iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 7 **Issue:** VI **Month of publication:** June 2019

DOI: http://doi.org/10.22214/ijraset.2019.6331

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.177
Volume 7 Issue VI, June 2019- Available at www.ijraset.com

The World of Cryptocurrency and Its Challenges in India

Ms.Trusha Karandikar[1], Mrs.Chetna Achar[2]
[1]*Student,* [2]*Professor, Institute of Computer Science, Mumbai Educational Trust- MET ICS, Mumbai, India*

Abstract: This paper identified the understanding of cryptocurrency. The paper analyzes the awareness, presence and challenges of crypto currency in India.
Keywords: Cryptocurrency, Bitcoin, Blockchain

I. OBJECTIVES

A. To study the concept of cryptocurrency, its comparison with traditional currency, its working and how they are generated.
B. To study various types of cryptocurrency.
C. To study about Bitcoin.
D. To study about Cryptocurrency in India and its challenges.
E. To conduct a survey in order to understand how much is the awareness of cryptocurrency in India.

II. INTRODUCTION

A. What is cryptocurrency?

A cryptocurrency is a digital token (also known as digital currency) which is used as a medium of exchange over internet. Unlike fiat currency, for an example Indian Rupee which is available in physical forms (i.e. they can be seen and can be touched) like notes and coins is governed by RBI , the crypto currencies are not governed or issued by any government bodies.

A currency can be termed as "cryptocurrency" if it satisfies the following criteria:

1) *Digital:* They exist only on computers over the internet and are not in the form of coins or notes.
2) *Decentralized:* The digital currency is distributed across thousands of computers i.e. they do not have a central server or a central computer.
3) *Peer-to-Peer:* The digital currency can directly be exchanged between one another.
4) *Pseudonymous:* There is no need for you to reveal your personal information to own or use the digital currency and hence there are no restrictions with respect t to who can own or use them.
5) *Trustless:* There are no trusted third parties which means that users don't have to trust the system for it to work rather the user has in complete control of their money all the time.
6) *Encrypted:* The transactions are secured through cryptography which enables users to stop their information being accessed by others.
7) *Global:* Exchange and usage of fiat currencies across the world is difficult but digital currency can be sent all over world and hence they are considered to be borderless.

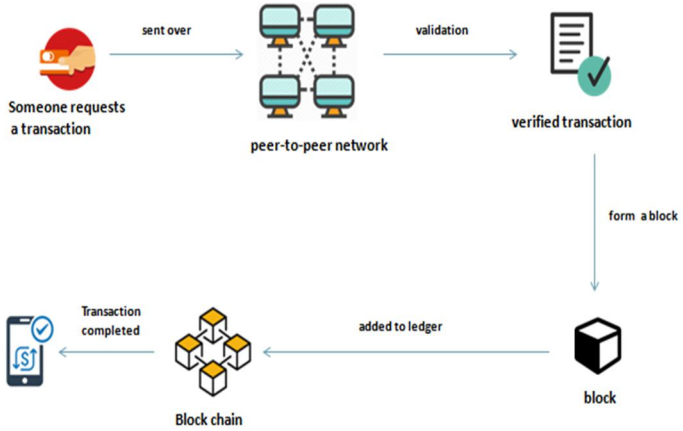
B. Cryptocurrency vs. Fiat Currency

PARAMETERS	CRYPTOCURRENCY	FIAT CURRENCY
Generated	Cryptocurrency is generated over computers	Fiat currency is generated by the government
Medium of exchange	Crypto currency is exchanged digitally	Fiat currency is exchanged physically
Presented	Crypto currencies are pieces of codes present over internet	Fiat currencies are present in coins and notes
Supply	The supply of crypto currency is limited	The supply of fiat currency is unlimited
Controlled by	These currencies are not controlled by anyone	These currencies are controlled by government
Value determined by	The value of crypto currency is determined by supply and demand	The value of fiat currency is determined market and regulation

©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.177
Volume 7 Issue VI, June 2019- Available at www.ijraset.com

