

A Study on Market Fluctuations in Cryptocurrency and Its Impact on Consumers Perception Towards Investment

Nasika Lakshmi*

Abstract

The world of cryptocurrencies is exciting and dynamic. Cryptocurrency is any virtual currency that uses cryptography to secure transactions. Cryptocurrencies lack a centralized issuing authority and instead rely on a decentralized system to record transactions, and issue new units. The use of cryptocurrencies is illegal in some countries, but it is a massive business in others that authorities have embraced, but cryptocurrency's dominance is undeniable and has taken the market to over \$1 trillion. It is supported by the blockchain, a decentralized peer-to-peer network. The process of mining a bitcoin is quite expensive. It has a high toll on resources like money, the users' time and electricity. Blockchain technology ensures that all cryptocurrency transactions are recorded in a public financial database. Bitcoin, Ethereum and Ripple are few notable examples of cryptocurrencies. The primary goal of the research is to investigate the fluctuations in the cryptocurrency market. Cryptocurrency is a crucial step towards decentralized currency. Crypto networks are immutable i.e., it cannot be altered or deleted. There are 4500 cryptocurrencies. So, you do not need to go to invest your money in 50, 60, 70 cryptocurrencies. You just need to pick few good fundamental cryptocurrencies where intrinsic value is high. The study further examines consumers' perception towards investment in cryptocurrency.

Keywords: Cryptocurrency, bitcoin, ethereum, blockchain, mining

INTRODUCTION

What is Cryptocurrency?

Cryptocurrency is digital money that is stored in users' e-wallets. It differs from other digital money in the high degree of encryption and anonymity.

History or Evolution of Money (6000 BC Barter System)

Barter Trade

Goods accustomed exchanged against goods.

*Author for Correspondence

Nasika Lakshmi

E-mail: nasikalakshmi@gmail.com

Assistant Professor, Department of Commerce, Badruka College of Commerce & Arts, Affiliated to Osmania University, Kachiguda, Hyderabad, Telangana, India

Received Date: July 14, 2022

Accepted Date: August 17, 2022

Published Date: August 22, 2022

Citation: Nasika Lakshmi. A Study on Market Fluctuations in Cryptocurrency and Its Impact on Consumers Perception Towards Investment. NOLEGEIN Journal of Supply Chain and Logistics Management. 2022; 5(1): 12–21p.

For Example:

A man wants to exchange a bag of rice for a pair of chappals. But then, what was the problem? If that person did not want a pair of chappal then What? Finding the precise match was a problem. However, because the trade increased, carrying immense amount of gold was a problem. To unravel this problem, Government united to issue currency notes whose price was supported by gold. Now, there was no need to carry gold coins [1].

To solve this problem, currencies are attached to US dollars and US dollars in turn are attached to

gold at fixed rate. Then come in the concept of Fiat money (1971 till date).

Fiat money is a device which has been used globally with the variable trade charges among countries. Variable ex-alternate charges denotes that the foreign money charges may also alternate primarily based totally on call for and deliver. But the hassle with Fiat Money is that it offers imperative banks more manipulation over the economic system due to the fact they are able to manipulate how tons of cash is being printed. Here is wherein the precise hassle lies [2]. If the Government prints an excessive amount of cash, it will bring about hyperinflation; after which to clear up this hassle got here withinside the idea of Bitcoin. To clear up this hassle of limitless delivery of cash, Crypto changed in 2009 wherein withinside the delivery of tokens could be stored confined to 21 million. At each section, there has been one hassle and to come upon that hassle we moved on to any other section withinside the evolution of cash. Right now, the satisfactory section is of 'DIGITAL ASSETS' which is of cryptos. It does not want the present Rupees, Dollars or Yen the whole thing has gone! Dollars, Rupees and different currencies in conjunction with cryptocurrencies will co-exist in preference to cryptocurrencies absolutely completing the present currencies [3].

Bitcoin was conceptualized as a replacement of currency. Fiat currency means we have INR, Singapore dollars, US Dollars, all these are government backed currencies [4]. Bitcoin was seen as a substitution to the current currency. So, Bitcoin is actually a cryptocurrency and it is one in every of its kind. It is visible as a currency. A proper degree to fit Bitcoin is with gold.

Why do Bitcoin have intrinsic value?

