
New Era of Digital Currencies: Cryptocurrency

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Abstract

Gone are the days when only Fiat Money was used as a standard method of payment and store of value. In today's technologically advanced world, the increasing use of plastic money in the form of Debit and Credit cards, online payments through the various payment gateways & online wallet like Paytm and Mobikwik has become prevalent. Recently in the last 4-5 years, even more advanced method of payment, Cryptocurrency, a Decentralized form of currency, has been developed that is considered to be the new era of Digital Currency. Cryptocurrency is being used as a medium of exchange or store of value and is being referred to as "Digital Gold". It is a type of digital asset that can be created, bought and sold electronically. Bitcoin was the first of such crypto currencies created in the year 2009, after the financial crisis of 2008. Allegedly, Satoshi Nakamoto was the person who invented Bitcoin. Bitcoin, a cryptocurrency, is not under the control of any government or financial institution. It uses a block chain database for trades done online. A new Bitcoin can be created only when a miner solves a complex cryptographic puzzle, the process commonly known as "Bitcoin Mining". The drawback of using Cryptocurrency is the anonymity of the persons involved in the transaction and the irreversible nature of the transactions. No one can reverse an entry, not even the miner, buyer or the seller.

The present paper will focus on the development of these Cryptocurrencies with special reference to Bitcoin, Ethereum and Ripple (a centralized form of Cryptocurrency). This paper will analyze the origin, usage pattern, price fluctuations and the future of these Cryptocurrencies.

Keywords: Cryptocurrency, Digital Currency, Bitcoin, Ethereum, Ripple.

Introduction:

The basic concept of crypto currencies is not known by the majority of people today. The major banks, financial companies and the governments of different countries round the world are researching about these crypto currencies. To start with first let's try and understand the origin of these crypto currencies or "Digital Gold".

Announcing the first release of Bitcoin, a new electronic cash system that uses a peer-to-peer network to prevent double-spending. It's completely decentralized with no server or central authority. – Satoshi Nakamoto, 09 January 2009, announcing Bitcoin on SourceForge.

The major part of this invention was the creation of a decentralized payment system online. The major problem that the people were facing due to the online method of transactions was "Double Spending".

In the case of these crypto currencies there is no central authority to control it. The inventor of bitcoin tries to invent a form of digital cash without the control of any central authority, this gave birth to the popularly called as crypto currency. As all these transactions are based on a block chain technology so none of the entries can be changed by anyone. If we compare all this by the manner in which the banks give us currency on demand,

it can be seen that the banks do nothing but pass certain entries that fulfill certain conditions and our transaction is completed. It is a kind of database only that is changed only under certain essential conditions.

Bitcoin system is a peer to peer network so does not function like a bank. In the case of a bitcoin transaction if for example “Abhishek gives 2 Bitcoins to Akshay” this transaction or entry will be considered as a file. This transaction can be completed only by Abhishek’s private key. This is a very common form of transaction with nothing new at all

Every transaction is known all throughout the network. All this process requires certain amount of time and after that the transaction is completed and cannot be changed. This constitutes what is known as a block chain that can never be changed or reversed. To confirm a transaction is in the hands of a miner. His major job is to add all the transactions to the database or the block chain. After the miner completes his task, he is remunerated in terms of bitcoins only.

Work of a miner:

As we know that there is no single authority to control the transactions of a crypto currency, so any one can be a miner as there is no central agency to delegate such task to any single person.

It is a kind of a cryptographic puzzle that is solved by the miners. When the miners are able to solve this complex puzzle then it helps in the addition of a new block in the block chain. It is such a secured and protected network as it is not controlled by trust of the people on each other but on the bases of Mathematics.

Properties of crypto currencies:

- 1) Global reach- The crypto currency market has a global reach. People can make transactions with the people from all over the world.
- 2) Fastest transactions- The transactions of crypto currencies can be completed in a few minutes only. It is one of the fastest methods of transacting.
- 3) Irreversible transactions- These transactions cannot be reversed. If a person sends these crypto currencies to some other person or a hacker, the transaction still cannot be reversed. It cannot be changed by anyone, be it the banker, the miner or any other person.
- 4) Limited Supply- There is a limited supply of the tokens of crypto currencies. As in case of bitcoin the supply will reduce in time and its supply is estimated to be around 2140 only.

