CONCEPTUAL RESEARCH PAPER

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# Role of BLOCKCHAIN in the Global World: Importance of crypto currencies

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**ABSTRACT**
With the objective of decentralizing the payment system many Crypto Currencies have been proposed each with its own unique feature and consensus algorithm with slight modification to traditional existing consensus. The purpose is to study and compare the different platforms which aim to replace the banking system with decentralized peer-to-peer crypto currency. Exploring different aspects of these platforms provides us with a view of how these platform works and what are its major drawbacks leading to fraud and what makes one platform better than other.

**Keywords :** Crypto Currencies, Block chain, peer-to-peer crypto currency

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## Introduction

The centralized network are vulnerable in the sense that if the center node is destroyed the ability for whole system to communicate with each other fails. Decentralized systems relies on few nodes to communicate, destruction of which leads to failure of network. Thus a network which can withstand an increasing attack or failure is needed, which is possible when the network is distributed. One such rapidly expanding distributed network is Blockchain. 'A blockchain is a decentralized, distributed and public digital ledger that is used to record transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the consensus of the network.' Blockchain is a growing list of records, called blocks, which are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data (generally represented as a merkle tree root hash). [2, 3, 5]

### Types of Block chain

There are four types of blockchains:

*Public Blockchains-*

Public blockchains are open, decentralized networks of computers accessible to anyone wanting to request or validate a transaction (check for accuracy). Those (miners) who validate transactions receive rewards. Public blockchains use proof-of-work or proof-of-stake consensus mechanisms (discussed later). Two common examples of public blockchains include the Bitcoin and Ethereum (ETH) blockchains.

*Private Blockchains-*

Private blockchains are not open, they have access restrictions. People who want to join require permission from the system administrator. They are typically governed by one entity, meaning they're centralized. For example, Hyperledger is a private, permissioned blockchain.

*Hybrid Blockchains or Consortiums-*

Consortiums are a combination of public and private blockchains and contain centralized and decentralized features. For example, Energy Web Foundation,

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Dragonchain, and R3. Take note: There isn't a 100 percent consensus on whether these are different terms. Some make a distinction between the two, while others consider them the same thing.

*Sidechains-*

A sidechain is a blockchain running parallel to the main chain. It allows users to move digital assets between two different blockchains and improves scalability and efficiency. An example of a sidechain is the Liquid Network. [4, 6]

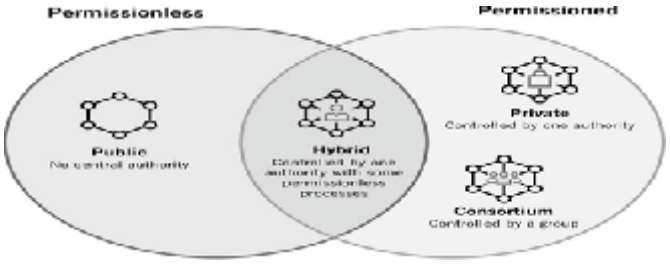


Figure1: Types of Block chain

**Concept of Bit coin Technology:**

The financial transaction between two parties completely relies on thethird party(financial institutions) giving them not only control over assets but also identities and sensitive information. Possession of such information gives them the power to not only allow or deny a particular transaction but also hide or reveal particular information , tamper it, secretly share it malicious person and even deny the claim.The cost of mediation due increases the cost of micropayments making them impossible,any payment done takes minimum 3-4 days to process.To avoid such casualties and uncertainty Satoshi Nakamoto proposed Bitcoin in 2009. Nakamoto proposed Peer- to-Peer network as a alternative to banking system and named the Cryptocurrency as “Bitcoin”.The peer-to-peer network timestamps transactions by hashing them into an ongoing chain of hash- based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers Bitcoin uses peer-to-peer technology to operate with no central authority or banks; managing transactions and the issuing of bitcoins is carried out collectively by the network. [7, 8, 9]

Key features of Bitcoin includes:

- Fast
- Peer to Peer
- Transactions
- World Wide
- Payments
- Low Processing Fees

Figure 2: Bit coin

## Conclusion:

Both centralized and decentralized network are vulnerable to network failure in one or other way which can lead to system destruction. To combat this network node failure distributed network to have network with better durability and security. Blockchain is a distributed and decentralized network with digital ledger which records every transaction without any ability to delete, modify and alter. Cryptographic hash of previous block along with time span is used to record transaction which is represented as Merle tree root hash in ledger. Blockchain can be used in financial services which are fast, secure, low-cost cross border payment services using encrypted distributed ledger providing real-time verification without involvement of third-party like clearinghouses and banks. Since ripple is pre-mined, there exist little or no incentives for common nodes to work in the network, which then leaves the corporate like banks to provide the validator nodes. Ripple Company has concentrated on targeting banks exclusively, and this is a turn-off for many early adopters of blockchain technology as there is an involvement of once identity via their respective bank account to the ripple network. Rather in stellar network and bitcoin their is no identify involvement to make transaction over network.

Financial transactions involves transaction management and money issuance which is not yet added in any of the payment system prominently. Any faulty node of a network can lead to transaction interference. Double spending and fork is a major cause for fraud due to delay in propagation. Whole payment network is compromised even if 1/3 computational resources arecomprised of malicious node involvement. The time when malicious nodes transaction will get placed and could not be reversed leading to currency lose by an individual account, In ripple only a few nodes are needed to run the network, it's not really distributed.

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