

CryptoCurrency and Business New technological advancement

Onkar D. Jadhav¹
¹(University of Mumbai)

Abstract: *Survival of business in the modern competitive world depends upon the way it conducts business and consumer satisfaction. A businessman needs to modernise their form of business to make sure gain and have an edge over its competitors. Consumer satisfaction is also an important factor, and they directly relate it to the improvement of industry and every businessman tries to maximise it. By, using old technology it can create troubles as there are various issues with that technology observed in the past. People with bad intention can easily manipulate it for their profit. Modern technology can bring new ways which can attract communities and can help to overcome obstacles. The organization can be beneficial from it. Cryptocurrency can be helpful in this situation as having the new technology. It is having a technology which can be useful for business not only in payment but also in management and customer care. It is cryptocurrency more secure compared to the current system, and this is the biggest advantage. Cryptocurrency can not only use in payment but also in different way. How we can use this cryptocurrency in all above factors this I have mentioned below.*

I. Introduction

In the current condition, people are facing various issues in payments and service which can be harmful to any business. The businessman has to find modern technology which can help them to overcome from this situation and cryptocurrency can be helpful in this. Cryptocurrency is using modern technology which is more secure and fast than the current situation. We had seen various cases in which hackers manipulated people's accounts and steal their money; this is rising by every day. People are using cryptocurrency differently and many people had a negative view over it, but we can use modern technology for the betterment of our business. In this paper, I have shared my views that how we can do this.

II. CryptoCurrency

Cryptocurrency is a digital asset which works as a medium of exchange. It is a currency which made by using the software. According to the Oxford dictionary "A digital currency in which encryption techniques are used to regulate the generation of units of currency and verify the transfer of funds, operating independently of a central bank." According to the Cambridge dictionary "A digital currency produce by a public network, rather than any government, that uses cryptography to make sure payments are sent and received safely."

In simple words, it is a currency which people can use to make payments but only through online mode as cryptocurrency don't have the physical form as regular currency. Cryptocurrencies are systems that allow for the secure payments of online transactions that are denominated in terms of a virtual "token," representing ledger entries internal to the system itself. "Crypto" refers to the fact that it employs various encryption algorithms and cryptographic techniques, such as elliptical curve encryption, public-private key pairs, and hashing functions. Cryptocurrency is very difficult to counterfeit due to the security features used in these systems. This is because of the decentralised system adopted by a cryptocurrency named as "blockchain" technology which is shared information by different computers.

Before understanding how it works first, we will see where it all started It started in 1983 when an American cryptographer David Chaum created electronic currency named as eCash. Later created DigiCash for payment and acceptance of currency. David Chaum got success when Microsoft offered him \$180 Million for installing DigiCash on every windows PC but it failed. In 1996 world came to know more about this currency as NSA published a paper named as How to Make a Mint: the Cryptography of Anonymous Electronic Cash, describing a Cryptocurrency system in an MIT. In 1998, Wei Dai published a description of "b-money" characterized as an anonymous, distributed electronic cash system. Nick Szabo described bit gold. Like bitcoin and other cryptocurrencies that would follow it, bit gold was described as an electronic currency system which required users to complete a proof of work function with solutions being put together and published. Hal Finney who followed the work of Dai and Szabo later created a currency system based on a reusable proof of work. The first decentralised cryptocurrency was created in 2009 by Satoshi Nakamoto. This peer-to-peer and open source trust protocol make the platform for more cryptocurrencies to enter the market and there are approx. 850 of them working worldwide. A new cryptocurrency called Ethereum (ETH) is competing in a race with Bitcoin for world dominance and popularity. Proposed in late 2013 by Vitalik Buterin, This is how Mordencryptocurrency has created.

But how it works? Many of us have a question that how a currency which doesn't have a physical form works and how it is been regulated without regulatory authority? It just a peer-to-peer and open source trust protocol how it is been calculating all the transactions?

To understand let's take an example.

Let's assume there are 4 people playing cards but they don't trust on each other so they write their own journal of every step so if anyone made mistake then it can be rectified due to other 3 journals. In cryptocurrency, this is been used but on a larger scale where different people from international use the computers to make the journal. People who keep a track record of these systems are called miners and these people have to solve a mathematical problem and one who solves the problem first got some coins in rewards. To understand Cryptocurrency we have to understand its most important feature that is 'Blockchain'. This system is been invented by Satoshi Nakamoto. It is a growing list of records called blocks which are linked using asymmetric cryptography. It is "an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way". It is been used as a building block for the cryptocurrency and it is been connected by each other to form a chain of information which then used for recording transactions and make payments. Blockchain technology is very important for cryptocurrency as it acts as a medium. Many people get confused in Blockchain and Cryptocurrency so let's see what the difference between them is. Instead of being introduced by formal definition, the term blockchain developed from "chain of blocks".

