

THE EVOLUTION OF BLOCKCHAIN

Kalpana Borse*

ABSTRACT

This article is based on the study and research material accessible online. It traces the development of decentralized technology as the future of the FinTech world and business interoperability transactions in various industries across the Globe and also the challenges faced in fostering the inclusiveness of technology by the regulatory body.

Keywords: Blockchain, Bitcoin, Decentralized Technology.

INTRODUCTION

In the computer network, every piece of information is stored, recorded, and processed. This information can be easily edited by networking and technological experts. The researched advanced technology of blockchain is a typical database where every piece of information is a record of a transaction in a cryptographic hash. The information is chunked into a shared format of a database that stores the previous transaction and maintains a continuous list of ordered records. Once the information is grouped, it forms a block thereby creating a structural database of recorded transactions. The continuity of the blocks is securely linked with the growing list of records and form blockchain.

Blockchain is a decentralized database application that is developed from peer-to-peer transactions. It is a distributed ledger of blocks. The transaction information is compiled as a chain of blocks that are immutable. The immutability, decentralization, and unaltered technique are the unique features of blockchain technology that make it a different form of database also known as a distributed ledger technology. The consensus mechanism that holds the records of transactions can be of various types like legal contracts, inventory of products, financial transactions, Health records, property records, Contracts, voting, etc., and Virtual Currencies such as Bitcoin, which is a newly created digital currency in 2009 that gained popularity but is not regularized.

*LLB, THIRD YEAR, OSMANIA UNIVERSITY, HYDERABAD.

HISTORY OF BLOCKCHAIN

The research point of the blockchain came into existence in the last decade of the twentieth century. The era introduced concepts to limit email spamming and deter cyberattacks. The preventive proposal was published in an article in 1991 that ignited the thought about timestamping digital documents. The algorithm-based concept of proof-of-work (POW) was introduced in that era. The concept also introduced reusable POW as a hash cash token for digital currency.¹

In 2008 a group of people with collaborative efforts devised the first blockchain database. The name Satoshi Nakamoto is the name presumed to be the first creator of this technology. The validation of the technology based on a chain of blocks created an infrastructure to support and secure peer-to-peer transactions without the need for third-party authentication and began the mining of digital currency too. The blockchain architecture introduced the electronic coin called bitcoin in 2009. The worth of the bitcoin was based on the cost and rate of the mining. The electronic coin is a hash of the digital signature of the owner and when the owner transfers the coin to the next owner the chain of digital signatures was recorded and the chain grew. The bitcoin exchange market was established in the same year enabling the public to exchange paper money for bitcoin. The testimony of high-volume transfers and trading of the fluctuated electronic coin continued since then. This virtual currency is not paper or coin based issued by the Apex body of the financial institute. In the present time and future, it is evident that crypto technology may be embraced by most institutions.

ADVANTAGES OF BLOCKCHAIN

Speed: The transaction is processed at rapid speed with no human involvement for scrutiny

Security: They are encrypted and impossibly irreversible and cannot be erasable

Integrity: the decentralized mechanism makes it harder to operate illegitimately

Transparency: All transactions can be extracted and easily traceable that allows visibility by any user

DISADVANTAGES OF BLOCKCHAIN

Regulations: The significant use of technology must be analyzed in every field of commerce in greater volume which remains silent due to no regulatory measures to manage any ingenious activities

Extravagant: The technology consumes a vast amount of power which may drive up the electricity bills to validate the transactions

Data Storage: Every block can hold some amount of information that is not erasable. This creates a huge amount of data. Even cloud computing storage might not be adequate to hold the combust technology of mass collaboration in every field of FinTech.

BLOCKCHAIN TECHNOLOGY AROUND THE WORLD

Top corporates have already incorporated blockchain in their operations such as FedEx, a pioneer in supply chain logistics, and IBM is providing blockchain-related business by creating smart contract systems. Microsoft has already embraced blockchain technology since its inception and is accepting Bitcoin payments. It has also secured patents related to the use of blockchain as secure storage and payment gateways.

