

# A Study on Prospects and Experiments of Cryptocurrency in India with Special Reference to Bitcoin

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**Abstract:** *From a few years onwards crypto currencies and Bit coin grab a hot topic in the financial industry. Crypto currency is a digital or virtual or internet currency that uses cryptography for safety. Crypto currency has created unmatched changes in the financial market having both positive and negative contributions. The concept of crypto currency is a little hard to accept, but it is easy to use. It is considered difficult because it is entirely different from our conventional currencies that we people are using since ages. Bit coin was created in the wake of the 2008 global financial crisis to operate outside of governments, central banks and financial institutions. Since then, Bit coin's framework has challenged many regulators, as most of them struggled to find ways to bring it under control. This led to some countries banning it or making it illegal, while some others remained observant and the rest worked out ways to tax and regulate its operations. This is conceptual peppertrees to study the different aspects of crypto currencies, starting with their history, types, its working, advantages and disadvantages, challenges and opportunities. The study also tries to analyses the legal status of Bit coin in India.*

**Keywords:** Crypto currency, Bit coin, block chain, Advantages, Disadvantages

## I. INTRODUCTION

The instruments used as exchange instruments to make the trade transactions as easy as possible according to the market needs have experience huge development and change. Those instruments used to intermediate the exchange of goods are known as money. Money as something that serves as a medium of exchange, in unit of accounting, and a store of value Money is a medium of exchange in the sense that we all agree to accept it in making transactions. Merchants agree to accept money in exchange for their goods; employees agree to accept money in exchange for their labor. As a unit of accounting, money provides a simple device for identifying and communicating value. Money serves as a store of value in that it allows us to store the rewards of our labor or business in a convenient tool. From the era of barter to commodity money, metal and coins, to gold and silver, continuing by modern monetary systems and checks and ending with the latest global currency developments, such as introduction of crypto currencies known as Bit coin and Ethereum and alike. The introduction of crypto currencies has revolutionized the international payment system in a scale that just few years ago were unimaginable. A crypto currency is a digital or virtual currency that uses cryptography for security in 1983, the American cryptographer David Chaum conceived an anonymous cryptographic electronic money called e-cash. Later, in 1995, he implemented it through Digit-cash, an early form of cryptographic electronic payments which required user software in order to withdraw notes from a bank and designate specific encrypted keys before it can be sent to a recipient. This allowed the digital currency to be untraceable by the issuing bank, the government, or any third party. A crypto currency is difficult to counterfeit because of its security feature. A defining feature of a crypto currency is that it is not issued by any central authority. It is completely decentralized

## II. OBJECTIVES OF THE STUDY

1. To understand the concept of crypto currency, its working, its types and the top player Bit coin.
2. To study the advantages and drawbacks of Bit coin.
3. To analyses the legal status, challenges and opportunities of Bit coin in India.

### III. RESEARCH METHODOLOGY

This paper is purely based on secondary data referring to various sources such as journals, newspaper articles, websites and statutory reports.

#### 3.1 Types of Crypto currency

Crypto currency is designed to work as a medium of exchange. The number of crypto currencies available over the internet is over 1600 and growing. A new crypto currency can be created at any time. By market capitalization, Bit coin is currently the largest block chain network, Ripple, Ethereum and lite coin

##### A. Bit coin

One of the most commonly known currencies, Bit coin is considered an original crypto currency. It was created in 2009 as open-source software. Using block chain technology, Bit coin allows users to make transparent peer-to-peer transactions. All users can view these transactions; however, they are secured through the algorithm within the block chain. While everyone can see the transaction, only the owner of that Bit coin can decrypt it with a “private key” that is given to each owner. Unlike a bank, there is no central authority figure in the Bit coin. Bit coin users control the sending and receiving of money, which allows for anonymous transactions to take place throughout the world.

##### B. Lite coin

Lite coin was launched in October 2011 as an alternative to Bit coin. Like other crypto currencies, lite coin is a peer-to-peer crypto currency and open source-source software project released under the MIT/X11 licenses. Its creation and transfer is based on an open source cryptographic protocol and it is completely decentralized. Lite coin is different in some ways from Bit coin. A few differences between these digital currencies are:

- The Lite coin network aims to process a block every 2.5 minutes but Bit coin takes 10 minutes. This allows lite coin to have faster transaction confirmation.
- The coin limit for Bit coin is 21 million.

