

## **From Barter to Crypto currency: A Brief History Of Exchange**

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### **ABSTRACT**

*Virtual currencies, mobile payments, and virtual commodities are all examples of money in today's digital environment. Traditional physical cash backed by a regulatory authority is only one type of money. In 2009, crypto currencies began participating in this shift. The purpose of this paper is to educate readers on bitcoins, now the most popular cryptocurrency. In this study, we examine the recent history of bitcoin and compare it to its present and predicted future state. Research also focuses on the topic's drawbacks and limitations. Additionally, the process of how bitcoins function is explained in layman's terms. At the end of the paper, we look at how a developing country like India has received this digital innovation, as well as the perspective of the country's central bank.*

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### **I. INTRODUCTION**

Money is a means of commerce and a standard unit of account. It's become a vital part of the economy. Money has through a lengthy process of evolution to get where it is today. Is it possible to conceive of a future without money? It's so integrated into people's daily routines that it's hard to imagine life without it. In order to complete financial transactions, we no longer need to spend hours in a bank or at an ATM. Currently, everything is done in digital format. Using the internet and our bank accounts, we may instantly transfer funds to anyone, or make a purchase from any store in the globe. In each of these scenarios, there are rules established by other parties that we must adhere to. For this assistance, we are also charged a fee. These issues are also gone now that crypto currencies exist. This article elaborates on the workings of virtual currency.

#### **Objective of the Study**

The present article examines the following objectives

1. To understand the concept of bitcoins and examine their advantages and disadvantages,
2. To explain how India has welcomed the coming of virtual currencies.

#### **Evolution of money**

Before the advent of money, people were content living in close-knit communities where they could make, do, and grow for one another. They were able to recall the transactions, including the money and goods traded. It's what's known as a barter system. Products were traded for other products. They traded not only the common but also the rare things like livestock, wheat, and other staples. Managing these exchanges got more labour intensive as the number of communities increased. Through the years, trading was impossible via barter. Disagreements emerged as a result of the value placed on different items traded. The spoilage of food and other goods was another issue. Another important issue was the commodities' inability to be transported easily.

Then, people began to favour precious metals over common goods. To protect their gold from theft, people eventually began leaving it with goldsmiths, who eventually evolved into the first bankers and began issuing paper receipts. The Chinese aristocracy is credited with having recognised the metals' value and issuing certificates to their owners. Despite its worthlessness, people began to put their faith in them. The introduction of these modifications led to a surge in commerce, and governments quickly discovered that printing currencies backed by gold was a simple matter. Lydian monarch Alyattes was credited with creating the first coinage around 600 B.C. As a result, international trade between countries became more streamlined and convenient. When Lydia was in charge of the currency, the Chinese switched from using coins to using paper cash. Banks began accepting paper currency as deposits in due time, relieving individuals of the burden of constantly stowing away money.

Later, the idea of a gold standard backing currency was abandoned, and instead, fiat money with a freely adjustable exchange rate was introduced. It's worthless on its own merits. We only agree because someone in charge says so. Historically, the introduction of paper currencies led to a rise in international trade and the development of currency markets. The issue of portability still needed to be resolved. There was a time, only a few decades ago, when transferring money from one person to another involved an actual exchange of hands. This prompted the development of modern computerised payment methods. To conduct these kinds of

electronic transactions, however, we must rely on an intermediary like a clearing house or a bank, which might be problematic. The transactions are authorised by these outside parties. And make a note of it in their ledger to verify it. We have no choice than to pay them for their assistance. Making a purchase or payment in a foreign currency adds additional layer of complexity to the transaction. The tax or fee we must pay to these retailers is also extremely hefty.

The danger of hyperinflation in a fiat currency system should not be underestimated. Currency depreciates when the central bank prints too much of it. The currency, then, should be based on something that cannot suddenly lose value.

The arrival of the 21st century brought with it two monetary revolutions: the advent of virtual currency and the development of mobile payment systems. You can use your phone to pay your gas bill or send money to a friend's bank account without ever touching cash. Pay tm and SBI pay are only two of the many apps on our list that might help us with this. In contrast, virtual currencies are digital currencies that govern currency units through encryption and verify and transfer funds to another individual whose computer is also part of a distributed ledger called a block chain.

