IJIRCCE

e-ISSN: 2320-9801 | p-ISSN: 2320-9798

INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH

IN COMPUTER & COMMUNICATION ENGINEERING

Volume 9, Issue 8, August 2021

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 7.542

International Journal of Innovative Research in Computer and Communication Engineering

| e-ISSN: 2320-9801, p-ISSN: 2320-9798| www.ijircce.com | |Impact Factor: 7.542

|| Volume 9, Issue 8, August 2021 ||

| DOI: 10.15680/IJIRCCE.2021.0908031 |

Blockchain Technology in Changing Business World

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ABSTRACT: Blockchain Technology is lead to many significant changes in our business performance. Blockchain Transaction are executed in decentralized way, and protected by strong and complex encrypted algorithms. Blockchain Illustrate as a collection of records linked with each other firmly and it can have various application in Government, Banking Industry, and Finance, and Accounting and Business process management.

KEYWORDS: Blockchain Technology; Business; Complex Algorithms; Applications.

I. INTRODUCTION

Blockchain is a system of recording information in a way that makes it difficult or impossible to change, hack, or cheat the system. Each block in the chain contains a number of transactions, and every time a new transaction occurs on the blockchain, a record of that transaction is added to every participant's ledger. A blockchain is essentially a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems on the blockchain. Each block in the chain contains a number of transactions, and every time a new transaction occurs on the blockchain, a record of that transaction is added to every participant's ledger. The decentralised database managed by multiple participants is known as Distributed Ledger Technology (DLT).

It is essentially a distributed ledger; a list of all events and transactions entered onto it which is held simultaneously by everyone in the network. Every time a new event or transaction is added to the ledger, this encrypts everything before it. This means that the data on the ledger gets more and more secure with every addition to the ledger. The ledger is both visible to all in the network and secure so that people can't tamper with it.

In the paper, it talks about businesses collaborating with each other automatically in a marketplace facilitated by blockchain and executed by smart contracts. This is all well and good but automating what company you are buying from as some form of streamlined procurement presents a significant risk in regards to quality – regardless of whether the ledger looks good or not

II. BACKGROUND AND ASPIRATION

The banking and business have taken notice of blockchain technology's many advantages. This special issue explores its unlikely origins, tremendous impact, implementation challenges, and enormous potential.

Blockchain technology promises to be hugely disruptive and empowering in both public and private sector computing applications. As a way to order transactions in a distributed ledger, blockchains offer a record of consensus with a cryptographic audit trail that can be maintained and validated by multiple nodes. It lets contracting parties dynamically track assets and agreements using a common protocol, thus streamlining and even completely collapsing many in-house and third-party verification processes.

Originally conceived as the basis of cryptocurrencies, aspects of blockchain technology have far-reaching potential in many other areas. To understand this potential, it is important to distinguish two core blockchain components: distributed-ledger technology (DLT) and smart contracts.

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A *distributed ledger* is a decentralized, shared, replicated, and synchronized record of transactions between contracting parties secured by cryptographic sealing. Unlike a distributed database, nodes of a distributed ledger cannot trust other nodes and so must independently verify transactions before applying them. Distributed ledgers are divided into two broad classes: those that seek to minimize the role of trusted and identifiable third parties, and those that explicitly rely on identifiable third parties for some subset of the system's properties. Not all distributed ledgers are blockchains, but all blockchains are distributed ledgers.

A *smart contract* constitutes the rules that participants have collectively agreed upon to govern the evolution of "facts" in the distributed ledger. Such smart contracts can be computer programs that attempt to ensure that all transactions comply with the underlying legal agreements and that the records managed by DLT are authoritative with respect to the existence, status, and evolution of the underlying legal agreements they represent. When paired with a blockchain that records changes of asset ownership, a smart contract can serve as a wrapper for a transaction that automatically moves value and executes the contract's terms. Smart contracts also have the potential to automate laws and statutes, which could significantly improve government services' efficiency and transparency.

III. BLOCKCHAIN BASIC

The basic blockchain concept can be defined quite simply: It is a shared, decentralized, cryptographically secured, and immutable digital ledger. However, enterprise blockchain enriches this definition with a few key attributes:

Accountability: Network members are known and identified by cryptographic membership keys with assigned access permissions by business role. Without such accountability, compliance with regulations such as the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and General Data Protection Regulation of 2018 (GDPR) would be nearly impossible to achieve.