As a healthcare system, blockchain is used to preserve patient records from hospitals, diagnostic centers, pharmacy distributors, etc., for better research and analytical observations. Similarly in the educational field, to provide universally accessible educational resources besides storing academic records of the student. In various other industries, blockchain provides security, and transparency of supply-chain reduces copyright infringements, and piracy of Intellectual properties, and facilitates the authentic distribution of goods and services so is the legal Tech industry which is no different from other industries where blockchain can streamline, re-engineer, secure, automate and disintermediate many processes. In the Banking industry, the blockchain is transforming radically. Blockchain improves ethical operations in various other industries.

The currency of any country is regulated by the Apex Bank of that respective country for maintaining the economy of the country. The pioneer countries like El Salvador, Germany, Canada, Netherlands, Singapore, etc., are all cryptocurrency-legal countries that regulated digital currencies, and many more countries are beginning to regulate digital currency for providing a new framework for FinTech businesses.

With the introduction of Cryptocurrencies, money launderers across the globe are also moving illicit funds in buying such currencies as the legislations like Know-Your-Customer, Anti Money Laundering Acts, etc., are yet to be structured and regulated.

There are around more than 10,000 Cryptocurrencies based on varied categories such as Tokenized Gold, Tourism, Yield Farming, Exchanged-based Token, Music, Gaming, etc., and above 600 centralized exchanges such as Coinbase Exchange, KuCoin, Kraken, Huobi, Bybit, etc., and listed on the non-Fungible token (NFT) market place that allows users to mint and trades their cryptocurrencies across the world. Bitcoin, Ethereum, Tether, USD Coin, Cardano, Polygon, Dogecoin, and Litecoin are the top transacted cryptocurrencies with huge volumes of daily trade. The transaction value of the top cryptocurrency Bitcoin is worth \$24,652 and the value of USD Coin is as low as \$0.999664 appx as on 18th February 2023. The global cryptocurrency market cap is around \$1.10 Trillion in February 2023²

Change is constant and with the increase in the pace of change, not just the economy but the very meaning of 'being human' is likely to mutate. People around the globe need to cope with migrations to cyberspace for the perfect match of the workspace ecosystem and inevitable change in every aspect of life. Most important of all will be the ability to deal with change, learn new things, and preserve the ability to balance unfamiliar situations. How the world will look in 2050? This question must arise in developing minds. Today much of artificial intelligence, and machine learning have already transformed the basic structure of life and much is needed to pace with the NewCosmos virtual world just like blockchain technology.

EVOLUTION OF BLOCKCHAIN IN INDIA

A glimpse of the active experimental phase in the adoption of blockchain in every field of e-commerce by competitive corporates is witnessed since its inception globally. While there was rapid development taking place in Financial Technology globally, in 2016 India started fostering the FinTech Industry as RBI set up an inter-regulatory Working Group.

The key recommendation was to introduce an appropriate framework of innovative hubs as Regulatory Sandbox for testing new products and services and provide guidance and support to both regulated and non-regulated entities as well. In 2017 the Institute for Development and Research in Banking Technology (IDRBT) established by RBI in 1996 submitted a whitepaper on the application of blockchain technology to banking and financial institutes which listed the pros and cons of the advanced technology.³ RBI through its notification RBI/2017-18/154;

DBR.No.BP.BC.104 /08.13.102/2017-18 dated 06th April 2016 to all its Financial entities such as Commercial and Cooperative Banks, Payment Banks, Small Finance Banks, Non-Banking Financial corporates, Payment System Providers had percolated the risk associated in dealing with the virtual currencies and has directed them not to deal with sale or purchase of Virtual Currencies and exit with immediate effect any such relationship if existed.⁴

On the above notification a writ petition was filed in the Supreme Court of India by the Internet and Mobile Association of India against RBI contented on the impugned statement which was heard by a three-judge bench constituting Rohinton Fali Nariman J., S. Ravindra Bhat J., V. Ramasubramanian J. on the ground of proportionality had set aside the circular issued by RBI and directed RBI to issue instructions.⁵ RBI through its notification dated 31st May 2021 has notified its financial entities that the notice issued on 06th April 2016 is no longer valid however necessary measures are to be taken given customer due diligence in line with the governing regulations.⁶