1. There is a finite impart of Bitcoin (There are best 21 million Bitcoins).
2. The procedure of mining of Bitcoin: These 21 million Bitcoins need to be mined over a sure duration of time. This mining procedure may be very extensive. It may be very time consuming [1]. It includes fixing loads of complicated mathematical equations. Due to its complexity, it makes the Bitcoin have intrinsic value.
3. The 3rd issue that offers Bitcoin competency is the "network".

This is called as Blockchain Network. This is a ledger-based system [5].

For Example:

Internet has a network. Similarly, Bitcoin also has a network, and this network is hack proof and it is very transparent. So, it is very easy to follow along, who is buying Bitcoin, who is selling Bitcoin, everything is recorded on a central ledger. So, because of the transparency, limited supply and the difficult mining process, Bitcoin has value.

There is a very specific mining process that Bitcoin follows and that gives a lot of power to Bitcoin because the inflation in Bitcoin is very limited.

BITCOIN HALVING

We can see with the help of the chart in Figure 1 that after each 210000 blocks mined or kind of each four years, the block praise given to Bitcoin miners for processing transactions is reduced. This cuts in 1/2 of the whizz at which new Bitcoin is launched into circulation [6]. Unlike printing money, the government can rouse any day and print 10 trillion dollars. And also, the hard-earned money which is there in our banks loses its value just because of inflation, because the government decided to print money fastly [4].

Now, this cannot happen in Bitcoin network. In Bitcoin, as the graph shows, we can see that the rate at which the Bitcoins are released on the network keeps going down every 4 years. So essentially, what happened is every 4 years, fewer and fewer are bitcoins are released into the network.

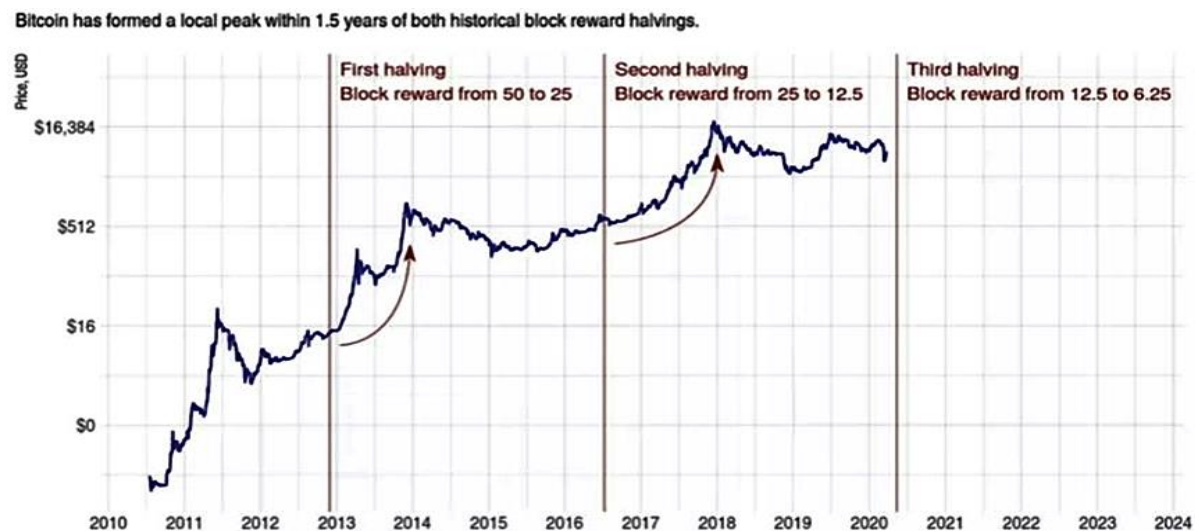


Figure 1. Bitcoin prices, USD.

Therefore, there is a finite supply of Bitcoins. And from this graph we can also observe that after every halving period, when we move on to period 2, 3 and period 4, the price of Bitcoins keeps going up.

For Example:

There are four blocks on this graph, and we can see that the price has been generally up in each of these four blocks subsequently.

Therefore, this gives a lot of intrinsic value to cryptocurrency like Bitcoin.

Who Created It?

A software program developer known as Satoshi Nakamoto proposed Bitcoin which became a digital price device primarily based totally on mathematical proof. The concept became to supply a foreign money, impartial of any Central authority, transferable electronically, much less immediately with low transaction fees [7].