Cryptocurrency is a sort-of portmanteau of "cryptographic currency". But the fundamental difference between these concepts has to do with how distributed ledger technology is used. The blockchain is the platform which brings cryptocurrencies into play. The blockchain is the technology that serves as the distributed ledger that forms the network. This network creates the means for transacting and enables transferring of value and information.

Cryptocurrencies are the tokens used within these networks to send value and pay for these transactions. Furthermore, you can see them as a tool on the blockchain, in some cases serving as a resource or utility function. Other times they are used to digitize the value of an asset. Blockchains serve as the basic technology, in which cryptocurrencies are a part of the ecosystem. They go hand in hand, and crypto is often necessary to transact on a blockchain. But without the blockchain, we would not have a means for these transactions to be recorded and transferred.

III. Evolution of Cryptocurrency

Earlier we see what the Cryptocurrency is now we will see how it evolved in the current scenario. Cryptocurrency is starting to spreading its roots in the market from 2005 but it strengthens its grip from 2009 and we can see an upswing from 2010. Bitcoin is a pole currency in this process. I am considering Bitcoin as this is successful than any other currency.

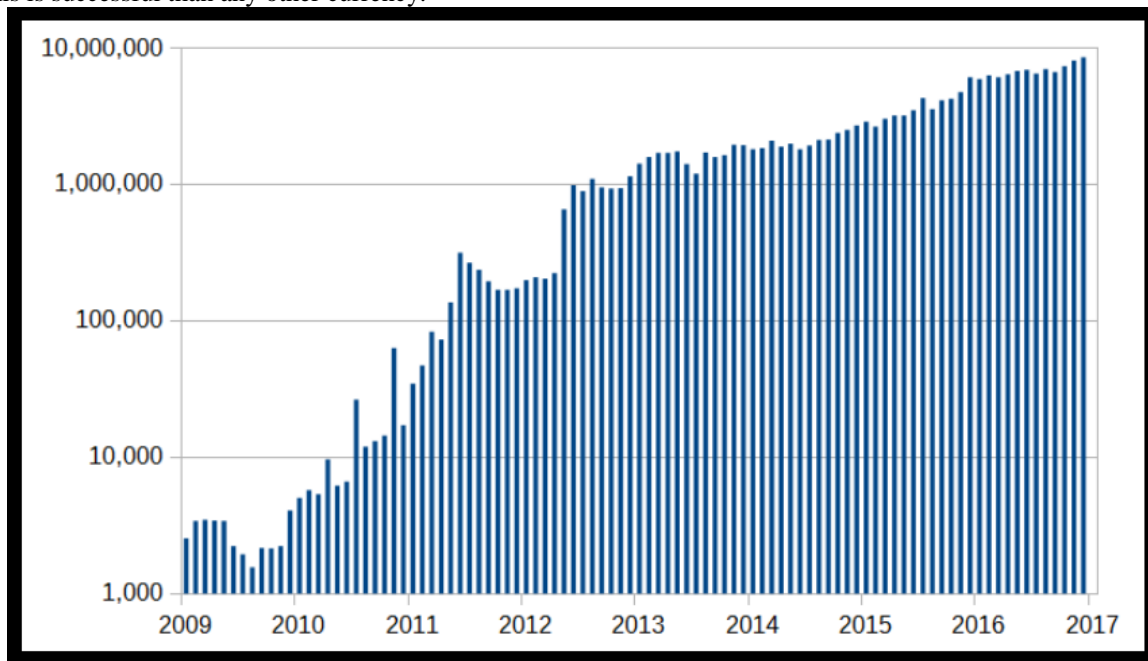


Figure no 1: are transactions of Bitcoin[4]

Above fig. are transactions of Bitcoin in past months. Cryptocurrency is attracting people like a magnet. To understand it better let's do segmentation via years.

2011 – In January 2011 The Economic Frontier Foundation accepted Bitcoin. In June 2011 WikiLeaks and other organisations accept Bitcoin as donations.