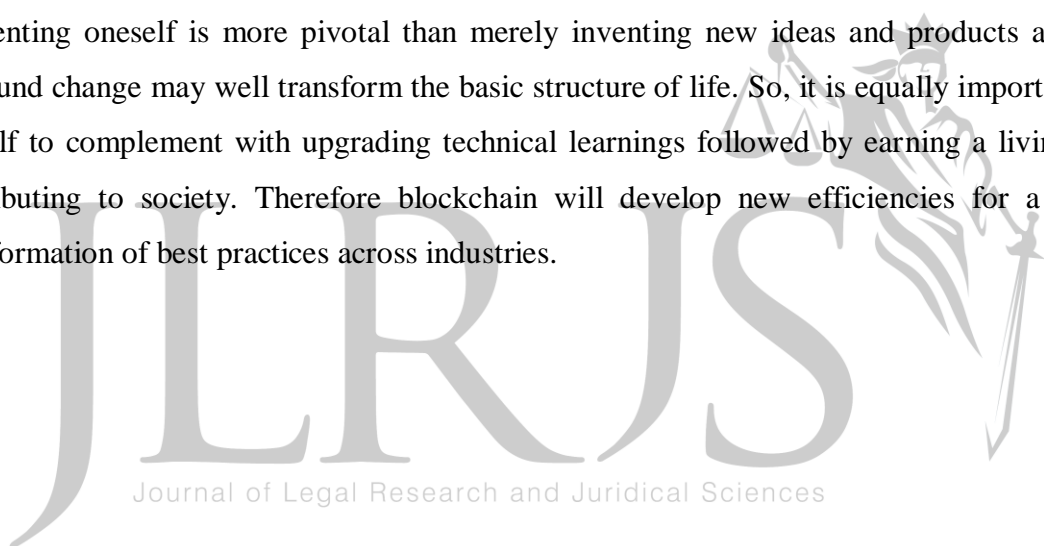
In 2021, on the recommendation of the WC committee, RBI introduced an appropriate framework for a Regulatory Sandbox for innovative applications based on blockchain technology to increase the range of products and services, reduce costs, and improved access to financial services. Blockchain will revolutionize the trade and commerce industry in India as a multitude of goods and services are imported and exported across countries. India which is currently in fifth place surpassing the United Kingdom in GDP in the world will reach the top if embraces change in all aspects of life with the pace of changing technology.

Based on the innovative theory, In India, there are less of training institutions proportionate to the accelerating change in technology. There is a need to accumulate skills to navigate the world, earn a living, and contribute to society. The authorities must initiate the introduction of the production-line theory of education at all levels instead of the old educational system for equality among the citizens to survive and flourish in the revolutionary world of Big Data and Artificial Intelligence. The Government of India is pioneering in this matter and we must also abide by and welcome the change as **Mahatma Gandhiji** once said, “Be the change that you wish to see in the world.”

CONCLUSION

It is evident that despite the setbacks the world is rapidly progressing toward the decentralized technology of blockchain and the technology is continuing its path toward various industries

like retail, healthcare, education, mining, travel, finance, education, and many more. In view of the growing interest in technology by the general public and the entities, the government and the Apex bodies need to regulate and frame the legislations to support infrastructure and development of Distributed Ledger Transaction technology. Blockchain technology advantages such as efficacy, transparency, secured transaction, traceability, and immutability had eventually been patented by many countries as novel methodologies of distributed services started to grow. In absence of Legislation and regulations, the judiciary precedents have provided the gateway towards the elevation of new innovative cohorts based on blockchain technology in India, and the general public and corporates started to deal with digital currencies. The next decades may welcome growth for blockchain and will experience the expansion of Bitcoin and the tokenization of assets which can be measured by the practical application being implemented and explored further. Just to keep up with the world of 2050, reinventing oneself is more pivotal than merely inventing new ideas and products as such profound change may well transform the basic structure of life. So, it is equally important for oneself to complement with upgrading technical learnings followed by earning a living and contributing to society. Therefore blockchain will develop new efficiencies for a better transformation of best practices across industries.



References

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