C. How Cryptocurrency works?



1) Someone raises request to perform a transaction.
2) This request is broadcasted to peer-to-peer network.
3) The people at the peer-to-peer network carry out validations to verify the transaction.
4) The verified transaction is then combined with other transactions to form a block.
5) This block is recorded in the ledger which is often called as the block chain.
6) The block is added to the block chain in a way which is permanent.
7) Thus a transaction is completed.

a) *Blockchain:* Blockchain can be described as collection of records linked with each other, strongly resistant to alteration and protected using cryptography.
b) *Ledger:* Cryptocurrency has a ledger. The ledger is used to make all transactions public so that total visibility is provided to everyone. Having a ledger forces everyone to "play fair" while doing transactions and it also takes away the risk of double spending. The ledger is nothing but a list of entries in a database that nobody can change without fulfilling specific conditions.
c) Peer-to-Peer network (P2P network): A peer-to-peer network is created when two or more personal computers are connected where each computer acts as a node for sharing files within the group. Instead of having a central sever each computer acts as server for the files stored over it.

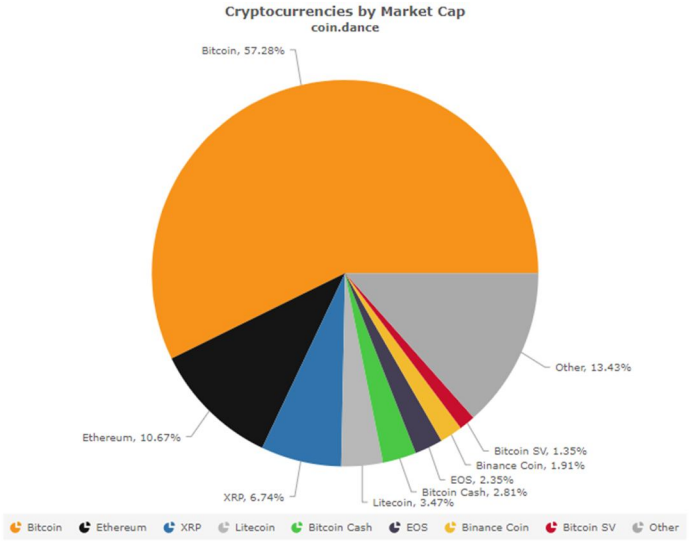
D. How Cryptocurrency is Generated?

1) Different cryptocurrencies are created in different ways, but most common way of generating a cryptocurrency is through mining.
2) The cryptocurrency miners check the transaction on the network, this is where users send and receive or store the digital currency.
3) The miners then workout complicated mathematical puzzles using extremely powerful computers to find out if the transactions are valid.
4) If the transactions are valid then the miners will record them in public log.
5) The miner who resolves this puzzle first and ends having a block in blockchain is rewarded with digital currency itself.
6) The process of solving complex mathematical problem is called proof of work and the process of adding a block to blockchain is called Mining
7) Each block includes a reference to the previous block, linking them alltoghter will led to a long chain.
8) Linking the blocks in this way makes it very difficult to tamper with ledger.

E. Types of Cryptocurrency

1) Bitcoin (BTC) : Launched in 2008
2) Litcoin (LTC) : Launched in 2011
3) Ripple (XRP) : Launched in 2012
4) Ethereum (ETC) : Launched in 2015

©IJRASET: All Rights are Reserved



Source: https://coin.dance/stats/marketcaptoday

III. BITCOIN

1) Bitcoin originated with a white paper that as published in 2008 by "Satoshi Nakamoto".
2) Bitcoin is a virtual monitory unit and therefore has no physical representation.
3) A Bitcoin can be divided into 100 million "Satoshis", the smallest fraction of a Bitcoin.
4) The Bitcoin system runs on P2P network, and the transactions happen directly between users without any intermediary.
5) These transactions are recorded in public ledger called blockchain.
6) The Bitcoin Blockchain is a file that carries the records of all past Bitcoin transactions.
7) It is often referred to as the ledger.
8) The Bitcoin Blockchain consists of a sequence of blocks where each block builds on its predecessors and contains information about new transactions.
9) The first block, block #0, was created in 2009.

