

# Insights into Editorial: Understanding bitcoins and blockchain

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By INSIGHTS

## Insights into Editorial: Understanding bitcoins and blockchain

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With countries like China and India trying to regulate the sale of bitcoins and their issuance through blockchain, more people including netizens seem to have become interested in the technology. However, not many including bankers are aware of the technology and their implications on the society. The technology is very new and is still underfunded.

What are Blockchains?

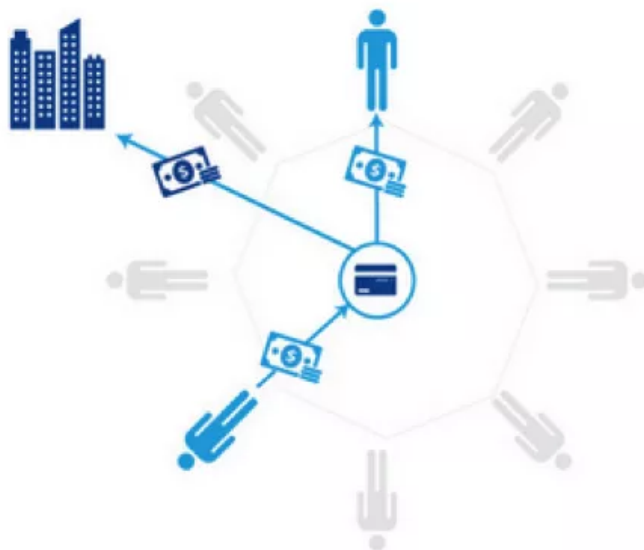
Blockchains are a new data structure that is secure, cryptography-based, and distributed across a network. The technology supports cryptocurrencies such as Bitcoin, and the transfer of any data or digital asset. Spearheaded by Bitcoin, blockchains achieve consensus among distributed nodes, allowing the transfer of digital goods without the need for centralized authorisation of transactions. The present blockchain ecosystem is like the early Internet, a permissionless innovation environment in which email, the World Wide Web, Napster, Skype, and Uber were built.

- The technology allows transactions to be simultaneously anonymous and secure, peer-to-peer, instant and frictionless. It does this by distributing trust from powerful intermediaries to a large global network, which through mass collaboration, clever code and cryptography, enables a tamper-proof public ledger of every transaction that's ever happened on the network.
- A block is the "current" part of a blockchain which records some or all of the recent transactions, and once completed, goes into the blockchain as permanent database. Each time a block gets completed, a new block is generated. Blocks are linked to each other (like a chain) in proper linear, chronological order with every block containing a hash of the previous block.

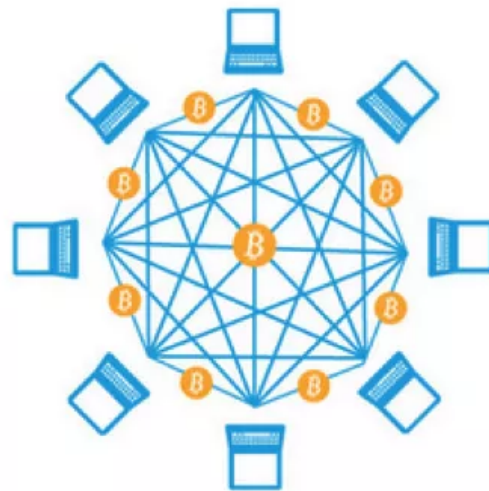
How is it different from current payment systems?

Blockchain technology allows for instant recognition of the exact size of the block by all transacting parties in the chain since the block is simultaneously updated on all their databases, and has unique security features that do not allow tampering with the definition of the block.

- In addition, each block's movements across the chain have the ability to be verified by all parties in the chain since the block carries with it the digital imprint, or 'signature', of wherever it has been.
- Therefore it creates instant trust without having to rely on a series of trustworthy banks to clear cheques. Here, various parties transacting regard their reputation as being more important than reneging on it. Unlike traditional banking system, cash transactions here are undertaken immediately.



Current payment systems require third-party intermediaries that often charge high processing fees ...



... but machine-to-machine payment using the Bitcoin protocol could allow for direct payment between individuals, as well as support micropayments.

#### Benefits of blockchain technology:

- As a public ledger system, blockchain records and validate each and every transaction made, which makes it secure and reliable.
- All the transactions made are authorized by miners, which makes the transactions immutable and prevent it from the threat of hacking.
- Blockchain technology discards the need of any third-party or central authority for peer-to-peer transactions.
- It allows decentralization of the technology.
- Some telecom firms in places such as India and Kenya are already using their networks to help people settle cash transactions, but these are proprietary and meant largely for poor and underbanked areas with considerable mobile penetration.

#### Concerns associated:

- Blockchain is still a (relatively) new technology and is not without its problems. For a start, there are ongoing concerns about privacy in the settlement and storage of securities – blockchain providers are working hard to address.
- Banks are also at threat with blockchain, since more and more firms (using their IT service providers from India and elsewhere) will build systems that can create and exchange 'blocks' with one another completely legally, without ever having to use the banks as a financial intermediary.

#### Applications of this technology:



There are applications for blockchain outside financial services as well. A 'block' could be defined as anything—a unit of services, products, raw materials—the list is endless.

What is bitcoin?

It is an attempt by a firm, using blockchain technology, to create a set of shares in a trading entity that had an initial set value and fixed number (much like the face value and number of shares offered in an initial public offering), in the hope that these shares would become the medium of exchange through which people trade goods and services.

