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MECHANICS AND TRENDS OF CRYPTOCURRENCY

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Abstract

With the change in the current scenario where AI, Artificial Intelligence and MI, Machine Learning are the buzz words, it is seen that the financial customer has become more demanding, their expectations have also increased, that further has led to the introduction of latest technology as a routine in the money market. There was a time when internet and online banking mechanics bought revolution in the economy which gave a chance to the customer to use banking functions very easily. A new concept of unregulated currency has emerged, which has brought a change in the life of several citizens of the world and that is known as Crypto currency. It is though a relatively new concept in India but it is frequently being used in the European and some American countries for the past few years. This paper is an attempt to review Crypto currency, its mechanism, its pros and cons and how it works as a medium of exchange from the economic perspective and what are its trends in India and the world at large.

Keywords: *Crypto currency, Medium of exchange, Economic perspective.*

INTRODUCTION

With the change in the current scenario where AI, Artificial Intelligence and MI, Machine Learning are the buzz words, it is seen that the financial customer has become more demanding, their expectations have also increased, that further has led to the introduction of latest technology as a routine in the money market. There was a time when internet and online banking mechanics bought revolution in the economy which gave a chance to the customer to use banking functions very easily. A new concept of unregulated currency has emerged, which has brought a change in the life of several citizens of the world and that is known as Crypto currency. It is though a relatively new concept in India but it is frequently being used in the European and some American countries for the past few years. This paper is an attempt to review Crypto currency, its mechanism, its pros and cons and how it works as a medium of exchange from the economic perspective and what are its trends in India and the world at large.
Cryptocurrency is decentralized digital money that is based on blockchain technology and secured by cryptography. Cryptography is the method that secures data from unauthorized access using encryption techniques. Most of the claims that blockchain makes, like privacy and immutability, are enabled through cryptography.

OBJECTIVES

1. To study the concept of Crypto currency.
2. To reveal the working trends of Crypto currency.
3. To examine the mechanics of Crypto currency as a medium of monitory exchange.

The Concept - Crypto Currency
Cryptocurrency is decentralized digital money that is based on blockchain technology and secured by cryptography. There are three essential terminologies to understand cryptocurrency such as Blockchain, decentralization and Cryptography. The blockchain records cannot be modified or tampered with – even by an administrator. In other words, it is immutable. Decentralization in cryptocurrency means there is no similar authority that can be held responsible for supervising the rise and fall of a particular cryptocurrency. This has many benefits over centralized money. Centralized money means regular money which is governed and supervised by the authority like Reserve Bank of India.

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Different types of Cryptocurrencies:

Table 1 – Time line of various Cryptocurrency

YEARS	VARIOUS CRYPTO CURRENCIES
2009	Bitcoin
2011	Namecoin, Litecoin
2013	Dogecoin, Ripple, Primecoin, Omnilayer
2014	Dashcoin, NEM, PotCoin, Titcoin, Coinye
2015	Ethereum, Ethereum Classic
2017	Bitcoin cash

There are over 12,000 different types of cryptocurrencies in 2022, which is a huge increase compared to 2013, when there were just a handful of cryptocurrencies doing the rounds according to cryptocurrency statistics.

Table 1-The top 10 cryptocurrencies and their prices on March 28, 2022

Bitcoin	$46,900.90 or 4.88 per cent gain
Ethereum	$3,318.25 or 5.35 per cent gain
Tether	$1.00 or 0.02 per cent loss
BNB	$433.62 or 3.96 per cent gain
USD Coin	$1 or 0.001 per cent gain
XRP	$0.8653 or 3.22 per cent gain
Cardano	$1.18 or 3.71 per cent gain
Solana	$108.79 or 6.66 per cent gain
Terra	$95.06 or 4.32 per cent gain
Avalanche	$90.91 or 5.72 per cent

Source: coinmarketcap.com

CRYPTO MECHANICS

Cryptocurrencies are not controlled by the government or central regulatory authorities. It is decentralized currency and not governed and supervised by any regular authority. The roots of cryptocurrency technology can be traced back to the 1980s with the invention of what is called a "blinding algorithm". The algorithm is all about secure and immutable digital transactions.

The system relies on complicated mathematical-based cryptography (encoding) to secure its data and money creation and prevent communication among members from being accessible to third parties. The users have their own unique identity, and each transaction is recorded in a public ledger (which acts as a digital financial record book with a record of all transactions in chronological order). This ledger, called the "blockchain" is visible to all computers on the network, but does not disclose personal information about the parties involved in transactions.

