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## Bitcoin and Its Prospects in India

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### ABSTRACT-

*India is experiencing a pestilence development in the field of electronic payment system nowadays. With the development of innovation, online business monsters are building up themselves, which indicates a huge surge in the acceptance of electronic payments in the form of digital currency i.e. Bitcoins. Indian government going the whole hog to make India a less cash economy so digital crypto currency has caught the attention of many Indians. Post demonetisation, leading Bitcoin exchanges in India witnessed a rise in user base by up to 250 per cent. Bitcoin is a computerized code which is covered up in "Data blocks" and could be extracted by resolving those datablocks. It enables the exchanges to be performed without any support from the banking system. It was created by Satoshi Nakamoto in 2009. A good volume of research has been done in this regard however that is only a drop in the bucket and there is still a lot to explore. A small number of published articles pave the way for future research in this field.*

**Keywords:-** Bitcoin, Crypto-currency, Data blocks, Digital payments, E-commerce

### INTRODUCTION-

Bitcoin is the first worldwide, decentralized money that enables transfer of money from one individual to another without including a third party, for example, a bank. A computer system is needed to make exchanges as Bitcoin is basically a software. As Bitcoin is a decentralized money so it is not controlled by anybody. It's open so anybody can make use of it.

Lack of control could mean chaos, but that's not true at all. That's because of Blockchain, the technology behind Bitcoin is one of the most accurate and secure systems ever created.

Bitcoin is a **Crypto-Currency** which means:

- J It is a digital asset and no physical object in the world can be referred to as 'One Bitcoin' or any amount in its smaller units (Satoshis:: 1 Bitcoin=  $10^8$  Satoshis)
- J It uses Encryption Techniques for validating transactions and even for its self-generation. SHA-256 in the case of Bitcoin.

It is a peer to peer, decentralised electronic cash system and does not rely on any centralised authority such as a Bank or VISA or any other organisation. (Retrieved from <https://www.quora.com/How-will-you-explain-the-concept-of-Bitcoin-to-an-Indian-teenager>)

### CONCEPT OF BITCOIN-

Bitcoin is a cryptography based digital currency first described in a 2008 paper by a single or group of pseudonymous developer(s) by the name of Satoshi Nakamoto, who called it a "peer-to-peer, electronic cash system". Bitcoin creation and transfer is based on an open source cryptographic protocol and is not managed by any central authority. Each Bitcoin is subdivided down to eight decimal places, forming 100,000,000 smaller units called satoshis. Bitcoins can be transferred through a computer or smartphone without an intermediate financial institution. The processing of Bitcoin transactions is secured by servers called Bitcoin "miners". These servers communicate over an internet-based network and confirm transactions by adding them to a ledger which is updated and archived periodically using peer-to-peer filesharing technology, also known as the "blockchain". The integrity and chronological order of the blockchain is enforced with

cryptography. In addition to archiving transactions, each new ledger update creates some newly-minted Bitcoins. The number of new Bitcoins created in each update is halved every 4 years until the year 2140 when this number will round down to zero. At that time no more Bitcoins will be added into circulation and the total number of Bitcoins will have reached a maximum of 21 million Bitcoins. (Retrieved from <http://www.indiabitcoin.com/funny-money-is-bitcoin-the-new-global-currency/>)

Each user of Bitcoin gets a digital wallet and a Bitcoin address which is the address from and to which Bitcoins can be transferred once this address is given to another party for the transfer. A transaction or transfer of Bitcoins is simply a transfer of value between Bitcoin addresses that gets included in the block chain or the system log, which ensures that each transaction is valid and that nobody can use his or her Bitcoins more than once i.e. it avoids double spending..Bitcoin wallets keep a secret piece of data called a “private key” for each Bitcoin address. Private keys are used to sign transactions, providing a mathematical proof that they have come from the owner of the addresses. The “signature” also prevents the transaction from being altered by anybody once it has been issued.

There are no coins and no notes with this currency. There is no bank involved in it either because bitcoin cryptocurrency is money for the internet. In the simplest form, Bitcoins can be described as a “Peer to Peer Electronic cash system.” Bitcoins can be used as a method of payment for numerous goods and services and for simple transactions like purchasing vouchers, paying bills, etc. In different jurisdictions, Bitcoins are treated as a property, currency, virtual asset, good, security or commodity for the purpose of trading on a stock exchange or commodity exchange.

