arab Emirates (Dubai) 5. Malta6. Switzerland7. USA 8. Estonia 9. United Kingdom and 10. Singapore.

Top Major Companies Using Blockchain Technology

Since the introduction of the blockchain in 2008, this emerging innovative technology has already conquered a number of industries worldwide. Security, transparency, cost and time- efficiency is just some of the blockchain's benefits companies take advantage of. Increasingly these days, more and more large corporations are implementing blockchain, transforming and improving their operations dramatically. Let's take a look at some of the biggest.(Yafimava, D. 2018)

Industrial and Commercial Bank of China

China Construction Bank Corporation

J.P. Morgan Chase

Berkshire Hathaway

Agricultural Bank of China Limited

Apple

Microsoft

Alphabet (formerly Google)

Walmart

Daimler

U.S. Centers for Disease Control and Prevention

India's Blockchain Technology

The NASSCOM Blockchain Report 2019 states that investments in blockchain-based projects have exceeded $20 billion across a range of industries, and that blockchain technology adoption is growing quickly in India (Singla 2019).In order to bring ideas about blockchain adoption to India, the state governments of Telangana and Goa collaborated with the policy think tank of the Indian government, NITI Aayog, to host an International Blockchain Congress in 2018 (Blockchain Technology 2019).

The Indian government is attempting to increase the country's adoption of blockchain technology. The potential of blockchain technology has been recognized by the Ministry of Electronics and Information Technology.

3. Blockchain Is A Distributed Database And Decentralized Technology

By definition, blockchains provide a basic level of decentralization because transactions are recorded by all users on the blockchain network. Any changes to the transaction record must be confirmed by the vast majority of blockchain users in order to be recognized as legitimate (Publisher Distributed 2017) Every transaction is kept in blocks, and the data within those blocks is not under the authority of any one business; rather, all users within the network will have an encrypted copy of the entire transaction. Every legitimate transaction adds a block to the blockchain network, and all of the blocks are linked together (Murughan 2018).

The Various Kinds of Blockchains

There exist three principal categories of blockchains.

Blockchains that are public

individual blockchains

Federated Blockchains or Consortium Blockchains

Blockchain in the public sector requires no permissions. Anyone can become a member of the network and use the blockchain to read, write, and interact. A public blockchain lacks a single entity controlling the network and is decentralized. On a public blockchain, data are safe because they cannot be changed.

Exclusive Blockchain

Private or permissioned blockchains function similarly to public blockchains, but they have access controls that limit who can join the network. In this way, they function more like today's centralized database systems, which restrict access to specific users. Private blockchains depend on third parties to conduct transactions because one or more entities control the network. One prominent illustration would be Hyperledger (Mohammed, Sara A. (2018)

Blockchain consortium

This blockchain structure might be made up of several different companies. Procedures in a consortium are established and managed by the users who were initially assigned. (Lastovetska, Anastasiia, 2019)

These three blockchain systems are thoroughly compared in the table that follows.

Double Entry Bookkeeping Or Double Entry Accounting (Dea)

Modern accounting originated about 500 years ago in 1494 by Luca Paciolo. Paciolo was a close aide of Leonardo Da Vinci and a Franciscan by religious order. Paciolo developed an accounting equation which in its simplicity means:

Assets = Liabilities + Equity

Technology Blockchain in Accounting

Blockchain is a canonical source of truth and an indispensable ledger. Traditional accounting involves keeping financial records in private ledgers and having accountants reconcile them with third-party counterparts' records. Perhaps the most straightforward way to describe blockchain is as distributed ledger technology (DLT), which is another name for it. Conventional accounting keeps records in one central location, which could be an accounting software application's database or a collection of spreadsheet files (https://igniteoutsourcing.com/2019). Blockchain technology is used in accounting. It deals with the ownership transfer of assets and keeping an accurate ledger of financial data.

Features of triple-entry accounting:

Blockchain-Based Tamper-Proof Record Permissioned Distributed Ledger

Pairing Entry with Cryptography

Digitally signed receipts that are private, secure, and verified

Signed Receipts

Double -Entry Vs Triple-Entry

Triple entry accounting (TEA) adds a public ledger to the existing private double entry (debit/credit) ledgers. One party puts the invoice in the public ledger, and the other party acknowledges it. Thanks to the immutability of a blockchain, it audits itself. It's the first time inhistory that we can follow the money around the globe. Internal processes become more efficient, opportunities for fraud are greatly reduced. (https://blog.pacio.io/blockchain)

What is the technology of distributed ledgers?

A distributed ledger is an uncentralized database of transactions that is synchronized and shared among several computers and locations. An identical copy of the record is owned by each party and is updated automatically whenever any additions are made (Singh, R 2017).

Technology using distributed ledgers (DLT)

With distributed ledger technology (DLT), an alternative, more contemporary strategy is used. All pertinent parties have access to a distributed ledger where records are entered, kept up to date, and stored. Thus, the triple-entry bookkeeping model is used by blockchain. Usually, a single copy of the ledger is kept on file for the regulator, client, auditor, and accountant. Furthermore, since blockchain technology uses private and public keys for user authentication, security is excellent. Currently, blockchain is

Blockchain based accounting's benefits (singh, r. 2017)

Faster Processes: Real-time transaction recording between several parties can reduce costs and save time. Security: An unchangeable, tamper-proof technology. Transparency: SMEs that practice this to obtain funding more quickly and give lenders financial information Auditing made simpler: faster access to books with an automated audit trail, lowering the time and expense of an audit Reduce internal fraud by requiring an encrypted signature for income and expenses. Less Middlemen: An illustration of Debt does not require a third-party credit assessment to be traded as a commodity on an open exchange. Limiting unrestricted copyright protection for digital artifacts Automation: Reliability in business and financial partnerships.

Harmless To Accounting Based on Blockchain

Technical and non-technical effects are the two main groups of harm that blockchain will bring to the accounting industry. Technically speaking, blockchain technology is incompatible with the majority of accounting software. Therefore, it's unlikely that your record-keeping software will cooperate even if you're prepared to move your

accounting business to a blockchain. Adoption will necessitate hiring a blockchain developer to create custom user interfaces for your company and possibly purchasing cloud-based accounting services as they become available. The need for specially created blockchains will decrease as more and more blockchain accounting platforms appear to service this new market. These solutions can be found at a reasonable price. Reduced long-term viability will be the non-technical effect for accounting firms that delay in taking action.

4. Conclusion

This study aims to elucidate the application of blockchain technology in accounting. Any sector's development greatly depends on technology. Traditional accounting functions are being challenged by blockchain accounting, which also reduces external and internal fraud and boosts security and trust. Blockchain is a digital ledger that allows anyone with access to view transactions that are recorded chronologically. It makes business transactions less efficient by enabling the transacting and securing of digital data. Quick transfers, more accurate records, reduced trading costs, and complete accounting process transparency all benefit investors more. Blockchain is a new accounting technology that will likely become widely used in the near future.

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