The Block chain mechanics:

1. Someone buys or sell to trade bitcoin.
2. The request is sent to a person-to-person network of computers (known as nodes).
3. Transactions sent to nodes are verified by people called "Miners" who confirm everything using known algorithms.
4. A verified transaction can involve digital currency, smart contacts, records or other information on the open network.
5. After verification the transaction is added to a "block" of data with other transactions for the public ledger.
6. That new block is added to the existing blockchain. Once there, it cannot be changed or altered in anyway. The record is permanent, and the transaction is completed.

Hence it is rightly said that Cryptocurrencies are not controlled by the government or central regulatory authorities. As a concept, cryptocurrency works outside of the banking system using different brands or types of coins – Bitcoin being the major player. It's the concept of AI and MI which are an integral part of its mechanics.

The Crypto Currency Mechanics:

1. Mining

Cryptocurrencies are generated through a process called "mining". This is a complex process. Basically, miners are required to solve certain mathematical puzzles over specially equipped computer systems to be rewarded with bitcoins in exchange.

2. Selling, Buying and Storing

Crypto currencies are purchased by the users through central exchange. There are some of central exchange in India like Giottus, Binance India, WazirX India, Coinbase India, Kraken India, Bitstamp India etc. Coinbase are the easiest Platform to buy or sell cryptocurrencies. Once bought, cryptocurrencies can be stored in digital wallets. Digital wallets can be "hot" or "cold". Hot means the wallet is connected to the internet, which makes it easy to transact, but vulnerable to thefts and frauds. Cold storage, on the other hand, is safer but makes it harder to transact.

3. Transacting or investing

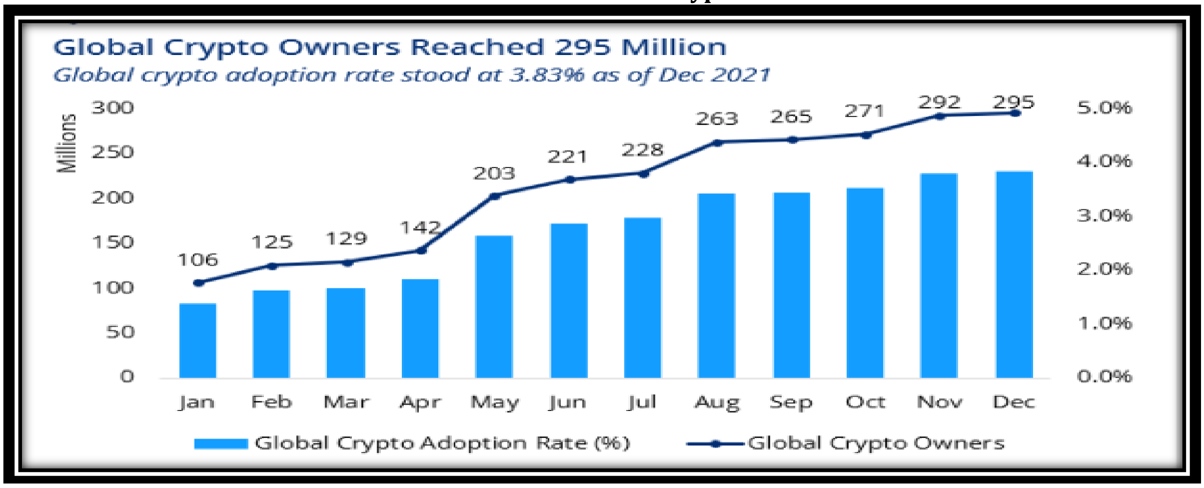
Cryptocurrencies like Bitcoins can be easily transferred from one digital wallet to another, using only a smartphone. If it is owned by someone, the choices are to: use them to buy goods and services, to do trade in them, and to exchange them for cash. If one is using Bitcoin for purchases, the easiest way to do that is through debit-card-type transactions. The debit cards are also used to withdraw cash, just like at an ATM. Converting cryptocurrency to cash is also possible using banking accounts or peer-to-peer transactions.

Cryptocurrency Mechanics and Trends in the World:

According to cryptocurrency statistics, in 2022 it is estimated that the average ownership rate of cryptocurrency was 3.9%, which means that there are more than 300 million people using cryptocurrency around the world.

There are also more than 18,000 companies choosing to accept cryptocurrency as payment for their product or service.