ETHEREUM

- Second cryptocurrency which has lot of intrinsic value is called Ethereum or Ether.
- Ethereum is the web and Ether is the coin that you may pass and purchase at the exchange [5].

How is Bitcoin and Ethereum different?

Bitcoin is money [8]. It is envisaged as a replacement of physical currency. So, essentially, Bitcoins is a store of wealth:

- Bitcoin is money.
- Ethereum is programmable money.

Like Bitcoin, Ether also has its own network. It is on a different network altogether [9]. Right now, there are 27000 decentralized applications that are using Ethereum as a network.

Ethereum Example

If I have to buy a house, I will program the money saying that if these conditions are met then automatically this block of network will transfer money into your account or you will get X amount of ether and the house will be named in my name. That is the reason why people are more cognizant on Ether.

Some of the key steps and measures that should be taken to ensure the safety of cryptocurrencies:

1. Crypto building mechanism,
2. Holding options, and
3. Exchange wallets.

Mechanics Behind Buying Cryptocurrencies

Usually, the first step in that you simply go on an exchange. There are a bunch of exchanges which allow us to buy and sell cryptocurrencies. So, you sign up for any of those exchanges. You simply put your INR or US dollar money to that crypto exchange and then buy Bitcoin or Ethereum from it.

Once you have purchased these cryptocurrencies you have the following choices:

- a. You need to make a decision that should I just put my crypto coins in exchange wallet itself? Should I just hold it there?
- b. Should I transfer this Bitcoin or Ethereum, whatever I have purchased to make some transaction [10]?

This is called peer to peer exchange.

Example: To buy any asset in exchange of cryptocurrency.

- c. Should I transfer these crypto points from my exchange wallet, i.e., vault or any other wallet into some other non-exchange wallet?

Here is a typical crypto key; this is what it looks like. Now, it has a private key and a public key. Now, public key, as the name indicates, is publicly available (Figure 2).



Figure 2. Bitcoin address.

For example, if anybody is looking to accept Bitcoin from you, then this is the public key that you will give to make transfer to your account.

Therefore, public keys are publicly available. But what is important is that you need to keep your private key, private. If someone gets hold of your private keys, they can transfer all your cryptocurrencies to their own account and it can be a problematic scenario.

There are numerous options in turn of storing this private key and you as an investor, need to understand that which option is right for you versus not right for you.

Different Holding Options to Store Private Keys and Store Cryptocurrency

There are two types of wallets. They are:

1. Hot wallets, and
2. Cold wallets.

Hot Wallets

As the name indicates they are hot-wired [8]. They are connected to Internet. They are available on cloud or on certain apps. As they are somewhat connected to the Internet, therefore hacking can happen, a lot of bad things can happen, therefore they are relatively less safe [6].

Cold Wallets

They are offline wallet. *For example:* If you have a hardware device, like if you have a pen drive or other hard drive then it essentially a cold wallet. You just have access to all your bitcoins and can store it in that hard wallet and you are done with it.

Similarly, there are different ledgers and different options that are offered by different companies that can act as an offline wallet or a cold wallet.

Why is Crypto Getting Traction?

- Failed government policies.
- Disillusionment with banking system.
- Progressive taxation.

NEED FOR THE STUDY

Nowadays there are dozens of cryptocurrencies and greater new ones seem and disappear all of the time. Bitcoin was the very first cryptocurrency. It appeared in 2009 and is based on blockchain, a chain of information blocks. Then other currencies with more complicated encryption technologies appeared. The need for the study is to analyse the market fluctuations. Innovations which have given upward push to the crypto atmosphere are vast and might create blessings for investors. The study also analyses investment risk towards cryptocurrency. So far, there is a little discussion about cryptocurrency investment. The key component of the study is to analyse the investors' perception towards crypto market fluctuations.

OBJECTIVES OF THE STUDY

A study on market fluctuations in cryptocurrency and its impact on consumers' perception towards investment covers the following aspects:

1. To understand about cryptocurrency trading.
2. To understand market fluctuations in cryptos.
3. To understand risk associated in crypto trading.
4. The study further examines customers' perception towards crypto investment.

