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Bitcoin and the Future of Cryptocurrency in the Indian Economy

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ABSTRACT: The cryptocurrency's technology has been extremely visible since its inception in 2009. The new sort of currency has become a popular and practical source of cash all around the world due to its autonomy and convenience. Many different types of cryptocurrencies have been established to serve as an alternate form of payment. Some argue that bitcoin will have a negative impact on the global economy, while others argue that it will have a positive impact. In India, the legitimacy of cryptocurrencies has been a little ambiguous so far. There is a booming blockchain market in India, which has existed for a minimum of five years. On the other side, legal disputes over cryptocurrency began in 2018. A new measure was supposed to be tabled during the current winter session of Parliament in 2021, but it is still in the works, and the Cabinet has yet to approve the final text.

KEYWORDS: Sustainable development, Social entrepreneurship business model, Non-governmental organization, Non-profit and volunteer groups, Corporate social responsibility

I. INTRODUCTION

Before addressing cryptocurrency and bitcoin (FAUZI, PAIMAN, & OTHMAN, 2020), it's important to understand their basis, which is blockchain. Blockchain technology permits cryptocurrencies to exist (amongst many other things). Bitcoin, a well-known cryptocurrency, is the one for which blockchain technology was formed. A cryptocurrency, like the U.S. dollar, is a digital means of exchange that uses encryption techniques to manage the generation of monetary units and check the transfer of funds. Blockchain has numerous possible applications beyond bitcoin and cryptocurrencies.

It's important to conceive of blockchain technology (Agbo, Mahmoud, & Eklund, 2019) as a form of next-generation business process improvement software from a business standpoint. Collaborative technology, for example, blockchain, enhance business procedures between organizations, cutting the "cost of trust" dramatically. As a result, it may provide much better returns per dollar invested than most conventional investments.

From clearing and settlement to insurance, financial institutions are investigating how blockchain technology could be used to change the industry.

II. CRYPTOCURRENCY EXPLAINED

Cryptocurrency is a decentralized digital currency (Wątorrek, Drożdż, Kwapien, Minati, Oświęcimka, & Stanuszek, 2021) that is secured by cryptography and is based on blockchain technology. To comprehend cryptocurrencies, grasping the concepts of decentralization and cryptography is essential first.

The money used regularly is referred to as centralized money (Amsyar, Christopher, Dithi, Khan, & Maulana, 2020) and is administered by authorities, such as the Reserve Bank of India. Decentralization in the case of cryptocurrencies means no similar authority is accountable for overseeing the growth and decline of a cryptocurrency. This has a lot of advantages over centralized money. The following are some of its advantages:



- Currency owners do not need to "trust" a single governmental institution because everyone in the network can access the same information, which cannot be changed.
- Only the network's users have access to the data, which is carefully guarded. Shared ownership also means that all users must agree on the accuracy of the data, reducing the chances of data mismanagement or miscommunication, so it can be viewed as ademocracy.
- Security is an important feature of ablockchain.

Cryptography (Mavroeidis, Vishi, Zych, & Jøsang, 2018) is the process of using encryption techniques to protect data from unauthorized access and enables most of the claims made by blockchains, such as anonymity and the immutability.

The origins of bitcoin technology can be linked back to the discovery of a "blinding algorithm" in the 1980s. Secure and unalterable digital transactions are at the heart of the algorithm. It's still important in the modern world's digital currency.

III. BITCOIN EXPLAINED

Bitcoin is digital money that runs independently (Merediz-Solà & Bariviera, 2019) of any central authority or government monitoring and utilizes peer-to-peer software and cryptography.

All bitcoin transactions are recorded in a public ledger, and copies are stored on servers across the world. A node is a server that anyone with a spare computer can establish. Instead of depending on a central source of trust like a bank, consensus on who owns which coins are obtained cryptographically among these nodes.

Every transaction is broadcast publicly to the entire network and shared across nodes (Vujičić, Jagodić, & Randić, S. 2018). Miners combine these transactions into a group called block and add it to the blockchain every ten minutes or so. This is the definitive bitcoin account book.

Virtual currencies are stored in digital wallets, which can be obtained by client software or a variety of internet and hardware solutions, similar to how traditional coins are kept in physical wallets.

Bitcoins are now subdivided into seven decimal places: a milli is a thousandth of a bitcoin, and a satoshi is a hundred millionth (Schilling & Uhlig, 2019) of a bitcoin.

Establishing ownership of coins to the network is necessary to utilize a private key when making a transaction.

IV. ADOPTION OFBITCOIN

Bitcoin, the world's foremost innovation (Parino, Beiró, & Gauvin, 2018), pioneered the concept of democratizing exchange without relying on a single authority. It has been over a decade since it was founded. Since then, Bitcoin has maintained its title as 'the best-performing asset class,' more crucially, it is on its approach to becoming digital gold in the following year. Every day or every 10 minutes, the Bitcoin network keeps growing stronger than before.

