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RESEARCH ARTICLE

BLOCKCHAIN TECHNOLOGY AND ITS IMPACT ON THE GLOBAL ECONOMY

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Abstract

In this paper, we will be reviewing the research published by Dr. BurcuSakız (Istanbul Aydın University, Turkey) and Prof. Dr. AyşenHiçGencer (Beykent University, Turkey) on 'Blockchain Technology and its Impact on the Global Economy at the International Conference on Eurasian Economies (2019) (Gencer, 2019). We will be including a summary of the research article, findings, and concepts discussed. The paper starts with a quote that Data has acquired the position to be the most valuable resource. Smartphones and high-speed internet have resulted in an explosion of data. The paper denotes that innovative AI techniques can extract meaningful information from the data. There is a need to share the knowledge, made possible only through an autonomous and decentralized mechanism for fair sharing policy and just hoarded by Corporates around the world. This article covers the significance of Blockchain in our economy today. It addresses the functioning of Blockchain and some popular opinion on it. It also includes the history and evolution and concludes by stating how a single white paper published in 2008 brought forth a revolution.

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Introduction:-

The research paper published by Dr. Sakiz and Dr. Gencer covers that Blockchain technology has global popularity. There is a significant sign that the global economy is ever-changing and is open to accepting new developments. As a technology, blockchain runs in a distributed and decentralized network. Blockchain is an enabler for the growth of open-source technologies in digital platforms. The paper covers open-source applications and their free availability to the public. This new technology is in a rudimentary stage, is ever maturing, and still has the potential to host major disruptive innovations. Blockchain has already shown dominance in the digitalized asset ownership domain. It is mentioned as one of the technical innovations in asset ownership. Global collaboration provides a distributed environment with cryptographical and linear transactional qualities. A network with a consensually available, updated, and validated distributed ledger with data blocks is termed a blockchain. The open-source nature of the ledger provides visibility across the network, and the cryptographical nature offers security. The network functions based on the trust in the users and through the maintenance they provide for the ledger. Blockchain transactions can be executed without people's meddling, referred to in the paper as "Trust-Free" transactions. The transactions in the blockchain eliminate the requirement for expensive intermediaries and reduce the cost of transactions. The report also touches on the basics of Bitcoin, which brought forth the popularity and adoption that blockchain now receives. It could also be said that the current commercial world can be reinvented with trust-free digital transactions. Not only will blockchain bring forth a major revolution to the world of finance, but it will also host a significant change in sustainable global development.

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Blockchain – Origins

The paper describes the origin of blockchain from the research published under the name of Satoshi Nakamoto. The published paper received quite the popularity of its technology. It illustrates that Satoshi's research paved the way for the network's digital trust and decentralization. After the exit of Satoshi, the developers of Bitcoin took control of the ever-evolving technology and produced new products that added to the pages of Blockchain history. (Ducrée, 2022) With the introduction of cryptocurrencies, the financial systems worldwide were threatened. The paper suggests that this was intentional on Satoshi's side as the threat was not focused only on the US but globally. The paper states that the concept of blockchain was not invented in 2009 after the US market fell; it was designed in 1991 by two researchers, Stuart Haber and W. Scott Stornetta. The architecture of blockchain is based on Stornetta's contribution. An initial mention of the term "block chain" used ordered transactions through timestamps. Their research was based on a chain of blocks secured cryptographically through timestamps of the data. Later on, the system was enhanced to incorporate Merkle Trees for efficiency and the inclusion of more data into a block. In 1998, Nick Szabo researched a concept he referred to as Bit Gold, a decentralized digital currency.

Blockchain – Evolution

The paper mentions that blockchain network provides three significant benefits:

1. Transparency
2. Authentication
3. Auditing

In general terms, the paper evaluates two phases of Blockchain. The initial phase occurred between 1991 and 2013, which saw an economic depression, and during this time, in 2008, Bitcoin came into existence, which was considered the very first implementation of blockchain technology. The blockchain network depends on cryptographically secured proofs of work, digital signatures, and peer-to-peer networking to offer a decentralized and distributed ledger with transactions. (Ateniese et al., 2017) The secondary phase of Blockchain was referred to in the paper in 2013 and 2015. In 2013 VitalikButerin designed and developed Ethereum as a public blockchain with additional features to bitcoin. Ethereum is vital in blockchain history due to the reason called Contracts. Contracts enabled cryptocurrencies to develop a decentralized platform. In 2015, the Linux Foundation introduced an open-source blockchain under the Umbrella Project called Hyperledger. Hyperledger focuses on supporting business transactions and improving the performance and reliability of the existing systems. The paper provides an in-depth overview of the historical occurrences in the blockchain world, how Blockchain came to be, and how it evolved into what we see today.

Blockchain – Economic Benefits

The paper lists four main kinds of Blockchain applications (McPhee & Ljutić, 2017). They are:

1. Money Transfer Applications
2. Property Registries
3. Contractual Agreements
4. Identity Confirmation

The paper also provides an overall idea of distributed ledger technology, known as Blockchain. Without the need for an intermediary, Blockchain can act as a digital registry, verify asset ownership, transfer money, and preserve the integrity of documents. As a distributed ledger, Blockchain's architecture could potentially facilitate peer-to-peer payments, track physical items, and can be used to transfer through smart contracts. The paper lists the transactional mechanism of "shared economy" and solves the issue of large-scale peer-to-peer activities. As an economic innovation, Blockchain provides a reliable decentralized environment. In an economy utilizing Blockchain, the paper argues that the technology can use the available tools to replace the existing monetary systems.

Conclusion:-

The research paper discusses Blockchain's overall idea, history, and evolution into what we see today. As a decentralized public ledger, Blockchain can be programmed to hold any data of value in a secure method. It can be transferred to anyone without an intermediary verifying the authenticity. This technology holds the potential for the global economy and technological innovations. The global adoption of the technology within just a decade of its introduction could bring about a worldwide revolution.

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