Essentially Bitcoin is a cryptocurrency, i.e., it operates on the principles of cryptography to manage the creation of Bitcoins and securing the transactions (*swami et.al. 2016*). Cryptocurrencies are managed by private parties, without the need for a government authority to monitor the currency system. The currency has been designed in a way that the number of total units of Bitcoins in circulation will always be limited. Going by the pace at which Bitcoins are being minted, the last unit will be mined around the year 2140.

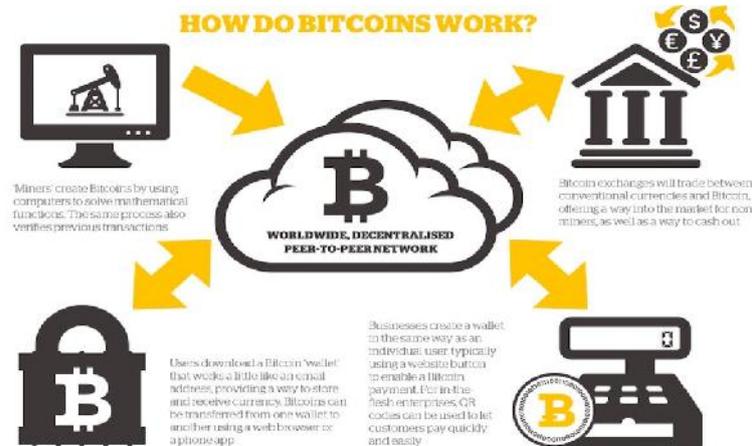
### **Blockchain- The technology behind Bitcoin**

The cryptocurrencies essentially work on the Blockchain system. A Blockchain is a public ledger of Bitcoins that is designed to record all the transactions. The chronological order of Blockchain is enforced with cryptography and each new ledger update creates newly minted Bitcoins. This is designed in a way that Bitcoin wallets can calculate their total balance and new transactions can be verified. The integrity and the chronological order of the block chain are enforced with cryptography (*Marc Pilkington, 2016*).

Although Bitcoin is yet to become mainstream in India, the underlying technology behind it, the blockchain technology has caught the attention of several Indian banks. Last year, ICICI Bank announced that it successfully executed transactions in international trade finance and remittances using blockchain technology.

Every transaction on the bitcoin network is recorded on a public ledger called blockchain . Each blockchain has three parts; it’s identifying address (of approximately 34 characters), the history of who has bought and sold it (the ledger) and the private key header log - where a sophisticated digital signature is captured to confirm every transaction for that particular Bitcoin file.

All the trades that happen on the bitcoin network are publicly disclosed, with each participant's digital signature attached to the Bitcoin blockchain as a confirmation. These trades can be found at [blockchain.info](http://blockchain.info). It shows that bitcoin transactions are not completely anonymous. People can see history of your bitcoin wallet, which is great for transparency and security. It also helps deter people from using bitcoins for illegal purposes. With each new ledger update, some new bitcoins are minted. The number of bitcoins created in each update are halved every 4 years. This will go on till 2140 when this number will round down to zero. At that time no more bitcoins will be added into circulation and the total number of bitcoins will have reached a maximum of 21 million. (Retrieved from <http://www.businesstoday.in/current/economy-politics/how-to-buy-bitcoins-in-india-sell-legal-in-india-price/story/253734.html>)



Source: [https://fossbytes.com/what-is-bitcoin-2017-trends-legal/\(http://www.indiabitcoin.com/what-is-bitcoin-is-it-legal-money-what-could-happen-to-bitcoins-in-2017/\)](https://fossbytes.com/what-is-bitcoin-2017-trends-legal/(http://www.indiabitcoin.com/what-is-bitcoin-is-it-legal-money-what-could-happen-to-bitcoins-in-2017/))

### Bitcoin in India-

The Bitcoin craze is catching on in India. While tech geeks and young investors eye the digital cryptocurrency as its value soars, the government, too, is contemplating a course of action surrounding its regulation (*S Bhattacharjee and H Kaur, 2015*). In a move expected to boost financial inclusion, the Department of Economic Affairs in the Ministry of Finance in India has formed an inter-disciplinary committee to examine the framework on virtual currencies. In addition, the government initiated a discussion on its forum MyGov to seek public opinion on virtual currencies. Clearly, despite some initial reservations, the Indian government is keen on understanding how Bitcoin works and is willing to deploy resources to build frameworks. Bitcoin investors and companies welcome these efforts. They feel it will allow them to address concerns over security and risks pertaining to the use of Bitcoin, and eventually work towards improving its infrastructure.