REVIEW OF LITERATURE

Dr. Shilpi Agarwal, Harshil j shah, Rai Maheshwari, Sparsh saishiva kumar in their paper on "*The sanctioning of cryptocurrency: positive and negative Ramification in india*" mentioned that the Cryptocurrency need to be tuned and controlled to gain more trust. But with the increase of fascination in cryptocurrency and blockchain across the world, banning it in India would not be a choice and we will sit up for what the RBI takes ahead concerning cryptocurrency in India [11, 12].

Dr. Anil kumar v.v and swathy.p in their paper on "*A study on opportunities and challenges of cryptocurrency in India with respect to bitcoin*" [13] mentioned that cryptocurrency, especially Bitcoin offers a brand new, effective and attractive model of payment methods which will boost companies' and operators' revenues. It additionally affords opportunity approach of payment, aside from actual money. Cryptocurrency can carry extra wonderful modifications to e-Business and e-Payment sector [1]. Some researchers referred to that forensic tracking of the cryptocurrency panorama turns into crucial to guard layman and women from wild west of virtual currency. Digital forensics is hired every day to fight crook movements anywhere on the globe and this has advanced into the virtual currencies used [3]. Criminals are putting out to assault markets, non-public wallets,

and using a currency's personal code to venture unlawful gadgets or movements onto character systems.

According to the study of one researcher, the volatility in cryptocurrency market before and throughout COVID-19 pandemic observes that cryptocurrencies run into high volatility and are not correlated to other conventional assets like gold, bonds, shares, etc. Bitcoins have already received huge recognition across the world, therefore banning them would not be a choice in India. In-stead, this industry might need to be regulated. The earlier this is often done, the better [9].

RESEARCH METHODOLOGY

Data Collection

The current investigation is methodical in its approach. As a result, primary data are used in this application. The primary data is amassed with the assistance of dependent questionnaire from pattern of 65 respondents. The main purpose of the study is to evaluate the market fluctuations in cryptocurrency and its impact on consumer perception towards investment.

Primary Data

This research is carried out with 65 respondents. The respondents are employees of various sectors and also students. The data was collected using online survey. Survey questions were framed based on the market fluctuations in cryptocurrency and its impact on consumer perception towards investment.

Secondary Data

This has been collected by using a variety of sources. These sources include journals, websites and other books available in the fields which are taken into consideration.

Sample Size

The sample size is 65.

Sample Technique

Sample random technique is implemented.

Analytical Tool

The collected data has been applied correlation and chi-square test.

Analysis of A3 and A5

- H_0 : Age wise, there is no difference in opinion of respondents about future of cryptocurrency.
- H_1 : Age wise, there is a difference in opinion of respondents about future of cryptocurrency.

Inference: From the Table 1, calculation of Chi-square test, we infer that chi-square value is 15.008 and its corresponding significant value is 0.241. Since the significant value (0.241) is greater than 0.05, we accept H_0 , i.e., age wise, there is no difference in opinion of respondents about future of cryptocurrency.

Table 1. Chi-Square Tests of A3 and A5.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	15.008 ^a	12	.241
Likelihood Ratio	15.353	12	.223
Linear-by-Linear Association	.001	1	.977
N of Valid Cases	50		

A9 and A10

- H_0 : There is no difference in the opinion of respondents about market fluctuations of cryptos based on availability of coins.

- **H₁:** There is a difference in the opinion of respondents about market fluctuations of cryptos based on availability of coins.

Inference: From the Table 2, calculation of Correlation test, we infer that Correlation value is 0.239 and its corresponding significant value is 0.094. Since the significant value (0.094) is greater than 0.05, we accept H₀, i.e., there is no difference in opinion of investors based on availability of coins.

Table 2. Symmetric measures of A9 and A10.

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Interval by Interval	Pearson's R	.239	.164	1.709	.094 ^c
Ordinal by Ordinal	Spearman Correlation	.313	.150	2.279	.027 ^c
N of Valid Cases		50			

A7 and A12

- **H₀:** There is no difference in the opinion of respondents about crypto investment opportunity as a risk or opportunity factors.
- **H₁:** There is a difference in the opinion of respondents about crypto investment opportunity as a risk or opportunity factors.

Inference: From the Table 3, calculation of Correlation test, we infer that chi-square value is -0.221 and its corresponding significant value is 0.123. Since the significant value (0.123) is greater than 0.05, we accept H₀, i.e., there is no difference in the opinion of respondents about crypto investment opportunity as a risk or opportunity factors.

