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## IS CRYPTOCURRENCY THE FUTURE OF MONEY?

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### ABSTRACT

Due to the speedy development of communication technology, several of our daily activities are incorporated online. The increase of digital acquisition has created new business opportunities through the employment of virtual word ideas. This growth has activated a virtual business development referred to as cryptocurrency. A cryptocurrency could be a secure digital or virtual currency which will be used for transactions. Because of its decentralized nature, it is used for creating transactions. There are 1658 styles of cryptocurrencies within the digital market which will be used for creating payment transactions. It's secured by cryptography that makes it not possible to pay a cryptocurrency doubly on a network. Cryptocurrency exists solely in digital kind and may be transferred fully between digital addresses. This analysis focuses on the explanation for gaining popularity within the recent periods and what can be its future. It conjointly focuses on what proportion data a common person has concerning cryptocurrencies.

It also focuses on the similarities and differences between stock market and cryptocurrencies.

### INDEX TERMS

cryptocurrency, decentralized nature, digital addresses, stock market, virtual currency

### 1. INTRODUCTION

Cryptocurrency is an electronic money created with the use of technology that controls its creation and safeguards transactions while masking its users' identities. Cryptocurrencies are a sort of digital money that claims to be faster, cheaper, and more dependable than traditional government-issued money. Users deal directly with one another and save their own cash, rather than relying on the government to create money and banks to keep, distribute, and receive it. Because consumers may send money directly without going via an intermediary, transactions are usually reasonably inexpensive and speedy.

To prevent fraud and manipulation, each cryptocurrency user can record and verify their

own transactions as well as the transactions of other users at the same time. A "ledger" is a collection of digital transaction records that is accessible to the general public. Transactions become more efficient, permanent, safe, and transparent with this public ledger.

Because of public records, cryptocurrency does not require you to trust a bank to keep your money. They don't require you to have faith in the person with whom you're doing business in order for them to pay you. This system does not require trust. "Trustless" is the name given to this one-of-a-kind favourable trait.

## 2. HISTORY

Satoshi Nakamoto, a pseudonymous developer, established the first decentralised cryptocurrency, bitcoin, in 2009. It used SHA-256, a cryptographic hash algorithm, as its proof-of-work method. Many alternative currencies have been invented, but due to a lack of technical innovation, only a few have proven to be effective.

According to central bank representatives, the adoption of currencies like bitcoin poses a significant challenge to central banks' ability to influence the price of credit for the entire economy. They also said that as currency-based trade becomes more frequent, consumer confidence in fiat currencies will deteriorate.

Since the creation of bitcoin in 2009, the popularity and demand for online currencies has grown, raising fears that the uncontrolled person-to-person global market such currencies provide could become a threat to civilization. There are concerns that anonymous cyber criminals may use cryptocurrencies.

## 3. BLOCKCHAIN

Blockchain is a data storage technique that makes it difficult or impossible to change, hack, or manipulate data.

A blockchain is a digital ledger of transactions that is duplicated and distributed across the network of computer systems that make up the blockchain. Each block within the chain includes some of the transactions, and every time a new transaction takes place on the blockchain, it is recorded in the ledger of each participant. Distributed Ledger Technology (DLT) is a decentralised database that is managed by a number of different persons.

This means that if one block in a chain is modified, the entire chain will be obvious to be tampered with. Hackers would have to change every block in the chain, across all distributed versions of the chain, to bring a blockchain system down. As additional blocks are added to the chain, blockchains like Bitcoin and Ethereum expand in size, greatly boosting the security of the ledger.

Blocks, nodes, and miners are the three main concepts in a blockchain.

### Blocks

Every chain is made up of a number of blocks, each of which has three basic components:

- The data included within the block.
- A 32-bit whole number is referred to as a nonce. A random nonce is generated when a block is produced, which is subsequently used to generate a block header hash.
- The nonce is coupled with a hash, which is a 256-bit value. It needs to start with a lot of zeros (i.e., be extremely small).

When the initial block of a chain is generated, a nonce generates the cryptographic hash. Unless the block is mined, the data within it is regarded signed and irreversibly linked to the nonce and hash.

### Miners

Mining refers to the process of adding new blocks to the chain by miners.

Each block in a blockchain has its own nonce and hash, but it also refers to the hash of the preceding block, making block mining difficult, especially on big chains.