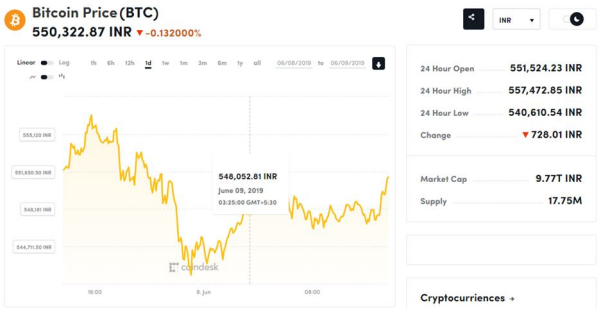
A. Bitcoin Mining

The number of new Bitcoins created in each update is halved every 4 years and until the year 2140 when this number will round down to zero. At that time there can be no more Bitcoins added to circulation and the total number of Bitcoins will have reached a maximum of 21 million.

B. Bitcoin Pricing

The pricing in bitcoin transactions is demand based, it is exceptionally volatile. The price of a bitcoin is largely dependent on the trading that happens i.e. the demand and supply factors. More the demand, higher is the price.

Market Price on Bitcoin in June 2019



Source : https://www.coindesk.com/price/bitcoin

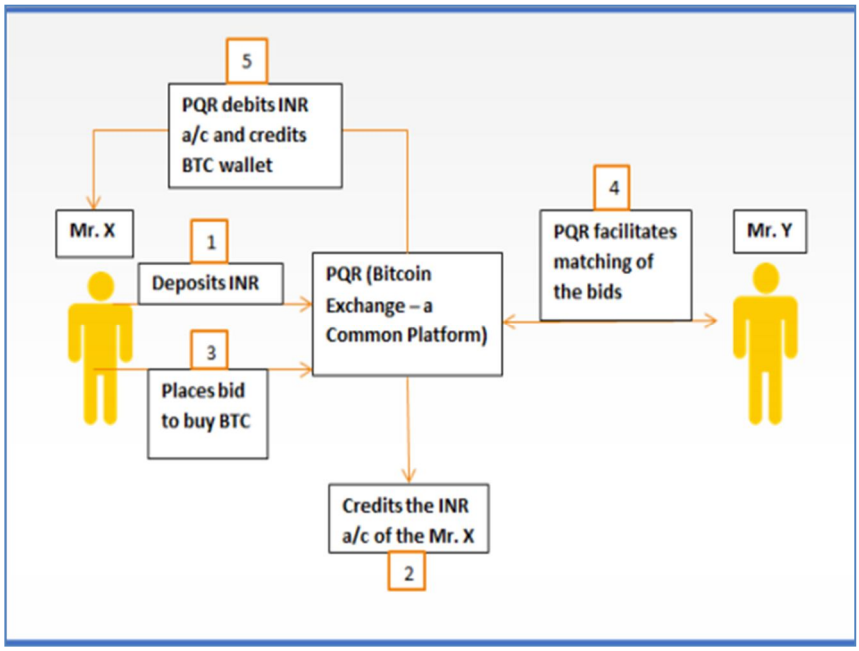
©IJRASET: All Rights are Reserved

ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.177
Volume 7 Issue VI, June 2019- Available at www.ijraset.com

C. Bitcoin Exchanges

A bitcoin exchange is a business platform that facilitates exchange of bitcoins for another currency including a fiat currency, thereby allowing the users to trade and make profit through the trade.