Since the number of shares is fixed, demand for them goes up over a period of time as more and more people use the shares to settle their transactions; so, the bet is that each bitcoin's value goes up stratospherically since there will never ever be any more bitcoins issued.

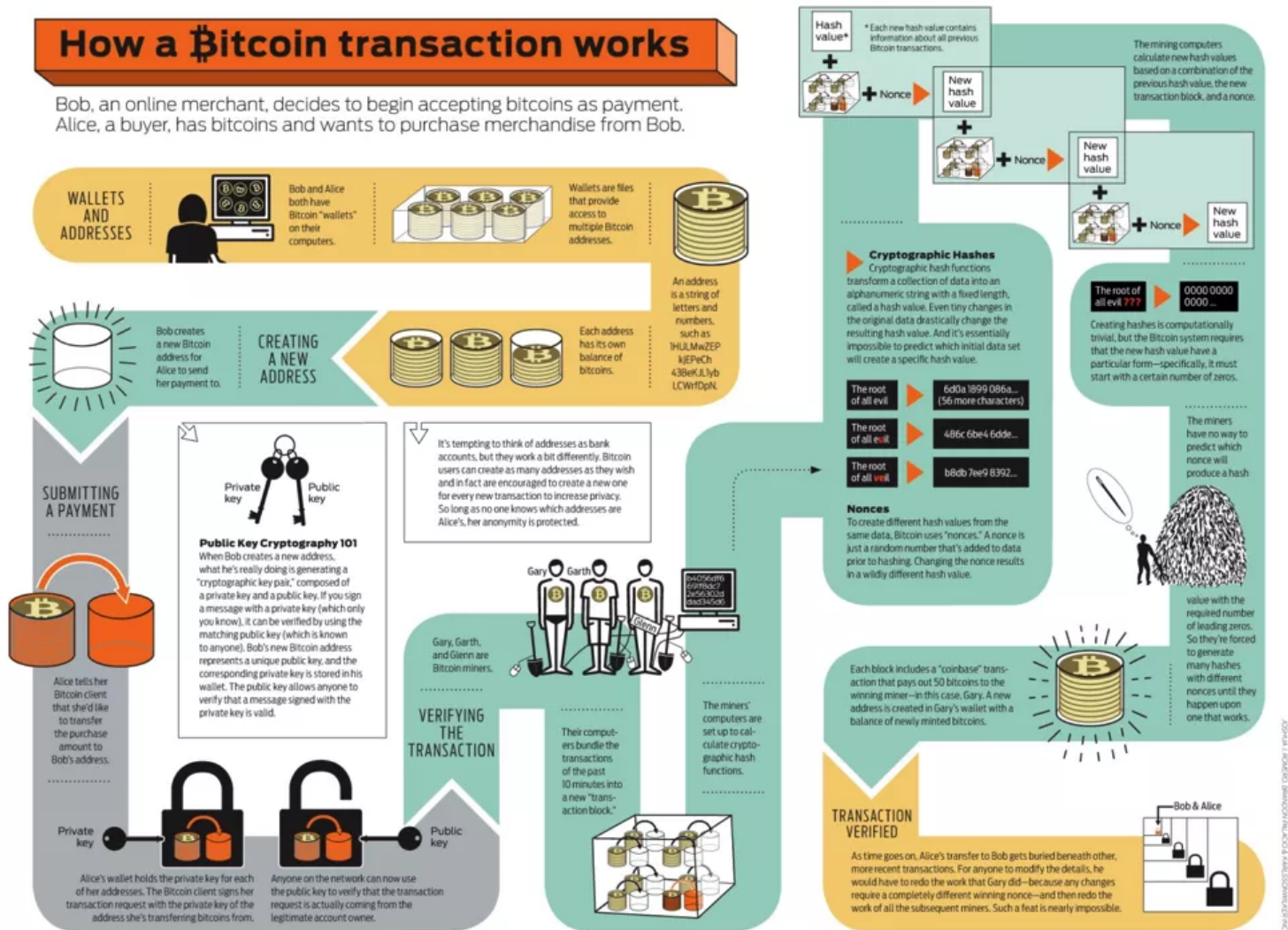
Is it legal?

This is legal since it hasn't yet been regulated by many countries.

Way ahead:

Sovereign governments don't like allowing companies to issue their own coin and will eventually regulate such systems.

Bitcoin transaction:



Bitcoin transactions are sent from and to electronic bitcoin wallets, and are digitally signed for security. Everyone on the network knows about a transaction, and the history of a transaction can be traced back to the point where the bitcoins were produced.

### Advantages of Bitcoins:

- Freedom in Payment.
- Allowing users to be in control of their transactions help keep Bitcoin safe for the network.
- With the block chain, all finalized transactions are available for everyone to see, however personal information is hidden.
- Bitcoin protocol cannot be manipulated by any person, organization, or government. This is due to Bitcoin being cryptographically secure.
- Currently there are either no fees, or very low fees within Bitcoin payments.
- Due to the fact that Bitcoin transactions cannot be reversed, do not carry with them personal information, and are secure, merchants are protected from potential losses that might occur from fraud.

### Disadvantages:

- Lack of Awareness & Understanding.

- Bitcoin has volatility mainly due to the fact that there is a limited amount of coins and the demand for them increases by each passing day.
- Bitcoin is still at its infancy stage with incomplete features that are in development.

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