Experts says that Lite coin are more complicated to create and more expensive to produce because it uses different algorithm called script and FPGA (Field Programmable Gate Array)and ASIC (Application Specific Integrated Circuit) devices made for mining

##### C. Ethereum

Ethereum is a type of crypto currency which was proposed in late 2013 by Vitaly Buttering, a crypto currency researcher and programmer. It was initially released on July 2015. It is an open source platform based on block chain technology. While tracking ownership of digital currency transactions, thorium block chain also focuses on running the programming code of any decentralized application, allowing it to be used by application developers to pay for transaction fees and services on the thorium network.

##### D. Ripple

Ripple is a real-time gross settlement system, currency exchange and remittance network created by Ripple Labs Incorporation, a US based company. Ripple was released in 2012 that acts as both a crypto currency and a digital payment network for financial transactions. It's a global settlement network th at is designed to create a fast, secure and low-cost method of transferring money. Ripple allows for any type of currency to be exchanged, from USD and Bit coin to gold and EUR and connects to banks, unlike other currencies. Ripple also differs from other types of digital currencies because its primary focus is not for person -to-person transactions, rather for moving sums of money on a larger scale.

##### E. Bit coin Cash

Bit coin Cash is a type of digital currency that was created to improve certain features of Bit coin. Bit coin Cash increased the size of blocks, allowing more transactions to be processed faster.

#### **F. Ethereum Classic**

Thorium Classic is a version of the Ethereum block chain. It runs smart contracts on a similar decentralized platform. Smart contracts are applications that run exactly as programmed without any possibility of downtime, censorship, fraud or third-party interface. Like Ethereum, it provides value token called “classic ether,” which is used to pay users for products or services

### **IV. INTRODUCTION TO BITCOIN**

One of the most popular crypto currency wallet using is Bit coin which was invented by an unknown person or group of people using the name Satoshi Nakamoto in 2008. Bitcoin is a crypto currency, a form of electronic cash. It is a decentralized digital currency that can be sent from user to user on the peer-to-peer Bit coin network without the need for intermediaries, where transactions happen through a public ledger called block chain, handling users’ data anonymously. Ten years since its introduction, Bit coin is today the most widely used and accepted digital currency.

#### **4.1 Features of Bit coin**

The Bit coin protocol is not just about sending money from one person to another. It has many features that distinguish it from other crypto currencies.

- **Control against fraud:** It provides users with top level of protection against most common frauds like charge backs or unwanted charges. Because of the Security Users can encrypt their wallet and have complete control over their money. So there is no chance of any type of Fraud.
- **Globally accessible:** Bit coin allows any bank, business or individual to securely send and receive payments anywhere at any time in few minutes. All types of Payments in the world are acceptable.
- **Cost efficient:** With Bit coin transactions can be possible directly without any mid person. The transaction time and cost is much less as compare to other payment system.
- **Transparency:** All Bit coin transactions are public and transparent to all users. The Block chain stores all transaction details where user can any time verify.

#### **4.2 Working of Bit coin**

Individuals can use Bit coins to make payments to other individuals or merchants without involving a third - party, like a bank or financial institution, for the purpose of validation. Instead, transactions are cleared and validated within the system through the block chain. Most crypto currencies are based on block chain technology. In simple terms, it is a system to transfer and store data or information that is generated while transacting in a crypto currency. The block chain is a public ledger that records and publicly displays all Bit coin transactions that have been executed within the Bit coin system. A block is a permanent record of recent transactions. The blocks of recorded data build upon each other to form the block chain which dates all the way back to the first Bit coin transaction. The transparency established by the block chain is essential in securing the validation process as it allows the community to monitor and self -police transaction activity. It also allows for verification of both the spender and the recipient and ensures that double-spending a Bit coin is impossible.

#### **4.3 Legal Status of Bit coin in India**

The legal status of Bit coin and related crypto instruments varies substantially from country to country and is still undefined or changing in many of them. Whereas the majority of countries do not make the usage of Bit coin itself illegal, its status as money (or a commodity) varies, with differing regulatory implications. While some states have explicitly allowed its use and trade, others have banned or restricted it. Likewise, various government agencies, departments, and courts have classified Bit coins differently.