The rise in Bitcoin and Ethereum prices (Palos-Sanchez, Saura, & Ayestaran, 2021) will have a significant influence on India's flat currency. Economic failure is more likely in countries with the weakest economic policies and currencies. Countries are hesitant to adopt Bitcoin because of the detrimental impact it has on flat currencies. On the other hand, the government should see these two top cryptocurrencies as an opportunity rather than a danger. If India wants to grow its economy to \$5 trillion, it can't ignore a \$1.7 trillion industry that exists becauseofcryptocurrencies.



Shaktikanta Das, the governor of the Reserve Bank of India (RBI), stated that the central bank would continue to be concerned about cryptocurrencies (Nadeem, Liu, Pitafi, Younis, & Xu, 2021). It's worth noting that cryptocurrencies are still under regulatory scrutiny, and the government is debating whether or not to legalize them completely.

V. HISTORY OF CRYPTOCURRENCY AND ITSEVOLUTION

Cryptocurrency in the form of Bitcoin (D'Andrea, 2018) was introduced in 2009. The first business transaction was made in 2010, while the first cryptocurrency exchange was established in 2013. Over the last few years, it has attracted a sizable following and attention in India. Industry estimates the number of crypto investors in India at 15 to 20 million, with total crypto holdings of roughly Rs.41 thousand crores (\$5.37 billion).

This rising popularity (Clements, 2018) has been linked to several causes, including India's position as the world leader in internet penetration, as well as the country's expanding digital economy and computer-savvy millennials, who provide the ideal customer demographic for cryptocurrencies. In recent years, a number of blockchain-based games have appeared. These games allow gamers from tier 2 and 3 cities to make lakhs of rupees per month simply by playing games and obtaining rare things. High transaction volumes on peer-to-peer (P2P) systems are also contributing to the rise of cryptocurrency. They can also be moved across national borders without the use of any third-party institutions.

Simply put, most people regard them as a viable alternative to traditional investment options, such as stock exchanges and mutual funds, with the potential for increased value in the future.

VI. THE LEGALITY OF CRYPTOCURRENCY IN INDIA

The Indian government (Thakur & Banik, 2018) has levied a tax on cryptocurrencies while also clarifying that this does not imply that they have been legalized. Traders and investors in this space are looking for governments to provide clarification and demand that cryptocurrencies be recognized, legalized, and/or regulated so that more significant investments may be made. However, the root issue with such a demand is as challenging from a technological point of view as it is from a legal one.

- **Effect of legalizing all cryptocurrencies:** Legalizing all cryptocurrencies will lead to the market suddenly having 10,000 odd legal tenders accessible for transactions. Even if just a few popular cryptocurrencies are recognized, because most cryptocurrencies (including Bitcoin) are built on permissionless blockchain technology, anybody can issue legal money. To put it another way, anyone can mine bitcoins now. If they are identified, anyone will be able to manufacture legal money from anywhere in the world, which is not a practical or even a reasonable choice to contemplate.
- **Effect of legalizing prominent cryptocurrencies:** El Salvador was the first country to acknowledge Bitcoin as legal money, as previously stated. In such a scenario, it may be claimed that governments have enough innovative legislative configurations at their disposal to recognize a few significant coins like Bitcoin, Ethereum, Dogecoin, and other cryptocurrencies. A few quantitative characteristics, such as volatility, the volume of trade, market capitalization, creator identification, and so on, could make the legality of some coins a possibility. Moreover, legislators have sufficient capacity to enact this suggestion, as it has already been tested and implemented in the Intermediary Guidelines, 2021, in which major social media websites (YouTube, Twitter, and Facebook) are given the status of "significant social media intermediaries," requiring them to follow a different set of rules. Recognizing a few large coins, on the other hand, may not be the best option because the key point of disagreement is the underlying technology that supports the crypto ecosystem, not the attributes of recognition.



VII. BLOCKCHAIN IN THE 21ST CENTURY

Blockchain technology and cryptocurrencies (Perera, Nanayakkara, Rodrigo, Senaratne, & Weinand, 2020) have the ability to transform the way people live. Likewise to how it was hard to envisage the impact and potential of smartphones before the iPhone's introduction in 2007, the prospects around cryptocurrencies are now only restricted by human imagination and acceptance.

Blockchain is a decentralized method (Johar, Ahmad, Asher, Cruickshank, & Durrani, 2021) of establishing trust and value. That is, a transaction between two persons does not require the use of an intermediary. Consider today's post-pandemic world: we conduct various digital transactions with people and enterprises. The payment is made for bandwidth, video, food, education, transportation, and even groceries through a bank account/credit card/e-wallet provider. The intermediary works as a trustworthy third party to verify that both sides of the transaction are authenticated, taking a proportionate piece of the transaction's value.

Based on the transaction, this share can vary from 1% to 5%. Furthermore, some intermediaries restrict operations to specific hours of the day because of their incapacity to enable worldwide microtransactions.

Bitcoin and many other cryptocurrencies (Kimani, Adams, Attah-Boakye, Ullah, Frecknall-Hughes, & Kim, 2020), which were the initial use of blockchain technology, were created to eliminate the need for this middleman. They give cost savings as well as legitimacy to the global user base by validating a transaction on a public ledger and ensuring that it runs throughout the day with zero downtime.