2012 – In October 2012, BitPay reported having over 1,000 merchants accepting Bitcoin under its payment processing service. In November 2012, WordPress had accepted Bitcoin.

2013 - In February 2013, the Bitcoin-based payment processor Coinbase reported selling US\$1 million worth of Bitcoins in a single month at over \$22 per Bitcoin. On 17 May 2013, someone reported it that BitInstant processed approximately 30 per cent of the money going into and out of Bitcoin, and in April alone facilitated 30,000 transactions. In November 2013, the University of Nicosia announced that it would be accepting Bitcoin as payment for tuition fees. In December 2013 they bought a Tesla Model S for 91.4 Bitcoin.

2014 – In January 2014, Zynga announced it was testing Bitcoin for purchasing in-game assets in seven of its games. That same month, The D Las Vegas Casino Hotel and Golden Gate Hotel & Casino properties in downtown Las Vegas announced they would also accept Bitcoin. In July 2014 Newegg and Dell accepted Bitcoin. In December 2014 Microsoft accepted Bitcoin to buy Xbox games and Windows software.

2015 – In January 2015 Coinbase raised 75 million USD as part of a Series C funding round, smashing the previous record for a Bitcoin company. In February 2015, the number of merchants accepting Bitcoin exceeded 100,000.

2016 – In January 2016, the network rate exceeded 1 exhaust/sec. April 2016, Steam accepted Bitcoin as payment for video games and other online media. In September 2016, the number of Bitcoin ATMs had doubled over the last 18 months and reached 771 ATMs worldwide. November 2016, the Swiss Railway operator SBB (CFF) upgraded all their automated ticket machines so that Bitcoin could be bought from them using the scanner on the ticket machine to scan the Bitcoin address on a phone app.

2017 – In January 2017, NHK reported the number of online stores accepting Bitcoin in Japan had increased 4.6 times over the past year. BitPay CEO Stephen Pair declared the company's transaction rate grew 3 times from January 2016 to February 2017 and explained the usage of Bitcoin is growing in B2B supply chain payments. Exchange trading volumes continue to increase. For the 6-month period ending March 2017, Mexican exchange Bitso saw trading volume increase 1500%. Between January and May 2017, Poloniex saw an increase of more than 600% active traders online and regularly processed 640% more transactions.

As we see above how there is a raise in the demand for the cryptocurrency, people are now like to use cryptocurrency in payment as more and more companies are now accepting the Bitcoins. The second most reasons that attract the people are raising the value of the Bitcoin as they are now getting returns more than any other investment.

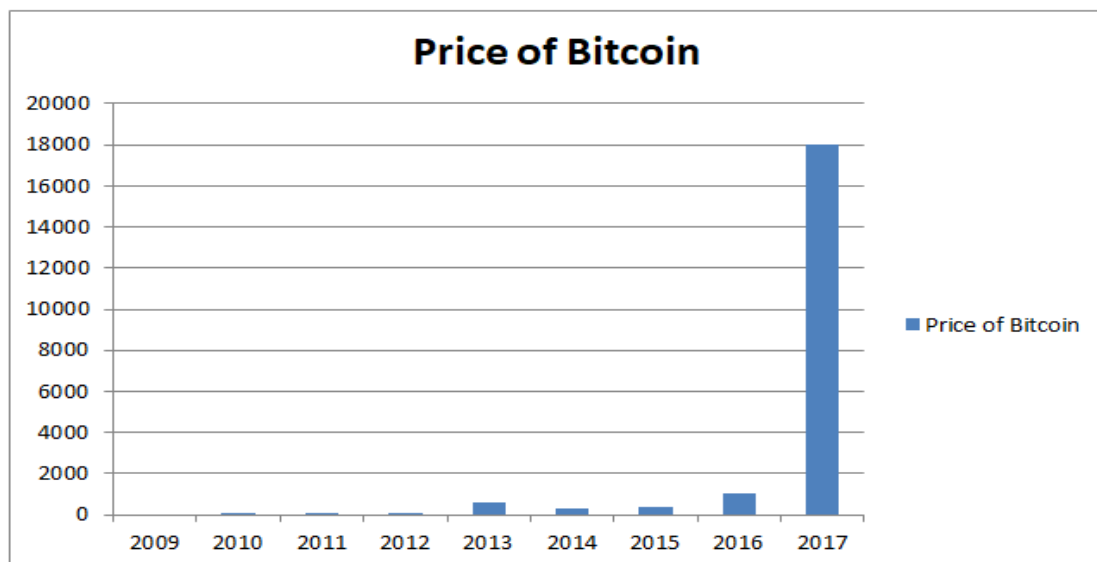


Figure no 2: Price of Bitcoin [5]