### **Crypto currency**

Cryptocurrencies are recognised by the law as a medium of exchange, the same as any other currency. That it exists only in digital form sets it apart from all other currencies. Cryptography is used by cryptographic currency systems to both encrypt transaction data and generate new currency units. As a subclass of digital currencies, crypto currencies also go by the name "virtual currencies." There is no central authority controlling these, hence they are called "decentralised."

Seven distinct varieties of crypto currencies exist now.

1. Bitcoins
2. Litecoin
3. Ethereum
4. Zcash(ZEC)
5. Dah

Following Bitcoin, Ethereum, and Litecoin, Ripple(XRP) and Monero (XMR) have emerged as the (XMR)

### **What are Bitcoins?**

One of the most significant innovations in human history, Bit Coins were released in 2009 by an unknown person using the name Satoshi Nakamoto. Bitcoins are a currency of the digital age. Money fit for the digital age.

### **Bitcoin's Pros and Cons**

Bitcoins are the most scarce, divisible, transportable, provable, and well-known cryptocurrency.

1. There can never be more than 21 million bitcoins in circulation, making them the rarest currency in the world.
2. It may be easily divided into smaller amounts, as one bit coin consists of one million bits.
3. Because of its low resistance to movement, bitcoins can be transferred electronically or even on paper.
4. Bitcoin transactions can be checked. The transactions are validated with the use of cryptography.
5. it spans the globe. Bit-coin transactions are global in the same way that the internet is.
6. With bitcoin, you can send money to anyone, anywhere in the world.

It's free and available to the public. Not a single person can claim it as their own. When using bitcoins, any participant can make a transaction.

7. Bitcoin transactions are completely decentralised and do not require any trusted third parties.

So, let's say that a villager doesn't have access to a bank account. With a smart phone in hand, opening a bitcoin wallet is a breeze. He gains the ability to send money anywhere in the globe once he registers a bitcoin account because bitcoin accounts are global. He links up with a system all across the world. In contrast to other currencies, bitcoin is accepted all across the world. Similarly to the internet, which no single entity can control or censor, nobody can revoke a user's ability to spend bitcoins. As a means of exchange, a store of value, and an accounting unit, it fulfils all the requirements of a currency. Since no single entity has ownership rights, there is no uncertainty about what should be produced, how much should be produced, or for whom it should be produced.

### **Working mechanism of Bitcoins**

Bitcoin is the pioneering crypto currency; it is based on cryptography. Since each Bitcoin transaction is recorded in a public distributed ledger known as the block chain, forgery and duplicate are both mathematically impossible. Any participant can choose to record transactions in the distributed ledger if they so choose. X must

therefore make a public announcement in the network saying something like, "X is sending 5 bit coins to Y," along with his Bitcoin address and the amount being transferred. As a service to the volunteers that maintain the ledger.

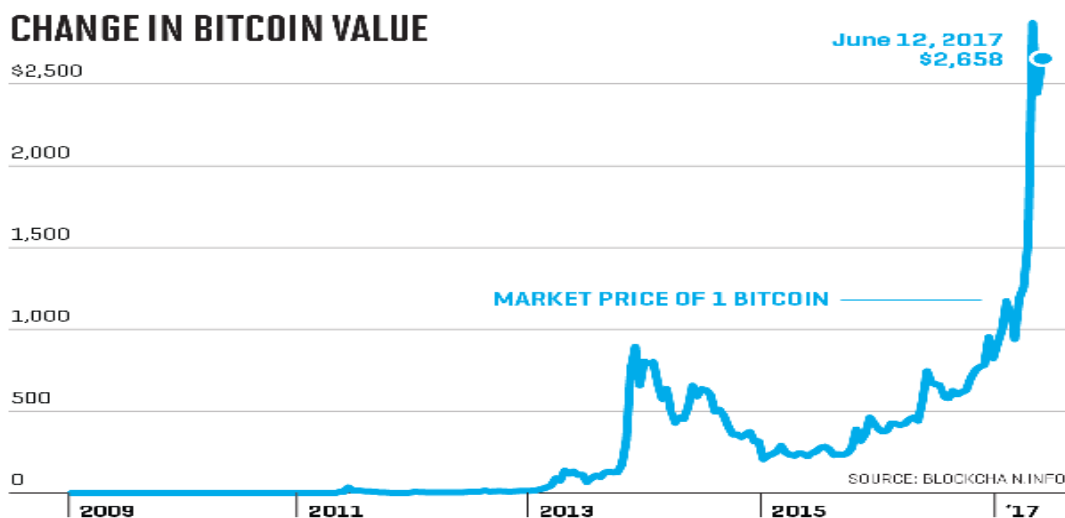
Keys are another vital aspect of crypto currency security. To provide a mathematical assurance of the transactions, they use a set of keys. As soon as we create a block chain account, both the private and public keys come into play. Through the use of private keys, we certify the authenticity of the messages we send. After the communications were signed, we released them into the public network, where they can be verified by anyone with access to our public key. Even if we are neither a bank or a governing body, our accounts are nevertheless subject to frequent audits, and whoever audits them can record our transactions in their own copy of the block chain.

