

17.8 BITCOIN:

- Bitcoin is a consensus network that enables a new payment system and completely digital currency. It is the first decentralized peer-to-peer payment network that is powered by its users with no central authority or middlemen.
- From a user perspective, bitcoin can be considered to be cash for the Internet. Bitcoin can also be seen as the most prominent triple entry bookkeeping system in existence.
- There are or have been at least 110 other digital currencies, bitcoin accounts for 77% of the market value of all digital currencies and an even higher percentage of digital currency users.
- From a user perspective, bitcoin is nothing more than a mobile app or computer program that provides a personal bitcoin wallet and allows a user to send and receive bitcoins with them. Behind the scenes, the bitcoin network shares a public ledger called the "block chain".
- Block chain contains every transaction ever processed, allowing a user's computer to verify the validity of each transaction. The authenticity of each transaction is protected by digital signatures corresponding with the sending addresses, allowing all users to have full control over sending bitcoins from their own Bitcoin addresses.
- In addition, anyone can process transactions using the computing power of specialized hardware and earn a reward in bitcoins for this service. This is often called "mining". An address is like a bank account into which a user can receive, store, and send bitcoins.
- Instead of being physically secured in a vault, bitcoins are secured with public-key cryptography. Each address consists of a public key, which is published, and a private key, which the owner must keep secret. Anyone can send bitcoins to any public key, but only the person with the private key can spend them.

- While addresses are public, nobody knows which addresses belong to which people; Bitcoin addresses are pseudonymous. After depositing your bitcoins into a "wallet", the wallet alerts ("broadcasts") every other user of bitcoins that it contains bitcoins. This information is incorporated into the block chain.
- Bitcoin payments are easier to make than debit or credit card purchases, and can be received without a merchant account. Payments are made from a wallet application, either on your computer or smart phone, by entering the recipient's address, the payment amount, and pressing <SEND>. To make it easier to enter a recipient's address, many wallets can obtain the address by scanning a QR code or touching two phones together with Near Field Communication (NFC) technology.
- One can get bitcoin by any of the following:
 1. As payment for goods or services.
 2. Purchase bitcoins at a Bitcoin exchange.
 3. Exchange bitcoins with someone near you.
 4. Earn bitcoins through competitive mining.
- While it may be possible to find individuals who wish to sell bitcoins in exchange for a credit card or PayPal payment, most exchanges do not allow funding via these payment methods. This is due to cases where someone buys bitcoins with PayPal and then reverses their half of the transaction. This is commonly referred to as a chargeback.

17.9 ADVANTAGES OF BITCOIN:

1. *Payment freedom*: It is possible to send and receive any amount of money instantly anywhere in the world at any time. No bank holidays. No borders. No imposed limits. Bitcoin allows its users to be in full control of their money.

2. *Very low fees:* Bitcoin payments are currently processed with either no fees or extremely small fees. Users may include fees with transactions to receive priority processing, which results in faster confirmation of transactions by the network.

In addition, services exist to assist merchants in processing transactions, converting bitcoins to fiat currency, and depositing funds directly into merchants' bank accounts daily. As these services are based on Bitcoin, they can be offered for much lower fees than with PayPal or credit card networks.

3. *Attractive for micro-transactions:* Because the fees are so low, bitcoins can be used in transactions that are economically unattractive for most merchants, especially in developing countries.
4. *Fewer risks for merchants:* Bitcoin transactions are secure, irreversible, and do not contain customers' sensitive or personal information. This protects merchants from losses caused by frauds and there is no need for payment card industry compliance.

Merchants can easily expand to new markets where either credit cards are not available or fraud rates are unacceptably high. The net results are lower fees, larger markets, and fewer administrative costs.

5. *Security and control:* Bitcoin users are in full control of their transactions; it is impossible for merchants to force unwanted or unnoticed charges as can happen with other payment methods. Bitcoin payments can be made without personal information tied to the transaction. This offers strong protection against identity theft. Bitcoin users can also protect their money with backup and encryption.
6. *Transparent and neutral:* All information concerning the Bitcoin money supply itself is readily available on the block chain for anybody to verify and use in real-time. No individual or organization can control or manipulate the Bitcoin protocol because it is cryptographically secure. This allows the core of bitcoin to be trusted for being completely neutral, transparent, & predictable.

17.10 DISADVANTAGES OF BITCOIN:

1. *Acceptance:* Many people are still unaware of Bitcoin. Every day, more businesses accept bitcoins because they want the advantages of doing so, but the list remains small and still needs to grow in order to benefit from network effects.
2. *Volatility:* The total value of bitcoins in circulation and the number of businesses using Bitcoin are still very small. Therefore, relatively small events, trades, or business activities can significantly affect the price. In theory, this volatility will decrease as Bitcoin markets and the technology matures. Never before has the world seen a start-up digital currency, so it is difficult to forecast how it will play out.
3. *Ongoing development:* Bitcoin software is still in beta with many incomplete features in active development. New tools, features, and services are being developed to make Bitcoin more secure and accessible to the masses. Some of these are still not ready for everyone. Most Bitcoin businesses are new and still offer no insurance. In general, bitcoin is still maturing.