D. Bitcoin Business Model



The model shown above is the basic model adopted by most of the exchanges operating in the market.
Some other services provided by these markets are:

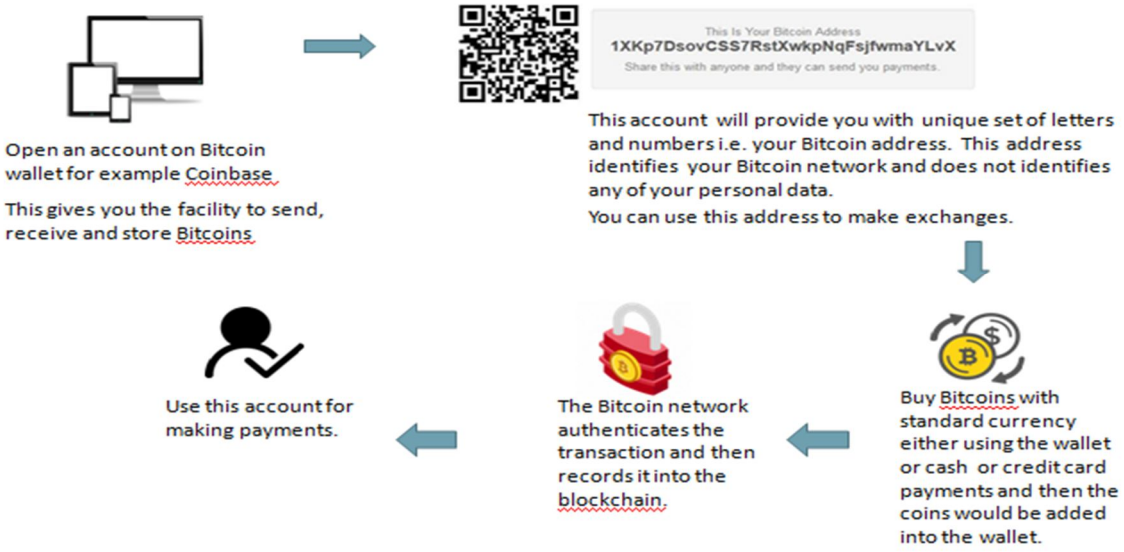
1) Exchange of bitcoin with other currency like a fiat currency.
2) Storing bitcoin in a bitcoin wallet.
3) A Merchant gateway service used to pay to merchants in bitcoins.
4) Mobile application providing ease of accessing bitcoin wallets. 5.
5) Sending bitcoins stored in the wallet to another wallet i.e. transferring bitcoins.

E. Major Exchanges Operating In India

1) Name of Exchange : Coinsecure
a) Name of Company: Secure Bitcoin Traders Pvt Ltd
b) Date of Formation: 2014
c) Website: https://coinsecure.in/
d) Location: Delhi, India.
2) Name of Exchange : Zebpay
a) Name of Company: Zeb IT Service Pvt Ltd
b) Date of Formation: 2015
c) Website: https://www.zebpay.com/
d) Location: Ahmedabad, GJ, India.
3) Name of Exchange: Bitcoin India
a) Name of Company: Bitcoin India Software Services Pvt Ltd
b) Date of Formation: 2014
c) Website: https://bitcoin-india.org/
d) Location: Hyderabad, Telangana, India.

©IJRASET: All Rights are Reserved

F. How to use Bitcoin?



1) The cryptocurrency, denoted by *bitcoin or BTC*, can be accepted as a payment for goods and services or bought either from other people or directly from exchanges or vending machines.
2) To use the Bitcoin system, one needs to download a Bitcoin wallet.
3) A Bitcoin wallet is software that allows the receiving, storing, and sending of (fractions of) Bitcoin units.
4) The next step is to exchange fiat currencies, such as the U.S. dollar, for Bitcoin units.
5) The most common way is to open an account at one of the Bitcoin exchanges and then transfer fiat currency to it.
6) The account holder can then use the fiat currency to buy Bitcoin units or one of the many other crypto assets on the exchange.