What's even more impressive is that no hacker or imposter can forge this one-of-a-kind identifier. And since the block chain verifies your Bitcoin balance before a payment is made, you can rest assured that only one transaction will be recorded as being made. A miner is a person who stores Bitcoins. Let's dive into the world of cryptographic hash functions. This hash function can be thought of as an algorithm that takes data of arbitrary length and outputs a fixed-length value.

Bitcoin's hash function, SHA256, is shorthand for "safe hash algorithm 256 bits."

Some estimates place the time it takes for a node to make a best guess at a solution at around 10 minutes. In addition, this resolves the issue of whose block transaction is to be inserted first, allowing the remaining bit coins in the wallet to be spent as desired. When combining blocks in parallel, the larger ones go in first. Imagine the weight of each node now. Maintaining these nodes comes at a high cost. The cost of electricity has skyrocketed.

The question now is why miners perform these tasks. What do they get out of it, exactly? A reward system based on bitcoin exists. When you successfully complete a block addition to the block chain, you will receive 12.5 bitcoins. The sole purpose of every existing bitcoin is to compensate a bitcoin miner. Also, they receive compensation for each transaction they record in the ledger. In November of 2016, one bitcoin was worth about \$708. The price of one bitcoin reached a record \$2,658 USD in June of 2017. Bitcoins' value is notoriously unstable. A chart depicting the development through time is provided below.



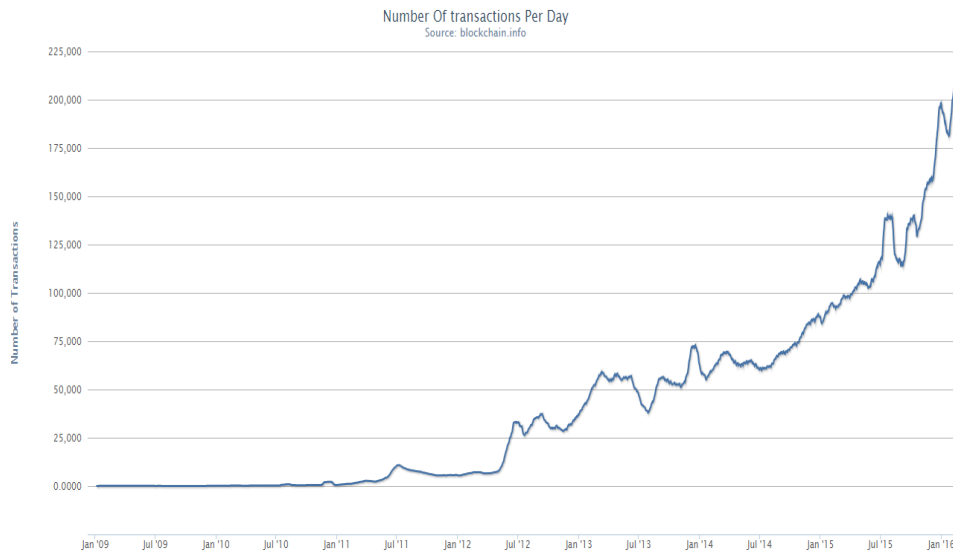
When something is scarce, it becomes more valuable. The software behind bitcoin ensures that the currency is limited in supply. There can only ever be 21,000,000 Bitcoins in circulation. The number has already surpassed 13 billion. When something becomes increasingly scarce, its market value increases. Therefore, a smaller supply of bitcoins increases its worth. Bit coin is like a token number that is divisible even to the 8th decimal, which is referred as one Satoshi, although gold and other precious metals cannot.

The quantity of coins minted when a new block is added halves every 210 000 blocks. In the first year, we receive 50 Bitcoin as a prize; the following year, we receive 25 Bitcoin, and the year after that, 12, 6, 3, etc. In spite of this, they will still have many entries in their books that will benefit them. As far as can be determined, the final bitcoin will be mined in the year 2140. Keeping their numbers low will ultimately boost their worth.