Miners solve the mathematical difficulty of creating an acceptable hash using a nonce with specialised software. Because the nonce is only 32 bits long and the hash is 256 bits long, there are approximately four billion nonce-hash options to choose from. The miners are deemed to have discovered the "golden nonce" in this circumstance, and their block is added to the chain. Any change to a block earlier in the chain needs re-mining not only the damaged block but also all subsequent blocks. This is why it is so difficult to manipulate blockchain technology. Because discovering golden nonces takes a long time and a lot of computer resources, think of it as "safety in math". When a block is mined successfully, all nodes in the network acknowledge the change, and the miner is compensated financially.

### Nodes

Decentralization is one of the most significant characteristics of blockchain technology. A single machine or entity cannot be the source of the chain. Instead, the nodes that link to the chain form a distributed ledger. A node is any form of

technological equipment that preserves copies of the blockchain and keeps the network running.

Every node has its own copy of the blockchain, and any newly mined block must be acknowledged algorithmically by the network in order for the chain to be updated, trusted, and validated. Because blockchains are transparent, each action on the ledger can be easily scrutinised and investigated. Each member is given a unique alphanumeric identification number that is used to keep track of their transactions.

The blockchain's integrity is maintained and users' trust is developed by combining public data with a system of checks and balances. In a word, blockchains are a technology that allows for the scalability of trust.

## **4. FAME OF CRYPTOCURRENCY**

- What is it about cryptocurrencies that has made it so popular?

Cryptocurrency is a decentralised digital money that is not issued by any central bank or financial organisation. They are available for purchase and sale on cryptocurrency exchanges with price volatility. The simplicity with which cryptocurrency may be traded is one of the reasons for its rapid ascent. To exchange cryptocurrency between two people, there is no need for a third party or a middleman.

- Popularity within the event of a pandemic

Bitcoin's popularity, which had taken a major hit in 2018 and remained dormant for much of 2019, began to gather up steam in 2020.

The Covid-19 epidemic caused chaos on economies around the world during the year, prompting the entire world to enact strict lockdowns. The world economy was badly hurt by the influence of the following variables, which harmed all forms of mainstream investments and assets.

- Transactions are quick, simple, and inexpensive

Because cryptocurrency is not dependant on a central authority or banks, there are no intermediaries. Because no intermediaries are involved, there are no transaction costs, unlike traditional currencies. When sending money internationally, banks typically impose large transaction fees to both the sender and the receiver, and the transaction can take several days to complete.

Transferring money using cryptocurrency like bitcoin is much easier because the transaction just takes a few minutes to complete and there is only a little transaction fee. This has resulted in cryptocurrencies being available worldwide, with very little restrictions or rules in place for conducting transactions.

- The cryptocurrency market is highly volatile.

The cryptocurrency market is controlled by users, not the government or the community. As a result, the cryptocurrency market is extremely volatile, and supply and demand play a big role. A volatile market can cause you to lose all of your cryptocurrency, but with the right knowledge of cryptocurrency investment and trading strategies, you can make significant gains. Typically,

investors buy cryptocurrency at lower prices and sell as the price rises.

- The security level of cryptocurrencies is really high.

In addition to its value, investors are drawn to it because of its secrecy. Cryptocurrencies are built on blockchain technology, which is acclaimed for its security and privacy. It's tough to keep track of the transactions because they went via a series of web transactions.

## 5. STOCK MARKET VS CRYPTOCURRENCY

- The Similarities between Cryptocurrency and Stock Investing

Financial advisors or brokers used to accept money from investors and invest it in the stock market. Fortunately, the situation has altered, and the stock market has undergone a dramatic shift as well. Both cryptocurrencies and equities can now be bought and sold via a digital exchange, brokerage account, smartphone app, or other online venues.

- Cryptocurrency vs. Stocks: What's the Difference?

While both cryptocurrency and stocks are types of investments, each has its own set of features that distinguishes it from the other. When you purchase a stock, you are making a direct investment in a company that you believe will develop in the future. On the other side, you just purchase cryptocurrency tokens in order to use them as a digital investment platform or to trade them for cash.

### 1. **Cryptocurrency creator and stock**

**distributor:** The decentralised and independent nature of cryptocurrency is one of the reasons for its enduring popularity. Anyone can become a miner and try to get their hands on bitcoin because of its leniency. As for stock market, it is necessary to construct stocks. Government agencies must approve them, and they must also be audited.

### 2. **Stocks are protected against hacking, but**

**cryptos are not:** As previously stated, the stock market is heavily controlled by government organisations and is subject to annual auditing. Stocks are unlikely to be rigged or fraudulent due to the intense examination they receive. As for cryptocurrency, digital currencies are unregulated and vulnerable to fraud due to their decentralised structure. You could lose all of your digital assets as a result of a simple bitcoin scam.