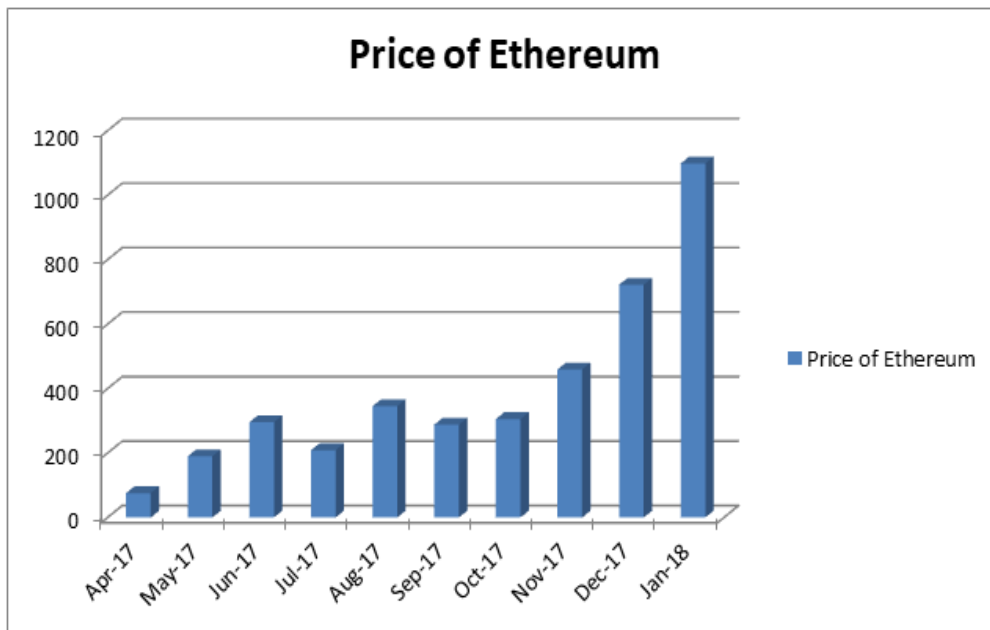


Figure no 3: Price of Ethereum [6]

As you can see in above fig. people are getting more returns on their investment that is attracting more people to use these currencies. People taking cryptocurrency as an investment rather than payment option that cause the fluctuation of rates.

There are many people who like to invest in these like investment in shares, but in this situation, their purchasing power is been increased due to fluctuating rates. There are many examples where people bought it at an absolutely low price and now can buy the more expensive things against them. Let's see with an example A Norwegian man who bought \$27 worth of Bitcoin in 2009 and forgot about them discovered their value had since shot up – to \$980,000 at today's price. Kristoffer Koch decided to buy 5,000 Bitcoin for only 150 Norwegian kroner (\$26.60) in 2009. Koch found that his Bitcoin was worth 5 million Norwegian kroner (\$886,000) when he checked back in on them. At the current Bitcoin Price Index of \$196, those coins are now worth about \$980,000.

IV. New Technology

Cryptocurrency can bring a new technological advancement in the business. As we read earlier that cryptocurrency is working through a decentralised system where there is no single authority which monitors the system but everyone is contributing. This blockchain technology can help the business in different ways some of them are follows

1. A new way of payment
2. A new peer-to-peer communications
3. Improve after-sale services

1. A new way of payment— Cryptocurrency can become a new way of payment for the business. As in a modern world, more and more people are using smartphones and online payment features, but as we know there are flaws in these payment systems like servers' issues, data leaks and hackers attacks which led to problems faced by the people. Cryptocurrency can help as a new way of payment for new and old business.

As we know in the past, some big MNC's have accepted the cryptocurrency as a mode of payments but they failed it because of some issues but if we can able to surpass the issues, then we can take advantages of the new technology. Cryptocurrency can be safer than current online payment system as there is just a cryptocurrency wallet is linked whereas in regular online payments bank account is been linked and this creates an issue as there are many cases in the world that hackers steal the money of the bank account.