Table 3. Symmetric measures of A7 and A12.

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Interval by Interval	Pearson's R	-.221	.085	-1.568	.123 ^c
Ordinal by Ordinal	Spearman Correlation	-.161	.129	-1.129	.265 ^c
N of Valid Cases		50			

A19 and A20

- **H₀:** There is no difference in the opinion of investors about future of cryptocurrency.
- **H₁:** There is a difference in the opinion of investors about future of cryptocurrency.

Inference: From the Table 4, calculation of Chi-square test, we infer that chi-square value is 29.178 and its corresponding significant value is 0.004. Since the significant value (0.004) is less than 0.05, we reject H₀, i.e., there is a difference in the opinion of investors about future of cryptocurrency.

Table 4. Chi-Square Tests of A19 and A20.

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	29.178 ^a	12	.004
Likelihood Ratio	23.769	12	.022
Linear-by-Linear Association	7.725	1	.005
N of Valid Cases		50	

A1 and A13

- **H₀:** Gender wise, there is no difference in the opinion about cryptocurrency volatility.
- **H₁:** Gender wise, there is a difference in the opinion about cryptocurrency volatility.

Inference: From the Table 5, calculation of Chi-square test, we infer that chi-square value is 2.085 and its corresponding significant value is 0.353. Since the significant value (0.353) is greater than 0.05, we accept H_0 , i.e., There may not be a difference in perspective on bitcoin volatility based on gender.

Table 5. Chi-Square Tests of A1 and A13.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.085 ^a	2	.353
Likelihood Ratio	2.243	2	.326
Linear-by-Linear Association	1.316	1	.251
N of Valid Cases	50		

A8 and A21

- H_0 : Experience wise, there is no difference in the opinion about the effect of budget clauses of cryptos.
- H_1 : Experience wise, there is a difference in the opinion about the effect of budget clauses of cryptos.

Inference: From the Table 6, calculation of Correlation test, we infer that chi-square value is -0.019 and its corresponding significant value is 0.898. since the significant value (0.898) is greater than 0.05, we accept H_0 , i.e., experience wise. There may be no distinction withinside the opinion approximately the impact of price range clauses of cryptos.

Table 6. Symmetric Measures of A8 and A21.

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Interval by Interval	Pearson's R	-.019	.119	-.128	.898 ^c
Ordinal by Ordinal	Spearman Correlation	.081	.136	.564	.576 ^c
N of Valid Cases		50			

A13 and A18

- H_0 : There is no difference in the opinion of crypto traders about volatility of cryptocurrency with long term investment.
- H_1 : There is no difference in the opinion of crypto traders about volatility of cryptocurrency with long term investment.

Inference: From the Table 7, calculation of Chi-square test, we infer that chi-square value is 18.020 and its corresponding significant value is 0.021. Since the significant value (0.021) is less than 0.05, we reject H_0 , i.e., there is a difference in the opinion of crypto traders about volatility of cryptocurrency with long term investment.

Table 7. Chi-Square Tests of A13 and A18.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18.020 ^a	8	.021
Likelihood Ratio	19.619	8	.012
Linear-by-Linear Association	5.297	1	.021
N of Valid Cases	50		

FINDINGS

On the basis of above analysis based on primary data obtained from 65 respondents, it is observed that:

- *Gender*: Analysis showed that majority of respondents are males (around 58.5%).
- *Age*: Very small number of respondents were belonging to 50 and above age category. more than half of the respondents were belonging to 20–29 years age.
- *Salary*: The results of analysis show that majority of respondents were 0–5 lakh PA salary earners.
- 44.6% of the total respondents have stated that they prefer most investment in Bitcoin; and 27.7% in Ethereum.
- 49.2% of the total respondents have stated that cryptocurrency provides the best investment opportunity.
- Majority of the respondents (around 50.8%) said there is a small period of using cryptocurrency.
- Majority of respondents (around 55.4%) have stated that utility of coins, scarcity, and mass adoption will fluctuate the prices of cryptocurrency.
- 49.2% respondents believe that Bitcoin will still be the dominating currency in next 2 years.
- Majority of respondents stated that the value of cryptocurrency had fallen below the price they paid.
- 33.8% respondents stated that the global use of cryptocurrencies as opportunity and 32.3% respondents as risk.
- 55.4% of respondents believe that the value of cryptocurrency is too volatile to be an effective alternative to Fiat currencies.
- Majority of respondents (around 52.3%) believe that investment risk in cryptocurrencies is more compared to traditional assets.
- Only 25.4% of respondents are willing to take legal risk associated with cryptocurrency.
- Majority of respondents (around 67.7%) believes that in future, cryptocurrency will survive and grow.
- 43.1% respondents believe that the changes in clauses of cryptocurrency will affect the investment of investor.