### 3. **The ownership rights void:**

Stocks are seen as a form of ownership. Shares ownership does not change until the owner prefers to sell the stock, similar to voting and citizenship cards. When he or she invests in stocks, they are given a percentage of the company's ownership. When you invest in the digital currency market, you are given tokens such as Ethereum, bitcoin, and others. They don't imply that you have a legal stake in the company that issued them.

## 6. RESEARCH METHODOLOGIES

### HYBRID MODEL

A model may include both descriptive and analytical components. A descriptive model's logical relationships can be examined, and conclusions can be drawn to reason about the system. Nonetheless, logical analysis yields quite

different conclusions than a quantitative chemical investigation of system properties.

We first conducted a poll of people utilising an online form creator and data collection service to acquire information regarding people's awareness.

## 7. PUBLIC SURVEY

We deployed our data gathering utility, often known as a survey bot, to a variety of people and collected information on various facets of their understanding of cryptocurrencies.

### 7.1 QUESTIONNAIRE

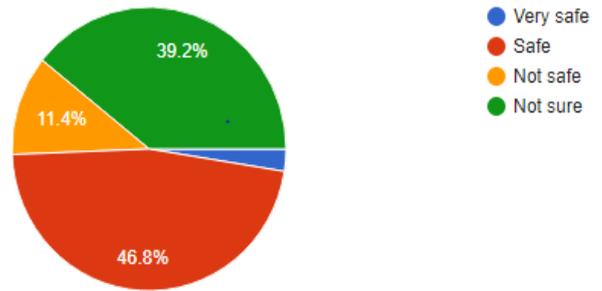
- Are you familiar with the concept of cryptocurrency?
- Do you think cryptocurrency has a future?
- How safe do you feel to invest in cryptocurrency?
- Do you invest in stock market?
- How safe do you feel to invest in stock market?
- If given a choice, what would you rather invest in?
- Do you think cryptocurrency should be regulated by RBI and can be used as currency exchange in India?

### 7.2 RESULTS

When people were asked if they were familiar about the concept of cryptocurrency, about 67% of the people were aware about its existence as it is widely used all over the world.

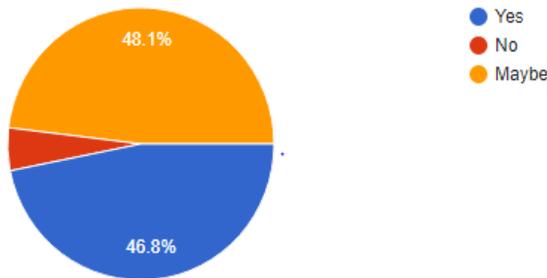
When we asked them if they believe that cryptocurrency has a future or not, nearly 47% of the people were sure that it has a future, whereas the other half were not certain. About 4% were sure that it does not have a future. The reasons being

- It can neither be considered as a commodity and nor as a currency.
- It is not legal.
- It is not controlled by the government entities or banks.
- It is prone to illegal activities.
- It is secure but at the same time it is extremely vulnerable to cyber-attacks.



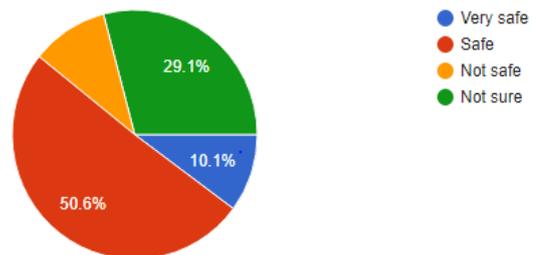
When people were asked if they invest in stock market, 45% people said yes and 54% people said no. On being asked if they felt safe to invest in stock market, more than 50% of the people felt safe and nearly 35% of them felt it isn't safe. When asked for a reason for not feeling safe to invest in stock market, they said

- There is no guarantee of profit after investment.
- Due to market risks.
- Market is controlled by big players and is managed to their benefits. One may not know when it will fall.