They link the demand for online convenience in India to a heightened threat of fraud as per the Experian's Digital Consumer Insights 2018 report.

1 in 4 customers is a victim of online fraud
24% experienced fraud while transacting online

70% shared erroneous data regarding demographics
90% of Indians are consumers of digital services

In December, Ravi Shankar Prasad, the minister for information technology, said there were over 25,800 cases of digital fraud in India in 2017. Cryptocurrency is also an online payment system which can also be hacked but compare to current systems there are fewer frauds in the cryptocurrency. Cryptocurrency is only connected to a wallet which has amounted, not the whole amount as people is likely to hold in their bank account so it's fewer chances for a bigger fraud.

My idea for this is that—

It will create A temporary wallet every time while making payments and they will dispose it after every single use and this will be only liable for that one use and amount will be equal to that amount of payment. This will minimise the risk. Business will get quick money for their goods as they now don't have to wait for a long time for clearance. Business can establish a one-to-one network with the customer it will renew which with every transaction (This system will be based upon the public and private key mechanism). This new payment system will remove the problems of cards as in cards payment system as if a hacker will come to know the numbers on the cards then he can hack bank account.

2. A new peer-to-peer communication – As you guys know cryptocurrency is working on the peer-to-peer communication, this communication will help business as they can use it for retailers to directly connect with the producers. There is a middleman between producers and retailers due to which any suggestions regarding product takes much time to reach or sometimes never reach till producers. Cryptocurrency can help in this as peer-to-peer communication can help to establish a direct contact line between retailer and producers.

It can work as follows –It will establish A cryptic communication between producers and not an only retailer but also anyone in the supply chain. In this, it will pin every suggestion and anyone in that circle can read it. This will also help in solving problems between retailer and wholesaler, etc. Due to this, it can establish better communication.

3. Improve after sale service –To run a successful business after sale service is very important and in India, this after sale service is terrible. The study says 43% mobile and computer manufacturers have the worst after-sales service, 53% say companies never replace the products, and the majority 93% of consumers want complaints acknowledged within 72 hours. Up to 38% of consumers said problem resolution took over 30 days or remains unresolved. Respondents rated mobile handset and computer manufacturing companies as the slowest in after-sales service, followed by consumer durables and electronics. [7]

So India is having a bad time in after sale service this is because of lack of training, lack of knowledge, the problem of contact between the service provider and management of companies, etc. Many companies also like to outsource after sale service this create more problems. A cryptocurrency also use a blockchain mechanism in this every person add data in the chain,

We can use this mechanism in after-sale services to a consumer as every consumer will add his/her problem as an open, distributed ledger that can record transactions and can be reviewed by the associate and the top level management. I think it will work as the consumer will report his/her problem in this platform and an associate a master in this will contact to that consume as this will be more productive and less time consuming as an associate with proper knowledge and training will attend the consumer. Due to it, a blockchain top management can easily review it and the work and take appropriate steps. This will improve productivity and performance.

V. Impact on Business

As I suggest above cryptocurrency will be helpful for business in three ways now in this, we will see how above three factors going to impact on business. Modern business needs update in business technique to survive competitive market and attract more customers to earn more profit. Cryptocurrency uses modern technology, and it's attracting people, so utilisation of this modern technology can be helpful for business.

1. A new way of payment— When we use a new way of payment, then we established a new mechanism. This can help us overcome the current system problems. As we overcome from the problem of barter system by inventing coins as goods now have a specific value than imaginary. For e.g., 1 sheep for 10 chickens or in some situation may be different. We overcome from coins by inventing notes that give us the power to handle more currency in a less bulky form. For example, 1 lakh rupee in notes is much easier to carry than 1 lakh rupee coins.

We overcome from the problems of notes by inventing cards and internet money that gives us freedom use over money to use worldwide without the burden of carrying it. Same the cryptocurrency can help to overcome from different situations such as.

- A. More security**—In current systems, there are various loopholes which are been exploited by hackers. Hackers had fooled many well-known banks. Cryptocurrency uses the cryptic hash function which is more secure than the current system. We have seen in the past Cyber-attacks hackers demanded cryptocurrency rather than normal currency because of a more secure and less traceable. This shows how much secure is this currency. Many people said this currency can be the only brake by quantum computers and these types of computers are not in the market. This gives an edge over internet money which is using old technology and hackers can break down costs.
- B. Higher denomination**— we have denominated Dollar in just two digit which for the calculations but in sometime these denominations is skip by the users and either businessman or the consumer have to pay extra or less. This problem is been removed by the internet money but they are it only working till two or some time there digit. Cryptocurrency has much more denominations which will be useful to calculate the price of goods.