**How to buy Bitcoins?** There are various digital currency exchanges to buy bitcoin. It can be purchased with a credit card. Coinbase.com and Coindesk.com are the most popular exchanges. They also offer tutorials on digital currencies. In India, you can purchase Bitcoin from Zebpay exchange. Zebpay has Android and iPhone app which lets you link your bank account for quick transfers. Bitcoinscan also be purchased by making a payment to Zebpay's bank account. One can also withdraw the money to his bank account, and track data on Bitcoin valuation in the country. There is a KYC requirement and ID need to be verified by simply clicking a photo on the PAN card. Unocoin, another India-based exchange also offers trade Bitcoins. It assist in buying, selling, storing, using and accepting Bitcoin. The company claims it has over 1,50,000 customers. Indian government's initiative to make India a less cash economy, digital cryptocurrency has caught the attention of many Indians. Post demonetisation, leading Bitcoin exchanges in India witnessed a rise in user base by up to 250 per cent. Indians are enquiring about bitcoins as an alternative and safe investment option. They are downloading Zebpay as they want to experiment with digital currencies. There has been a 50% increase in Zebpay downloads. (Retrieved from (<https://www.forbes.com/sites/sindhujabalaji/2017/06/21/bitcoin-india-regulation/#226539907e4a>))

### Recognizing concerns

The majority of Indians expressed interests in seeing Bitcoin become a larger part of the financial and trading systems in India. But still there is apprehensiveness about its reliability as a currency. There have been reports of bitcoin trading amounting to money-laundering and that it propagates the financing of terrorist outfits. Bitcoin is also viewed with suspicion because it doesn't fall under the purview of any government-mandated monetary policy, and fluctuates in value. Earlier this year, India's central banking institution Reserve Bank of India issued a note of caution to users and traders of virtual currencies about the risks of using Bitcoin. Still, Indian Bitcoin companies are observing an increase in customers. After Prime Minister

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Narendra Modi's demonetization move last November, numbers surged and it believed there are nearly 600,000 Bitcoin users in India, according to the founders of several bitcoin outfits. Companies also attribute growing interest to the increase in internet penetration, the success of Bitcoin overseas and the allure of the returns on unconventional investments. (Retrieved from(<http://www.indiabitcoin.com/what-is-bitcoin-is-it-legal-money-what-could-happen-to-bitcoins-in-2017/>))

### **Keeping Bitcoin secure**

To keep their user base growing, India's Bitcoin companies are keen on proving their platforms are trustworthy. They're implementing multiple security checks, and all Bitcoin companies seek a valid ID proof from users that include government-verified address documents, a Permanent Account Number (PAN) or an Aadhaar number. Some companies even conduct voice verification and seek bank account details. These are expensive but necessary steps. By improving our infrastructure, current customers are assuaged and future customers are confident. Apart from providing a strong security infrastructure, service providers should work towards simplifying the Bitcoin interface for users, which would encourage more people to adopt the technology.

Private Bitcoin companies have even formed their own association: the Digital Assets and Blockchain Foundation India (DABFI). The self-regulated entity is working towards educating the masses about cryptocurrencies and propagating best industry practices for businesses to create more confidence among the public to use Bitcoin, and eventually increase the use of digital tokens more effectively.