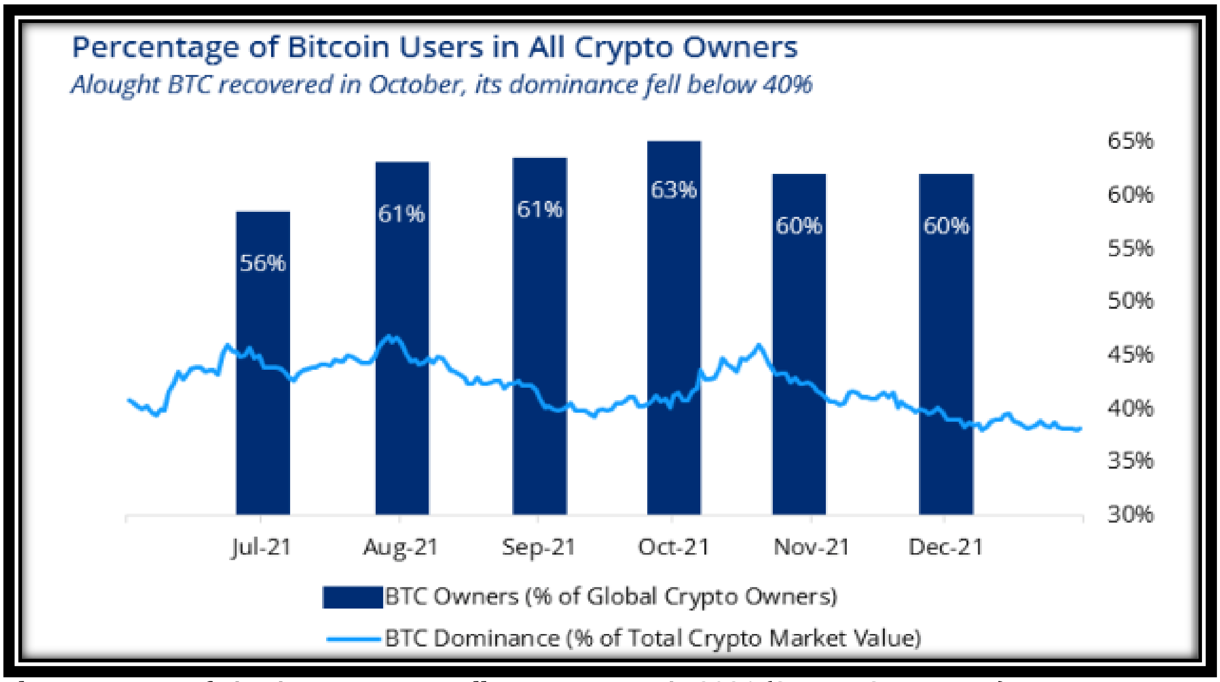
Chart 1: Trends of Global Crypto Owners



The increase in global crypto owners 2021 (Source: Crypto.com)

So, we see from the above graph that trends of global crypto owners are increasing. There are 295 million cryptocurrency users globally as on December 29, 2021 as compared to the 106 million which were there in January 2021. This rate of increase in the number of crypto users will have a significant effect on the financial markets.

Chart 2: Trends of Global Bitcoin Owners



The percentage of Bitcoin users among all crypto owners in 2021 (Source: Crypto.com)

As clearly seen in the above chart 2, in July 2021, just under 56% of all crypto users owned Bitcoin. This market share continued to grow till October 2021 with 63% and then began two months long dropdown, its market share decreased to 60%. And then fallowing below 40% at the end of the year. However, the overall trends reveal that, Bitcoin continues to capture the largest part of the crypto market.

Advantages of crypto:

Secure: Cryptocurrency users are in full control of their transaction and is made without personal information tied to the transaction. Cryptocurrency users can also protect their money with encryption. The blockchain technology that fuels cryptocurrencies ensures user anonymity.

Decentralised and Immutable: Cryptocurrency is decentralized digital money that is based on blockchain technology and secured by cryptography. The blockchain records cannot be modified or tampered with – even by an administrator, so its immutable.

Investment: Cryptocurrency makes for a great investment in times of inflation. For example, investors often compare cryptocurrency to gold. One of the reasons behind this is that, just like gold, they are in limited supply, as there is a cap on mining any type of cryptocurrency.