Let's take an example with a Bitcoin

BTC is most commonly expressed in one of three denominations:

- **Bitcoin–BTC**–(1 full Bitcoin)
- **MilliBitcoin–mBTC**–(1 thousandth of a BTC)
- **MicroBitcoin–uBTC**–(1 millionth of a BTC)

As a rise in the denominations will be led to higher utilisation of currency.

Let's understand it with an example:- Suppose a businessman take a loan for his business and have to pay the interest per month but some time what happens when an amount of interest exceed over two digit bank round off to present a number and mostly that number is higher than actual amount so businessman is paying more than the actual. In some cases, the value of goods is also been round off like \$2 or \$5 but the actual value might be lower. While paying in paper currency many disputes occur between buyers and sellers regarding price. All these problems can be counter by cryptocurrency and higher denomination will raise the value of every dollar.

- 2. A new peer to peer communications** –A firm can enjoy more profit if there is smooth and in interrupted communication between the producers and retailer. In many cases,- retailer have suggestions given by the consumers and that can help to improve the quality of goods or prices. This information sometimes never reached till producers. So to overcome from this Cryptocurrencies peer to peer communication can help. In this a cryptic communication system is been established from every retailer to wholesaler to the producers. This will also reduce the time for the ordering of goods and conflict between retailer and wholesaler as all the data will be recorded. Producers will track their goods and this will remove the artificial demand and supply situation. This will also help managers to contact employees.

To understand it lets take an example:- This peer to peer communication will act as one huge branch and every superior and subordinate will have its own small branch which will be a part of the main branch but will have a different communication. This will give every part of the business to work on the same channel but will have their own decision-making process. Only top-level management will have authority to look on anyone's communication.

- 3. Improve after stale service** –As I said above how this can be applied in business now we will see how it will impact the business.
- A. Greater consumer satisfaction** – As consumer will be attended by the associate which have technical knowledge and experience so the problem will be solved easily and quickly this will raise consumer satisfaction.
- B. Less time consuming and higher productivity** – Due to professional help time spend on one call will be shorten and due to which higher productivity will achieved.

Above are not only factors through cryptocurrency can affect the business.

- I. Reduce transaction fees** –When a person uses a card or internet banking they have been charged by the organising authority and this has to be paid by the user. On other hand if a person use the cryptocurrency there is no charge of using it. Coins and tokens are not developed or controlled by a single authority, like fiat money that is issued by a sovereign government but instead works directly through blockchain technology. If you are a merchant selling online, you will, however, likely be charged a small flat fee for

your merchant wallet account or accounts, like BitPayor CoinPayments, which allow you to accept certain cryptocurrencies.

- II. Faster payments** –Transactions in cryptocurrency happen quickly whereas card payments take longer time to clear like couple of days. Due to use of cryptocurrency business can get paid quickly.
- III. Cryptocurrency**, of course, has no exchange rates or fees across borders, and so is theoretically the perfect way to conduct global business. Currently, fewer businesses are accepting or paying with cryptocurrency, but this trend is likely to change as the marketplace evolves. Ultimately, by simply accepting cryptocurrency payments, you may boost your bottom line as you attract new customers.
- IV. Increase customer base** –If a business started accepting cryptocurrency then business is likely to increase customer base more international customer will be attracted.

Above are some factors how cryptocurrency will affect the business. As we know every coin has two sides cryptocurrency also have a darker side lets discuss it in following way.

VI. Problems in Cryptocurrency

Cryptocurrency has some advantages as well as some disadvantages which we have to tackle before making it more about payments.

1. Banned by Governments– The biggest problem in cryptocurrency is many governments have banned it. Many countries have banned cryptocurrencies because of many reasons and some countries accept it. Countries which reject cryptocurrency

China– Bitcoin is essentially banned in China. All banks and other financial institutions like payment processors are prohibited from transacting or dealing in Bitcoin. It bans cryptocurrency exchanges.

Russia- The coin is not regulated in Russia through its use as payment for goods or services is illegal.