With each passing year, the total volume of Bitcoin transactions grows. Financial institutions and other investors have poured a lot of money into bitcoin startups. Companies with annual revenues in the billions, such as Dell, Microsoft, Pay Pal, Expedia, etc., accept bitcoins. As of April 2015, over 6000 businesses across the globe accept bitcoin as payment.

### **Bitcoin transactions per day**

The following graph shows the trend in bitcoin transactions per day during the past seven years



This graph explains how widely its use is being spread throughout the world. As more people become aware of this new innovation, more is the demand for it. Also the existing players in the chain keep adding up their share every year.

### **Bitcoin ATMs/kiosks**

A Bitcoin ATM is a web-based vending machine that accepts cash deposits in exchange for Bitcoins. The majority of Bitcoin ATMs support both buying and selling Bitcoin, and may exchange Bitcoin for fiat currency. These ATMs are not affiliated with any financial institutions but rather bitcoin exchanges.

### **The Downsides of Bitcoin**

Bitcoins have a dark side, but so do other innovations in technology. We'll discuss some of the most significant drawbacks in more detail below.

1. Although bitcoins are recognised by the law, they are still not widely acknowledged.
2. governments may be able to restrict certain businesses from taking bitcoin.
3. there is the potential for money laundering and other illicit acts to exploit this network because it is not governed by any one entity.
4. Bitcoins can't be guaranteed to be recovered in the event of a hardware failure.
5. Bitcoin exchange rates are quite volatile. This makes the process of making online payments and receiving refunds tedious. Commodity prices will also be unstable.
- 6 With a total supply of only 21,000,000 Bitcoins, deflation is always a possibility and knowing when to use your coins is a constant conundrum.
7. Since it is decentralised, there is no promise of a minimum value for bitcoins. Thus, there is a significant element of danger when exchanging Bitcoins.
8. When working with digital currencies, a thorough familiarity with the system as a whole is essential.
- 9 It has been said that the fees associated with using bitcoin ATMs are extremely high, hovering somewhere around 7 percent. According to 2016 reporting by Brian Krebs, Bitcoin ATMs are increasingly being used for money churning, a form of money laundering in which funds are transferred from banks to extortionists.

### **Trends set in India**

It is estimated that about 10% of all bitcoin transactions take place in India. The government's financial advisory board has issued a caution against cryptocurrency investments. The Times of India quotes Indian

Finance Minister Arun Jaitley as saying, "Crypto currencies like Bitcoin are not legal, lawful money and lacks regulatory protection."

The Reserve Bank of India issued a public statement on the risks and benefits of utilising virtual currencies on December 24, 2013. It forewarns that because they are digitally stored, they are vulnerable to hacking, password loss, and other forms of cybercrime. Also, since they are unregulated, losing your electronic wallet and having any hope of regaining your money is a real possibility. In addition, speculation is the driving force behind the entire market. Thus, there are perils in that regard as well. Multiple media outlets have reported on the use of virtual currencies (VCs), including Bitcoin, for criminal purposes in a variety of countries. Unwitting violations of anti-money-laundering and countering the financing of terrorism (AML/CFT) rules may occur in peer-to-peer anonymous/ pseudonymous networks due to the lack of information of counterparties. Countries like Japan and Singapore are on board with using bitcoins, but others like Bangladesh, Bolivia, Nepal, and Morocco have prohibited them. There is uncertainty regarding bitcoin's long-term viability in countries like India, Australia, South Korea, etc. Concerns have been raised that bitcoin's popularity could lead to a similar outcome to the tulip bulb market bubble in the 1970s.

## II. CONCLUSION

Significant shifts have occurred all around the globe with the advent of digital currency. It is widely expected that the value of bitcoins would skyrocket this year, as 2018 marks the 10th anniversary of the launch of the digital currency. Some others are concerned that the bubble could pop at any time. Virtual currencies, however, have universally positive future expectations. Bitcoin and other virtual currencies provide a new avenue for investment in such a youthful nation as India. When it comes to creativity and new ideas, India is ahead of the pack. The future of cryptocurrency in such a country looks bright. However, accurate news about this new member needs to travel to every corner of the country. In addition, only those who are well-informed about the industry should enter it. Every day, new innovations will overwhelm society.

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