G. Problems with Bitcoin

1) *Cyber Attacks and Hacking:* "Virtual Bank Robbery" Attacks by "cyber thieves" are becoming frequent with time. The Bitcoin community has been hit by such thefts repeatedly. This not only creates panic in the Bitcoin community but also leads to a decline in the value of the currency. Cyber security will be a constant concern, mostly because the transactions are restricted only to the cyber environment.
2) *Price Fluctuation and Inflation:* One of the major reasons why many businesses and merchants avoid using Bitcoin is that it is new and the volatility of Bitcoin value is extremely high. This again leads to the uncertainty and reduces confidence in the currency.
3) *Uncertainties in the Government Policies:* Most of the jurisdictions have not made a decision regarding the status and treatment of Bitcoin in the economy. One of the major dangers here is that any government might come around and declare it illegal, leaving the investors without remedy and helpless.

H. Risk Related to Bitcoin

1) *Money Laundering:* One of the major enabling factors for money laundering is lack of uniform financial jurisdiction across the globe for cryptocurrencies. It may be noted that money laundering contributes largely to the deteriorating state of economies in the world.
2) *Drug Trafficking:* Silk Road, launched in June 2011, and only reachable by people using Tor, the software that lets one surf on the dark web anonymously. Silk Road was used by many people to get access to illegal merchandise, spanning from drugs to assassins for hire.
3) *Tax Avoidance and Evasion:* There are very few nations who have released rules and/or guidelines regarding the treatment of Bitcoin for the purpose of taxation. On the other hand most of the countries have not resolved the issue of taxation of Bitcoins and transactions in relation to Bitcoins.

©IJRASET: All Rights are Reserved

IV. CRYPTOCURRENCY IN INDIA

India tops in usage of smart phones, internet, social media and financial institutions are digitalizing the transactions with a very fast rate. From around 2015 India was trading Bitcoin, but it got a real entry only in November 2016 when government demonetized 86% of paper currency overnight.

On November 8, 2016, Prime Minister of India Narendra Modi shocked the nation by demonetizing Rs. 500 and Rs. 1000 currency notes in a bid to fight corruption and terrorism. Almost 87% of transactions are done in cash in India. Hence the demonetization resulted in long queues at the ATMs and banks for weeks. There was not enough cash with the banks to dispense. The people having bulk paper currency of untaxed and black money, were in search of innovative ways for laundering money to avoid government interference and to avoid paying tax. Hence people started trading in gold and when gold wasn't working, people were buying silver which significantly increased the demand of silver. With gold and silver being targeted by authorities, many saw Bitcoin as a safe haven.

Sandeep Goenka, founder of Zebpay, one of the largest Bitcoin exchanges in India, said that post demonetization his exchange is now adding about 50,000 new users per month and the queries have gone up by 30 percent.

Yet another big reason for getting into Bitcoin trading was that Indians were in a fear to trust bank and any of the government bodies as at any time their paper currency would become valueless overnight.

People dealing with online transactions found that cryptocurrency were free from banks and government, these transactions are done through blockchain. This encouraged people to use bitcoin as swap to government currency.

A. Challenges In India

1) On February 02, 2018

a) The Finance Minister Arun Jaitely, in his budget speech which was held on Feb 01, 2018 stated that bitcoin and other cryptocurrencies won't be considered as legal and the government will do everything to discontinue them in India.

b) Source:https://economictimes.indiatimes.com/news/economy/policy/arun-jaitley-settles-the-bitcoin-issue-for-once-and-all/articleshow/62737852.cms

2) On April 06, 2018

a) The RBI had published a draft name "Prohibition on dealing in Virtual Currencies (VCs) "on their official website.

b) The RBI had forbidden banks from transacting in cryptocurrency.

c) Source:
https://rbi.org.in/Scripts/NotificationUser.aspx?Id=11243
https://qz.com/india/1522967/rbi-vs-bitcoin-indias-supreme-court-to-hear-crypto-case-today/

3) On September 12, 2018

a) The Supreme Court had received affidavit from Reserve Bank of India in order to take a legal stance on cryptocurrency trade in India.