Disadvantages of crypto:

Acceptance level: Many people are unaware of it and acceptance is small and need to grow to gain benefit from network effects. They are a relatively new concept, especially in India, and the long-term sustainability of cryptocurrencies remains to be seen.

Risk involved: Cryptocurrency has volatility mainly because the demand for it is increasing by each passing day and there is limited number of coins. Their highly volatile and speculative nature makes them prone to sharp downward spirals. Investing in cryptocurrency can be risky for many reasons.

Transactional delays: This is a complex issue, which has more to do with the technology side of the blockchain. Simply put, the sluggish nature of the blockchain makes it prone to transactional delays. This has the tendency to make crypto payments inefficient when compared to modern-day electronic payment techniques.

Cryptocurrencies mechanics and trends in India:

Cryptocurrencies have occupied a leading role in the Indian finance market with a day to day increase in the investors and the total market cap. There are some reasons why risk-taking investors are seeking cryptocurrencies these days:

24/7 Trading Anytime Anywhere: Cryptocurrencies can be traded anytime, anywhere, an investor just needs the crypto exchange app to buy or sell cryptocurrencies.
Offers high security: Since the entire transaction is based on blockchain, the transactions are completely encrypted to prevent fraud or theft.
Transparency: All crypto exchange transactions are monitored and recorded on computer networks around the world, which validate the transactions. The blockchain is a general ledger that is stored across all cryptocurrency mining computers and cannot be modified or edited.

However, since crypto can't be regulated by the Indian government, in the budget, the Indian Finance Minister's announcement on levying a 30% tax on gains on the transfer of virtual digital assets, which includes cryptocurrency.

FINDINGS

Crypto is being used for selling and buying in many countries and markets. Bitcoin is the most reliable cryptocurrency for its users. The increasing trend in prices of bitcoin shows that it is the most reliable cryptocurrency for its users in the world. However, yet there are many people who are still not having proper knowledge of digital currencies and Bitcoin. People need to be educated about cryptocurrency and risks associated with it, so that they have the right frame of mind before actually investing in it.

SUGGESTIONS

To make the digital currency more secure and accessible, new features, tools, and services should be developed having more transparency in transactions. Citizens should have knowledge of all cryptocurrencies and other currencies and then use this currency as a medium of exchange clearly keeping in mind the level of risk and crypto trends associated with it.

CONCLUSION

Bitcoin which is the first known implementation of a concept known as cryptocurrency, is still in a very immature state and the developers are continuously putting their efforts to reduce the vulnerability of the Bitcoin. The main threats as seen through the mechanics for cryptocurrency in this review paper are; its vulnerability in the mining process, its mode of transactions and lack of security during the storage of the coins on the online pools. Though recent research efforts are going on to reduce the threats that come forward during the mining process, however democratic and developing countries like India are cautious for its citizens and so are finding ways to safeguard the hard-earned public money. As per the last Indian budget it was proposed by the finance minister to label cryptocurrency as "digital asset" and also proposed the tax rate.

REFERENCES

[1] Nishith Desai Associates (2015), "*Bitcoins – A Global Perspective, Indian Legal & Tax Considerations*".
[2] Hass McCook (2014), "*An Order-of-Magnitude Estimate of the Relative Sustainability of the Bitcoin Network*".
[3] Vasudha Kapil (September 2014), "*BitCoin: A New Paradigm in E – Commerce*", International Journal of Advanced Research in Computer and Communication Engineering (IJARCCE), Vol. 3, Issue 9, September 2014.
[4] Thabiso Peter Mpofu, Budwell Masaiti & Macdonald Mukosera (June 2014), "*Digital Currency: The Emergence of Bitcoins*", International Journal of Science and Research (IJSR), Volume 3 Issue 6.
[5] S. Nakamoto (2008), "*Bitcoin: A Peer-to-Peer Electronic Cash System*," [Online].
[6] Dr. Megha Bhatt (January 2016), "Bitcoin: An Economic Perspective".
[7] https://www.sandeshepaper.in (Sandesh daily newspaper 9, December 2017)
[8] https://www.news18.com/news/business/cryptocurrency/cryptocurrency-price-today-bitcoin-hits-3-month-high-ether-solana-in-green-full-list-4916222.html
[9] https://www.creditmantri.com/article-cryptocurrency-how-to-buy-sell-and-trade-in-india/
[10] https://cryptoslate.com/there-could-be-1-billion-global-crypto-users-by-the-end-of-2022-and-more-than-half-will-own-bitcoin/
[11] https://www.Crypto.com