Privacy: Although members are known to the network, transactions are shared only with those members that need to know about them. Enterprise blockchain uses various techniques to achieve privacy, including peer-to-peer1 connections, privacy channels,2 and zero-knowledge proofs.

Scalability: Supporting an immense volume of transactions is critical to enterprise scenarios. Because transactions are not typically throttled in enterprise blockchains as they are in networks like Bitcoin, they can be carried out immediately. Any particular enterprise's transaction rates will depend on many factors, including the number of peers and the complexity of the smart contract. Transaction rates measured in thousands of transactions per second are certainly achievable.

Security: Enterprise blockchains are fault-tolerant. With fault-tolerant consensus algorithms, the network continues to operate even in the presence of bad actors or carelessness. An example of a fault-tolerant consensus algorithm is RAFT.

Motivational: An enterprise blockchain benefits from a built-in incentive system to help accelerate the adoption curve. You can think of this driver as a "loyalty point" or a "token" that delivers a motivational and economic incentive for network providers and consumers.

Enterprise blockchains are often incorrectly characterized as private networks. In reality, access to an enterprise blockchain is controlled by "the governors," who set the policy establishing how new members can participate in the network. The visibility (public or private) of the network depends on how it is governed. Thus, it is true that enterprise blockchains are permissioned, but not necessarily private.

Many businesses might be overwhelmed by the technical challenges regarding privacy, scale, or throughput, such as the number of transactions, interoperability, consensus, contract verification, tools, support, and quantum computing threats. However, many of these concerns have already been addressed by many vendors in various implementations of blockchain technologies. Permissioned and private blockchains can address the privacy concerns by maintaining the anonymity of a participant while ensuring the validation of a transaction from an authorized participant or by using obfuscation technology to restrict the exposure of private information. In public blockchain implementation, businesses can choose to implement off-chain execution—a practice in which they keep only transactional information recorded on the public ledger, while simultaneously maintaining a shadow ledger to keep identity information private. The scalability or throughput of the blockchain network primarily depends on the levels of security and cryptography that are applied, as well as the efficiency of the consensus algorithm. If you loosen the security strength, the throughput increases. The proof-of-work module is the primary compute- and time-intensive

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task that drives the throughput, and many public blockchain implementations for cryptocurrency have single digit transactions that are validated and recorded per second. By comparison, a robust, enterprise-ready, and permissioned blockchain like Hyperledger is ready to serve more than a thousand transactions per second without compromising any security.

IV. FUTURE SCOPE

Although blockchain has the potential to disrupt many businesses, current business policies and requirements might not immediately support the transformation. Also, blockchain might not be feasible for multiple reasons, such as existing government, business, and legal agreements and laws, exposure, global reputation, bureaucracy, and partnerships. Therefore, it is important to select the right scope so that you can deliver success incrementally, albeit with a big dream in mind for transformation. The scope selection exercise reflects your vision and business outcome expectations. However, given that blockchain touches critical elements of an organization's structure, business model, and ecosystem, it is important to consider the scope of each of these items in the context of your desired short-term and long-term business outcomes. The success of a blockchain project is determined by the correct selection of scope, so define your minimal viable product (MVP) and minimal viable ecosystem (MVE) with a clear start state of your blockchain project; determine your Specific, Measurable, Achievable, Results-focused, and Time-bound (SMART) end goal; and identify key activities that must be performed to pinpoint the following items:

-Vulnerabilities and inefficiencies to identify disruptive business use cases.
-Business network participants and ecosystem readiness.
-Business model and differentiation needed to compete.
-Governance plan and policy for cooperation and trust.
-Operational plan, including costs and responsibilities.
-Technology and vendor selection.

V. CONCLUSION

Blockchain Technology is a consensus-driven, decentralized, protected by cryptography and can be easily made public. Due to all these features and several benefits, it is utilized in most of the businesses nowadays. With the help of Blockchain technology, it is possible to transform the whole world into a much smaller place. The technology and supporting platform around the blockchain system will be going to develop. Therefore, the companies which hold the qualities like transaction-based, whose decentralization benefits the client, will achieve more advantages from this technology. Blockchain technology is going to be used in many more sectors in the future such as in government systems as these systems are slow, dense, and likely to corruption. Implementing Blockchain technology in government system can make their operations much more secure and efficient.

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INNO SPACE
SJIF Scientific Journal Impact Factor
Impact Factor: 7.542

doi cross ref

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

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