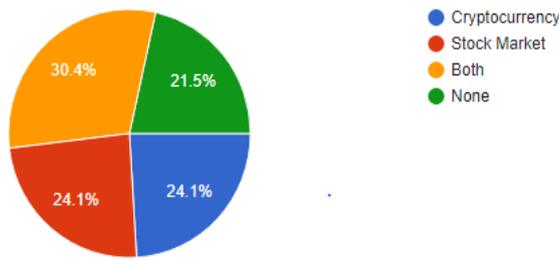


On being asked if they felt safe to invest in cryptocurrency, about 47% of the people felt safe and 50% of the people didn't. When asked for a reason for not feeling safe to invest in cryptocurrency, they said

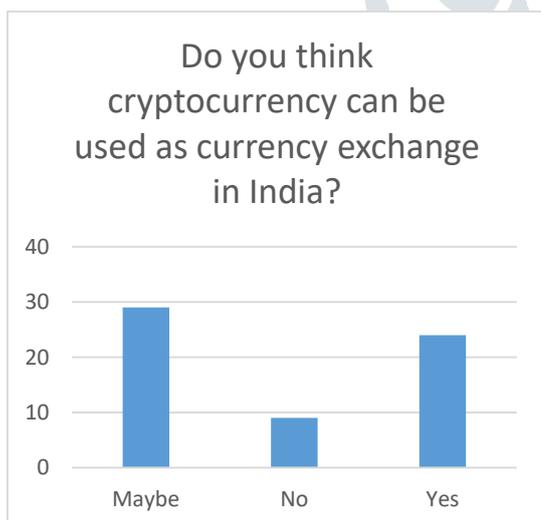
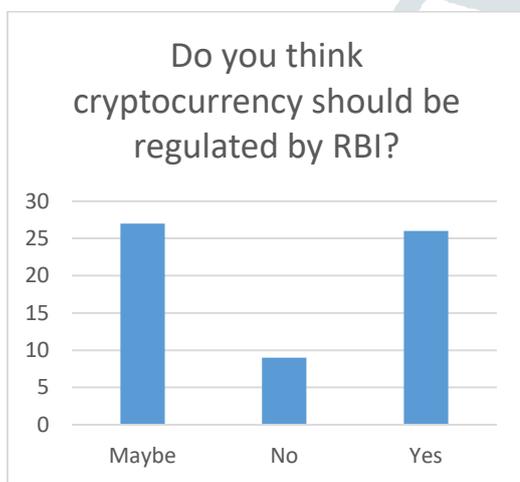
- It is highly volatile which makes it risky to invest and it is not accepted for any legal tenders.
- Government have the authority to regulate anything and everything. Crypto is not legal in India as of now. So crypto could be regulated by national governments or get killed by the government's own digital currency.
- Cryptocurrency is not transparent on how it's been valued.



When people were asked if given a chance what would they rather invest in, cryptocurrency or stock market, exact amount people chose cryptocurrency and stock market equally, whereas about 21% people chose to invest in both and 30% chose to invest in neither of them.



When asked if cryptocurrency should be regulated by RBI and used as currency exchange in India, about 42% people said yes and agreed while about 14% people said no. About 44% people were not sure about it.



### 8. FINDINGS

1. Investing in cryptocurrency is safe and secure. There are many drawbacks but the only concerning drawback is it totally works on demand.

2. Cryptocurrency is secure but extremely vulnerable to cyber-attacks.
3. Government and RBI are planning to create their own digital currency due to which there are less chances of cryptocurrency being regulated.
4. Cryptocurrencies and equities can now be bought and sold via a digital exchange, brokerage account, smartphone app, or other online venues.
5. People are still not very much aware about the concept of cryptocurrency and are still learning about it.
6. As stock markets are established centuries ago, people believe stock market to be safe as compared to cryptocurrency.

### 9. CONCLUSION

Cryptocurrencies will not be phased out anytime soon. The future of trade is bright, thanks to new emerging technologies that can help humanity. Users and industry participants can, of course, assess whether Bitcoin can help or hurt them based on their goals and expectations for possessing it. This article looked at the advantages of cryptocurrencies in terms of technology security, low transaction costs, and high investment returns.

Law and regulation, excessive energy usage, and network attacks were all discussed as challenges. Improving the security protocol, working on proof of activity, and implementing the knowledge management system are among the improvements and future work on cryptocurrencies. More in-depth studies on numerous elements of cryptocurrencies should be conducted, given the favourable outlook of blockchain technology and the likelihood of government regulation. The

implementation of cryptocurrency to the best of its capacity would then become one of the most significant discoveries of the twenty-first century.

## 10. BIBLIOGRAPHY

1. Cryptocurrency in Modern Finance

[www.researchgate.net](http://www.researchgate.net)

2. Cryptocurrency Market

[www.researchgate.net](http://www.researchgate.net)

3. Blockchain Community

[www.blockgeeks.com](http://www.blockgeeks.com)

4. Cryptocurrency and cryptojacking

[www.geekforgeeks.com](http://www.geekforgeeks.com)

5. Cryptocurrency News

[economicstimes.indiatimes.com](http://economicstimes.indiatimes.com)