The European Union has passed no specific legislation relative to the status of Bit coin as a currency, but has stated that VAT/GST is applicable to the conversion between traditional (fiat) currency and Bit coin. Countries include where Bit coin legalized are United States, France, Ireland, Russia, Ireland, Japan, Switzerland, Singapore, Norway, Germany, South Africa, Costa Rica, Jamaica, Kyrgyzstan, Venezuela, Brazil, Argentina, Chile, Philippines, Israel, Lebanon, Turkey, Hong Kong, Czech Republic, Venezuela, Turkey, Uzbekistan, Costa Rica, Mexico, Namibia, Lebanon,

Ukraine, Denmark, Finland, Iceland, Sweden, Bosnia, Bulgaria, Greece, Italy, Lithuania, Malta, Macedonia, Portugal, Herzegovina, Spain, Belgium, Luxemburg and Netherlands Bit coin are totally banned and transactions based on Bit coin are illegal in countries like Nepal, China, Pakistan, Taiwan, Cambodia, Indonesia, Bangladesh, Iran, Saudi Arabia, Colombia, Ecuador, Bolivia, Egypt, Morocco and Algeria.

But in India, Canada, Jordan, Vietnam and Thailand Bit coin is legal but there is a banking ban imposed. The State Bank of Vietnam has declared that the issuance, supply and use of Bit coin and other similar virtual currency is illegal as a mean of payment and subject to punishment ranging from 150 million to 200 million VND but the government doesn't ban Bit coin trading as a virtual goods or assets.

Coming to India since 2012 Bit coins has been available in India. On 1 February 2018, Finance minister Arun Jaitley, in his budget speech stated that the government will do everything to discontinue the use of Bit coin and other virtual currencies in India for criminal uses. He reiterated that India does not recognize them as legal tender and will instead encourage block chain technology in payment systems. According to the Indian government people using these types of currencies should take certain caution because there is no lawful protection for these currencies. And no help can be gained by the people from the government side if some fraud is faced by the people. In early 2018 the Reserve Bank of India (RBI) announced a ban on the sale or purchase of crypto currency for entities regulated by RBI. In 2019, a petition has been filed with the Supreme Court of India challenging the legality of crypto currencies and seeking a direction or order restraining their transaction. The Indian government is drafting the regulatory framework for crypto currencies. On February 25, the Supreme Court gave the government four weeks to come up with crypto regulation. The court will then hear the petitions against the crypto banking ban by the country's central bank, the RBI.

#### 4.4 Advantages of Bit coin

1. **Anonymity.** With a bank, the people must give their ID when applying for an account. With Bit coin, anyone anywhere in the world can send money to each other. There is no KYC (Know - Your-Customer) process to open a Bit coin wallet. It is completely anonymous and at the same time fully transparent. Any company can create an infinite number of Bit coin addresses without reference to name, address or any other information.
2. **Peer-to-peer crypto currency network** – in such networks there is no master server, which is Responsible for all operations. Exchange of information (in this case — money) is between 2-3 or more software clients. All installed by user's program-wallets are part of a Bit coin network. Each client stores a record of all committed transactions and the number of Bit coins in each wallet. Transactions are made by hundreds of distributed servers. Neither banks or taxes, nor governments can control the exchange of money between.
3. **No inflation** – the maximum number of coins is strictly limited by 21 million Bit coins. As there are neither political forces nor corporations able to change this order, there is no possibility for development of inflation in the system.
4. **Open code for mining crypto currency** – BTC applies the same algorithms that are used in online banking. The only difference of Internet banking is the disclosure of information about the users. All information about the transaction in the BTC network is shared (how, when), but there is no data about the recipient or the sender of the coins (there is no access to the personal information of the owner's wallet).
5. **Unlimited possibilities of transaction** each of the wallet holders can pay to anyone, anywhere and any amount. The transaction cannot be controlled or prevented, so you can make transfers anywhere in the world wherever another user with a Bit coin wallet is located.
6. **No boundaries.** Payments made in this system are impossible to cancel. The coins cannot be faked, copied or spent twice. These capabilities guarantee the integrity of the entire system. Every month the number of online shops, resources, and companies to accept BTC is expanding.
7. **Low BTC operation cost.** The BTC crypto currency works as physical cash, combining the functions of e-commerce. No need to pay commission and fees to banks and other organizations. The main part of such process is mathematics, which does not need money. The commission fee in this system is lower than in any other. It amounts to 0.1% of the transaction amount. The operation interest charges go to BTC miner's wallets.
8. **Easy to use.** Taken into account that the procedure of opening an account for the company in Ukrainian banks is overcomplicated and can be refused without explanation, using BTC is convenient for companies. The