Vietnam–Vietnam’s government and its state bank maintain that Bitcoin is a not a legitimate payment method, though they do not regulate it as an investment. Countries which practically accept cryptocurrency

Canada–Canada considers Bitcoin exchanges to be money service businesses. This brings them under the purview of the anti-money laundering (AML) laws. Bitcoin exchanges need to register with Financial Transactions and Reports Analysis Centre (FINTRAC), report any suspicious transactions, abide by the compliance plans, and even keep certain records. In addition, some major Canadian banks have banned the use of their credit or debit cards for Bitcoin transactions. Countries which accept cryptocurrency

The US–The U.S. Department of Treasury’s Financial Crimes Enforcement Network (FinCEN) has been issuing guidance on Bitcoin since 2013. The Treasury has defined Bitcoin not as currency, but as money services business (MSB). This places it under the Bank Secrecy Act which requires exchanges and payment processors to adhere to certain responsibilities like reporting, registration, and record keeping. In addition, it categorizes Bitcoin as property for taxation by IRS.

Australia–Australia considers Bitcoin a currency like any other and allows entities to trade, mine, or buy it.

In **Finland**, the Central Board of Taxes (CBT) has given Bitcoin a value-added tax-exempt status by classifying it as a financial service. It treats Bitcoin as a commodity in Finland and not as a currency. **United Kingdom**

(U.K.) has a pro-Bitcoin stance and wants the regulatory environment to be supportive of the digital currency. Bitcoin is under certain tax regulations in the U.K. The National Revenue Agency (NRA)

Bulgaria has also brought Bitcoin under its existing tax laws. **Germany** is open to Bitcoin; they consider it legal but taxed differently depending upon whether the authorities are dealing with exchanges, miners, enterprises or users. Whereas in India government have also rejected the cryptocurrency in the country because of this person

in the country is not able to access it. The authorities soon made known their uneasiness with virtual currencies and cautioned investors. A few warning signals and conflicting statements later, the RBI finally pulled the plug on cryptocurrency exchanges. One of the main reasons cited by the RBI for its crackdown is to protect investors and banks from frauds, said a member of the IAMA who had a copy of the central bank’s responses. “It has said it wants to ring-fence gullible investors and lenders from scams, several of which have happened internationally.” Countries are rejecting cryptocurrency because they want to protect the people in the country by frauds and because of the absence of regulatory authority.

This can be a tackled if there is a regulatory authority can monitor or issue cryptocurrency.

2. Not considered as a mode of payment – People in the world taking cryptocurrency as an asset not as a mode of payment. Because of which people use it to generate income not paying using it. People hold Bitcoin for a period and when price increases they sell it to earn a profit. When you considered it as assets you never use it as a mode of payment and this is creating issues.

There is a difference between investment and mode of payment this is same as you hold dollar to earn a profit, not for the transaction. People are doing this because cryptocurrency was giving higher returns in that period compared to others. This will not be helpful for the business and cryptocurrency environment if people view on it not changes. For it, Government has to intervene.

3. **The bad image in the eyes of people** –People in developing countries had a bad image of cryptocurrency because of which they are not using it. People feel it is been using by hackers or by the people who are trying to save tax or want to hide their money. Until we change the image of it those people will not go to use it. It is hard but not impossible as in earlier 2000s people are also been sceptical regarding using of cards and internet banking but these scenarios had changed in the past.
4. **Coins in hands of private people or organisations** – Most of the economist have said this problem, the coins in been issued by the private people and it is having a chance this coins will lose their value in future. Many economists tell cryptocurrency as a bubble which is going to burst. Famous cryptocurrencyBitcoin owner Satoshi Nakamoto still we don't know him. People also don't want to trust on these coins and until we remove this person will not use this. For it Govt. has to take steps.

Above are some problems with cryptocurrency. Until we tackle these problems we cannot unlock the power of cryptocurrency. To counter modern problems cryptocurrency will be a tool. Business will be on the profitable side if they start using it.

VII. Conclusion

Problems in the current payment system had shown problems and it is likely to be raised in future also. Cryptocurrency is in a starting phase but it is showing its capability to replace the current system. This will not happen in near future it will take time to implement but it surely has the capacity. If we want to protect people we have to take some firm decisions. Cryptocurrency is been using new technology this will be helpful to overcome from current problems. So as per my view, Cryptocurrency will be helpful to business as there is a direct relationship between customer satisfaction and business growth. Cryptocurrency will be helpful for the business in a verity of ways so businessmen have to start considering cryptocurrency for the betterment of the business.

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