In 2021, cryptocurrencies developed into a strong asset class, with significant progress toward becoming a certified 'currency.' Cryptocurrencies are used by more than 100 million people throughout the world, with El Salvador being the first country to realize Bitcoin as a legal tender, as stated above.

VIII. IMPACT OF CRYPTOCURRENCY ON THE INDIAN ECONOMY

Cryptocurrency in the 21st century has the following impacts:

- **Monetary Systems and Asset Class**

Cryptocurrencies, as an asset class (Mallick & Mallik, 2021), provide a fair global playing field on which to invest and develop wealth, regardless of the place of origin. They are developing, therefore, have encountered opposition from central banks, such as the Reserve Bank of India (RBI). Banks have been slow to assist the ecosystem and its entrepreneurs. However, a sizable Indian investor base (10 million) has embraced cryptocurrencies via legal exchanges that allow the Indian Rupee to be converted into crypto-based digital currencies.

As a result of this rapid acceptance, the government and the Reserve Bank of India have recently taken a cautious approach. To safeguard and serve the interests of investors, the Indian government is considering governing the cryptocurrency market. In India, the Reserve Bank of India (RBI) has revealed plans to consider a Central Bank Digital Currency (CBDC) based on blockchain technology. This has the ability to help India's 190 million unbanked citizens gain access to financial services.

When both of the aforementioned occur, India will experience a much more significant rise in users that will cross 100 million in a short period of time, giving it worldwide dominance in this arena.

- **Innovation and Trade**

Blockchain-based enterprises can easily function in India as a regulated industry and demonstrate leadership to the rest of the globe. India might be a source of future advancements in the cryptocurrency/blockchain field, as well as a new source of job creation and economic progress. In-house development is now underway on a number of blockchain projects with worldwide ramifications.

India's Polygon (Matic Network) is developing a protocol and architecture to link blockchain-based networks and is

seen as a strong candidate to solve Ethereum's network challenges. It is also currently in the top 20 cryptocurrencies in terms of market capitalization.

Banking inclusion and an alternative will be enabled through a locally built DeFi (decentralized finance) solution that can support the traditional financial system globally. The Indian Stock Exchanges are where start-ups and emerging companies are listed.

In terms of global trade, India's reliance on the dollar could be reduced if the world's currency shifts to a decentralized cryptocurrency. Trade and payment predictability can be improved for the country and its export-oriented businesses. In India, the potential of cryptocurrencies is full of possibilities. Cryptocurrencies and blockchain technology have the power to help India achieve its aim of becoming *aatmanirbhar* with the appropriate combination of policies and incentives.

- **Involvement of Institutional Investors**

The viability of the crypto market is demonstrated through technical analysis of financial markets. It could explain why institutional investors are considering cryptocurrencies as a credible investment vehicle. Institutional investors can tell about its immense potential. The price volatility and profit potential are highly appealing in the case of crypto as an investment instrument.

As Bitcoin becomes more widely accepted by institutional investors, industry investors will be forced to develop more strict security measures. There will be a greater focus on technical solutions to help improve the ecology. The platforms must be able to manage large quantities of money in a short amount of time.

- **Prominence of Cryptocurrency**

Cryptocurrency is already accepted as a method of payment in a variety of settings. However, it has not yet reached the point where it can be considered a dominant form of currency. Nevertheless, industry insiders are convinced that this will happen soon.

Banks, online gambling companies, and several eCommerce platforms like Square and PayPal now accept Bitcoin payments on their platforms. Soon, Bitcoin could be the currency of choice for international trade. However, it's worth noting that many institutions were initially skeptical of cryptocurrency.

In 2022, the financial industry is on the verge of catching up. JP Morgan was working on a digital currency as of 2019. It's possible that major industry participants won't have much of an option but to employ cryptocurrencies.

Bitcoin and other cryptocurrencies are gaining popularity among modern clients. Sustaining a competitive edge requires meeting customers where they are.

- **Cryptocurrency As A Potential Investment Alternative**

The more people utilize cryptocurrency as an investment, the more valuable it becomes. The greater the value of bitcoin, the greater the demand for it.

However, when it comes to investing in cryptocurrencies, the market has seen a lot of volatility. Bitcoin, for instance, performed exceptionally well in 2021, reaching a high of almost \$68,000. However, by May 2022, the price had dropped to \$36,000.

The crypto market's technical analysis reveals that it is highly speculative. Within the last few years, there have been major increases and decreases. That is why investing in cryptocurrency is not a short-term strategy. However, due to the high-risk nature of the market, keeping the quantities small is a wise idea.

VIII. CONCLUSION

Blockchain is the foundation of cryptocurrencies with numerous applications other than bitcoin and cryptocurrency. One of the most important advantages of bitcoin is its security, an essential component of a blockchain.



Currently, the bitcoin market is unavoidable, and the opportunities are limitless. Even the government has recognized bitcoin's potential as a means of payment, proposing legislation to issue and regulate cryptocurrencies in the country. Bitcoin can become a major factor in the country's economy in the future.

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