company needs approximately 5 minutes to create a BTC wallet and immediately starts to use it without any questions and commissions.

#### 4.5 Disadvantages of Bit coin

1. **Bit coin transactions are irreversible:** Conventional payment methods such as a credit card charge, bank draft, personal check, or wire transfer all benefit from being insured and reversible by the banks involved. In the case of Bit coins, every time Bit coins change hands and change wallets, the result is final. Simultaneously, there is no insurance protection for your Bit coin wallet. If you lose your wallets hard drive data or even your wallet password, your wallet's contents are gone forever.
2. **Cannot be Frozen or Audited:** Bit coin wallets cannot be seized or frozen or audited by banks and law enforcement. Bit coin wallets cannot have spending and withdrawal limits imposed on them. Nobody but the owner of the Bit coin wallet decide how the wealth is managed.
3. **Bit coin is not very easy to use:** Private keys, public keys, opening and using a wallet etc. are not very easy for people who aren't confident using computers. When we want to send a payment to someone, we have to type a long set of numbers and letters (their public key) into the computer. Bit coin needs to become easy to use so that everyone in the world can use it, just like browsing the internet is.
4. **Technical weakness time delay in confirmation:** Bit coins can be double-spent in some rare instances during the confirmation interval. Because Bit coins travel peer-to-peer, it takes several seconds for a transaction to be confirmed across the P2P swarm of computers. During these few seconds, a dishonest person who employs fast clicking can submit a second payment of the same Bit coins to a different recipient.

#### V. OPPORTUNITIES OF BITCOIN IN INDIA

- Entrepreneurs within the country are seeing this as a natural opportunity for the proliferation of Bit coin and other crypto currencies within the country. It's reported that India currently has around 30,000 Bit coin owners in the country, and that number is expected to grow.
- For consumers is a payment system which does not require to provide private credentials
- To marketers it is a way to save transaction cost
- For emigrants it is an instrument to send remittances without charges

#### VI. CHALLENGES OF BITCOIN IN INDIA

- **Government Regulation:** Indian government stand towards Bit coin is the prime challenge for its growth. The future of crypto currency is doubtful in India for now. Currently in 2019 RBI announced that crypto currency will not be considered as a legal tender because it is completely decentralized.
- **Security Threat:** Hackers and malicious users can create as much as they want from virtual currency if they break the system and know the method of virtual currency creation. This will lead to the ability to create fake virtual currency or steal virtual currency by just changing the accounts balances.
- **Using for Alleged activities:** Several incidences have occurred stating that Bit coins have been used for illicit and illegal activities around the globe like money laundering, black marketing.
- **No Ombudsman:** There is no forum, where a user can possibly reach out for any help or grievance, as a result of which Indian consumers are being exposed to transactional and informative risks.

#### VII. CONCLUSION

Crypto currency especially Bit coin offers a new, effective and attractive model of payment methods that can boost companies and operators revenues. It also provides alternative method of payment, apart from real money, that enables users to make financial activities such as buying, selling, transferring and exchanging easily. Crypto currency can bring more positive changes to e-Business and e-Payment sector. However crypto currency doesn't get that much of trust yet. Many concerns, challenges and issues are exists in many crypto currency platforms. Until crypto currency is being well regulated and controlled, users need to take extra precautions of using such virtual money. So the lack of legislations is considered as the main concern in crypto currency systems. The silence of the RBI on the regulatory status of Bit coins

may prove to be damaging. An industry has grown around Bit coins in India- traders, exchanges and merchants who accept payments in Bit coins. Bit coins have already gained wide acceptance around the world - hence banning them would not be an option in India. Instead, this industry would need to be regulated.

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