Risks of crypto currencies:

- 1) Absence of permission- The buyer or the seller of bitcoin does not need any permission from anyone. People can buy and sell bitcoins and other such crypto currencies without asking any authority. There is no one to stop you and everyone can function as per his will.
- 2) Power consumption-This is one of the major drawback of these crypto currencies. The mining of Bitcoin and Ethereum takes more power than the countries like Iceland and Syria.
- 3) Terror funding- The trade of these crypto currencies may result in terror funding also. As a result it will give more money in the hands of those people who will use it in spreading terrorism .
- 4) Hacking- Since the coins are in electronic format with no physical currency, it is vulnerable to be stolen if the website or the online wallet is hacked by the hackers.
- 5) Money Laundering-It is alleged that black money can launder via Bitcoins or other alternate coins (Alt Coins) thereby taking it out of the purview of the regulators.
- 6) Volatility- It is definitely not a good product for retail investment. The volatility is very high. There are no restrictions and hence the prices rise and fall limitlessly.

Cryptocurrency Market Capitalizations (Source: www.coingecko.com)

#	COIN	PRICE	MKT CAP
1	 Bitcoin SHA-256 BTC	\$17,230.56 2.573% ↑	\$288,378,985,345.27
2	 Ethereum Ethash ETH	\$621.98 29.215% ↑	\$59,894,087,068.30
3	 Litecoin Scrypt LTC	\$334.83 79.575% ↑	\$18,171,680,719.78
4	 Ripple XRP	\$0.2900 16.375% ↑	\$11,235,762,313.24
5	 Monero Cryptonight XMR	\$318.59 19.725% ↑	\$4,922,013,378.32
6	 Dash X11 DASH	\$941.93 24.261% ↑	\$7,298,966,564.11
7	 Stellar Lumens XLM	\$0.1475 2.619% ↑	\$2,631,860,052.44
8	 IOTA IOT	\$4.52 7.284% ↑	\$12,572,715,224.39
9	 NEO NEO	\$41.26 13.672% ↑	\$2,682,166,837.74
10	 Ethereum Classic Ethash ETC	\$31.52 9.760% ↑	\$3,098,708,442.64

Crypto currencies are one of the fastest methods of payment. It is completely free from any political influence. But these days it is more being used as a means of speculation and its use as a method of payment is reduced. There are many exchanges for the trading of crypto currencies whose trading volumes have increased manifold. The major exchanges include, Koinex, Coindelta and Zebpayin India etc. some of the very famous crypto currencies are:

Bitcoin (BTC)

This is the most famous of all crypto currencies. Its value has risen to sky high prices in a span of last 6 months. No other crypto currency is as expensive as Bitcoin now. In the United States this is the most controversial issue. This technology has been used by many people to hide their illegal money from the government. Bitcoin Prices have skyrocketed in 2017 from a low of \$1000 in Jan 2017 it has reached \$17,000 in Dec 2017.

Etherium (ETH)

This is the second best crypto currency in markets now. It is one of the best instrument for block chain technology and transactions. It works on a decentralized platform for applications that run faster than the Bitcoin's blockchain methodology.

Litecoin (LTC)

Just like Bitcoin is called "Digital Gold", Litecoin is considered to be "Digital Silver". It is supposed to be faster in transactions than Bitcoin. It has a new and well-developed mining algorithm. The famous crypto currencies like Feathercoin and Dogecoin has taken the base of Litecoin only.

Ripple (XRP)

Ripple is the centralized form of crypto currency. It is losing the concept of trust that was the basic quality of the block chain technology. Its main objective is to protect the networks from spam. The main purpose of crypto currency is to transfer the money globally from any bank to any other bank in just 4 seconds, right now it takes 4 days to do the same. This major purpose is not fulfilled by XRP which is developed by Ripple company. The banks and other financial institutions seem to like Ripple a lot and would also try to adopt it in the near future.

Conclusion:

We see everyday new crypto currencies emerge. Some of the old ones grow to reach great heights while some die out. The people who invest early are the ones who gain a lot while the others tend to lose. The speculators tend to make loads of money each day by the high fluctuations in the rates of these currencies, while the investors suffer a lot. In the recent past we have seen that people invested large amounts of money in Bitcoins and it grew by 4000% in less than 1 year. This bitcoin market clearly shows us that from now onwards a middle-class person will not be able to afford a single bitcoin. Its value is above 10,00,000 in INR terms.

In the end we can say that this crypto currency technology has in no time taken a big stage. It is not necessary that all those who have invested their money in these will reap profits. Certainly, this is a good invention and hassle-free transacting methods worldwide. The trading of Bitcoins is still not legal in many countries. If the growth of crypto currencies will remain in such a speed then soon there will be no need of banks at all. This will have both positive and negative effects.

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