


Chapter 13

Adoption of Blockchain Technology: A Case Study of Walmart

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ABSTRACT

In today's world, society has become totally digitalized where technology is playing a very important role in everyone's life. Blockchain is a method that is useful in recording information and makes its difficult to change, hack, or fraud system. A blockchain is fundamentally a digital ledger of volume of transactions that is distributed across the overall network of IT system on the blockchain. This technology acts as a reliable layer in the evolution of e-commerce. Walmart has been working with IBM on a food safety blockchain solution to add transparency to the decentralized food supply ecosystem by digitizing the food supply chain process. This chapter will cover the concept and origin/emergence of blockchain technology and implications of blockchain technology in supply chain (Walmart), the significance and role of blockchain technology for the users and the stakeholders, the implications for the users, challenges faced by Walmart during the adoption of blockchain technology, and the approachability of Walmart to IBM for the implication of blockchain to their organization.

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INTRODUCTION: EMERGENCE OF BLOCK CHAIN IN MODERN ECONOMIES

A block chain is fundamentally a digital ledger of volume of transactions that is distributed across the overall network of IT system on the block chain. This technology act as a reliable layer in the evolution of E-commerce. Block chain working like a machine of recording of transactions in such a manner that it will secure the device or computer from any kind of fraud and manipulation. Block chain is an innovation in the digital world and it has become famous among the innovators, technocrats at present.

This technology is revolutionary in nature in terms of information and computation technology (ICT), the Block chain technology is based on Cryptography which is used as a software protocol by the public. A public choice/modern structural approach to block chain economics will help shed light on how this new technology can influence the economy. Backfeed is an Ethereum-based network (Ethereum is a decentralised generalised block chain that serves as the basis for a cryptographically safe transaction-based state machine). We can discuss this in detail from the beginning, which was only eight year ago (Nakamoto 2008). The block chain technology that underpins Bitcoin is probably the most well-known (Swan 2015). It is a decentralised distributed Ledger scheme (Evans 2014). The blockchain, is considered as a specific technology in relation to digital currencies, Block chain is a solution which is technological in terms of double-spending problem, which had previously won all efforts to establish not decentralised Peer to peer electronic cash system. The block chain, according to Nakamoto², give solution to this issue by integrating the shared file information system (or ledger) with network established processes that update the database using a proof-of-work consensus mechanism.

As per (Buterin 2015), the value and prospects of Bitcoin, on the other hand, have no impact on the worth and importance of Blockchain Bitcoin is a blockchain-based application in which the bitcoin ledger entries recorded are generated by the protocol. Block chain should be regarded in terms of modern form of “general purpose technology”. In the form of a distributed public ledger that is highly transparent, robust, and effective (i.e. decentralised database). Any centralised system that coordinates important information can be broken using such a distributed ledger. One example of a centralised ledger is government money; another is government property titles or identities registration. This technology is not trust worthy, which means it doesn't rely on third-party verification (i.e. trust), however rather on a consensus with powerful mechanism based on crypto economic rewards to be checked by the validity of a transaction in the information management system. This keeps them secure even though there are strong or malicious third party seeking to discourage users from participating.

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