### **Growing investor confidence**

Until 2013, Bitcoin wasn't very popular in India. Now, there's a fast-growing customer base as well as rising investor confidence. Unocoin raised \$1.5 million USD, a record for an Indian digital currency outfit, and is paving the way for domestic and international investors to support Indian Bitcoin companies. Another bitcoin company Zebpay raised \$1 million USD in 2016, largely from Claris Life Sciences and Jindal Worldwide. Some financial investors are rightfully cautious about investing in this space due to lack of regulatory clarity. But, the government is working with private players to sketch regulatory frameworks that boost innovation as well as ensure safety of the platforms. (Retrieved from <http://www.indiabitcoin.com/what-is-bitcoin-3/>)

### **A promising future**

The Bitcoin craze is catching up in India. While tech geeks and young investors eye the digital cryptocurrency as its value soars, the government, too, is contemplating a course of action surrounding its regulation (*A K Gupta, 2017*). In a move expected to boost financial inclusion, the Department of Economic Affairs in the Ministry of Finance in India has formed an inter-disciplinary committee to examine the framework on virtual currencies. In addition, the government initiated a discussion on its forum MyGov to seek public opinion on virtual currencies. Clearly, despite some initial reservations, the Indian government is keen on understanding how Bitcoin works and is willing to deploy resources to build frameworks. Bitcoin investors and companies welcome these efforts. They feel it will allow them to address concerns over security and risks pertaining to the use of Bitcoin, and eventually work towards improving its infrastructure. (Retrieved from <http://www.businessinsider.com/why-bitcoin-could-thrive-in-a-country-like-india-2017-6?IR=T>)

Seeing the growing number of Bitcoin investors in the country its future in India looks promising. Service providers are keen to expand the scope of usage, with the hope that the government and regulatory authorities provides them adequate frameworks.

Currently, Bitcoins are used to make purchases through mobile apps and buy gift vouchers. In the future, companies plan to step up the infrastructure that would support remittances to India and provide online financial solutions for the country's unbanked population.

The Reserve Bank of India, which oversees the foreign exchange market, has issued a notice acknowledging that virtual currencies such as Bitcoin posed legal, regulatory and operational challenges. This outlook of the RBI is expected to continue until Bitcoin is regulated by the Government. In December 2013, the RBI clarified that it had no immediate plans to regulate Bitcoin.

Indian government has not declared Bitcoins illegal. However, this does not necessarily mean that Bitcoins are legal in India. By its nature, Bitcoin may be considered to be a non-Indian currency. The buying and selling of foreign currency is regulated by the Foreign Exchange Management Act (FEMA). This Act does not recognise Bitcoin. Owing to this uncertainty, the use of Bitcoin is vulnerable to legal risks in India. The Reserve Bank of India, which oversees the foreign exchange market, has issued a notice acknowledging that virtual currencies such as Bitcoin posed legal, regulatory and operational challenges. This outlook of the RBI is expected to continue until Bitcoin is regulated by the Government. In December 2013, the RBI clarified that it had no immediate plans to regulate Bitcoin. On February 1, 2017 the RBI again reiterated cautionary message to potential users of bitcoins and other virtual currencies that it (the RBI) does not regulate and has not licensed any virtual currencies in India.<sup>12</sup> On March 1, 2017 RBI Deputy Governor R. Gandhi voiced concerns over financial, legal and security-related risks associated with the use of virtual currencies.<sup>13</sup> It is estimated that as on August 2016, the number of Bitcoin users in India stood at 50,000 and growing. New Bitcoin exchanges have cropped up in India such as BTCXIndia, Coinsecure, Unocoin and Zebpay and this can be seen as an assertion of growing popularity of Bitcoin in India. (Retrieved from . (<https://cis-india.org/internet-governance/bitcoin-legal-regulation-india>))

## CONCLUSION

To sum up the discussion, it can be said that while Bitcoins may not replace the “Fiat Currency” anytime soon in near future, but there has been a remarkable growth in the acceptance of cryptocurrencies. The lack of regulatory structure and oversight is causing uncertainties and perplexities for both: the users and law enforcement agencies. The Income Tax department in India is in the midst of serious contemplation over how to impose tax on Bitcoin miners in India in the long run. However, until RBI comes out with clear guidelines, Bitcoin regulatory mechanism will not be fully aligned with the overall goal of regulating its exchange, transfer and trading and protection of individual’s interests. Indian investors are still hesitant to invest in Bitcoins, given the high risks associated with it, but still the demand for Bitcoins has grown manifold. Although virtual currencies will be safer and better over time, and eventually become a form of transaction but it can be said that a good legal and regulatory framework for Bitcoins would help the investors decide the viability of Bitcoins in the long run.

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