CONCLUSION

This study discussed about major findings in relation to the objectives of the study. It is also presented an understanding about concept of market fluctuations in cryptocurrency and its impact on customer perception towards investment.

The study identified risks and opportunity of cryptocurrencies from investors point of view; and also, identified the changes in clauses of cryptocurrency affect the interest of investors.

The study also gives an understanding about interest of investors and their awareness about cryptocurrencies.

The present study showed that investors still have major concern about the cryptocurrencies.

REFERENCES

1. DeVries PD. An analysis of cryptocurrency, bitcoin, and the future. *International Journal of Business Management and Commerce (IJBMC)*. 2016 Sep; 1(2): 1–9.
2. Jani S. The growth of cryptocurrency in India: Its challenges & potential impacts on legislation. Research gate publication. 2018 Apr.
3. Arias-Oliva M, Pelegrín-Borondo J, Matías-Clavero G. Variables influencing cryptocurrency use: a technology acceptance model in Spain. *Front Psychol*. 2019 Mar 18; 10: 475.

4. Fang F, Ventre C, Basios M, Kanthan L, Martinez-Rego D, Wu F, Li L. Cryptocurrency trading: a comprehensive survey. *Financ Innov.* 2022 Dec; 8(1): 1–59.
5. Ashish V, Fazalbhoj S. Impact of COVID-19 on Investment Education and Behavior in Cryptocurrency and Stock Market: A Study of Indian Undergraduate Students. *Annual Research Journal of SCMS, Pune.* 2022; 10: 59–79.
6. Ayub Ahamed K S, et al. A Comparative Study on Top Five Digital Currencies in India: Cryptocurrencies. *International Journal of Science and Research (IJSR).* May 2020;(9)5:1754-1760.
7. Liang PH, Chi YP. Influence of Perceived Risk of Blockchain Art Trading on User Attitude and Behavioral Intention. *Sustainability.* 2021 Dec 6; 13(23): 13470.
8. Mishra D, Patro GJ, Acharjya S. The Evolution and Growth of Cryptocurrency. *Globsyn Management Journal (GMJ).* 2021; 15(1/2): 241–53.
9. Thornton, Mike. *History of Money: From Barter to Bitcoin*, 2nd ed. Kindle Edition (Amazon Digital Services, 2016).
10. Rauchs M, Hileman G. *Global cryptocurrency benchmarking study.* Cambridge: Centre for Alternative Finance Reports; 2017.
11. Haradwaj S, Deka S. Behavioural intention towards investment in cryptocurrency: an integration of Rogers' diffusion of innovation theory and the technology acceptance model. *In Forum Sci Oecon.* 2021 Dec 28; 9(4): 137–159.
12. Shilpi Agarwal, Harshil j shah, et al. The sanctioning of cryptocurrency: positive and negative Ramification in India. 2020:X(x). Available online at: [https://webcache.googleusercontent.com/search?q=cache:wuZ0flbjo6MJ:https://www.worldwidejournals.com/indian-journal-of-applied-research-\(IJAR\)/article/the-sanctioning-of-cryptocurrency-positive-and-negative-ramifications-in-india/MjY2OTc%3D/%3Fis%3D1%26b1%3D85%26k%3D22&cd=2&hl=en&ct=clnk&gl=in](https://webcache.googleusercontent.com/search?q=cache:wuZ0flbjo6MJ:https://www.worldwidejournals.com/indian-journal-of-applied-research-(IJAR)/article/the-sanctioning-of-cryptocurrency-positive-and-negative-ramifications-in-india/MjY2OTc%3D/%3Fis%3D1%26b1%3D85%26k%3D22&cd=2&hl=en&ct=clnk&gl=in)
13. Anil Kumar v.v, et al. A study on opportunities and challenges of cryptocurrency in India with special reference to bitcoin. Volume 6, 1(1) 1 Jan.– March 2019.