4) On June 07, 2019

The Business Today published an article as follows: https://www.businesstoday.in/current/policy/draft-anti-cryptocurrency-law-10-year-jail-bitcoin/story/354334.html

The Bloomberg Quint published a similar article as follows:
https://www.bloombergquint.com/bq-blue-exclusive/exclusive-india-proposes-10-year-jail-for-cryptocurrency-use-may-introduce-its-own-digital-currency

B. Summary of the Articles

1) These two articles talk about a draft named **"**Banning of Cryptocurrency and Regulation of Official Digital Currency Bill 2019 **".**

2) As per this draft a proposal is made stating any Indian who holds, buys, sells or mines cryptocurrency in India has to face 10 year long prison term.

3) The draft not only proposes the cryptocurrency to be illegal but also demands to make holding cryptocurrencies a non-bailable offence.

4) The Economic Affairs Secretary Subhash Chandra Garg is heading the panel of this draft.

5) The panel reportedly includes several members from the Securities and Exchange Board of India (SEBI) as well as investigating agencies and Central Board of Direct Taxes (CBDT), among others.

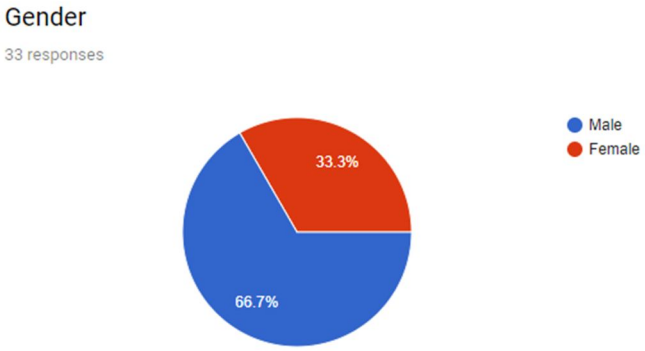
©IJRASET: All Rights are Reserved

6) There is no official document released regarding this and hence there arises a lot of queries as follows :

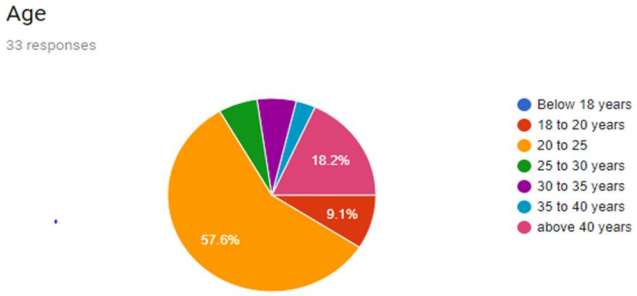
7) How is government going to monitor cryptocurrency data?

a) *For an Example:* how will government know how much a person holds and where he/she holds this currency?

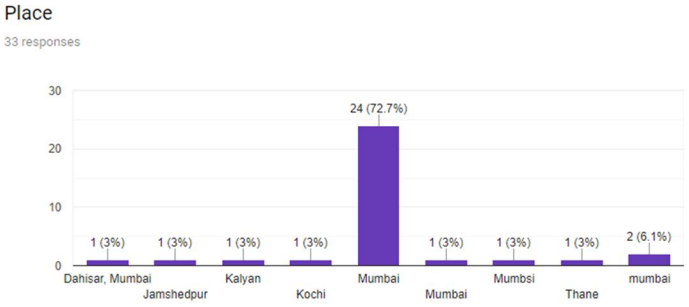
V. SURVEY ANALYSIS



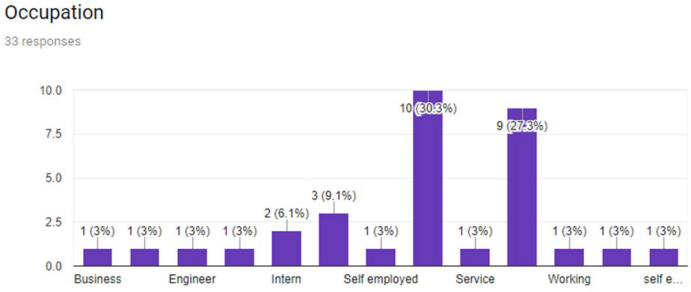
From the above statistics it was found that 66.7% of people that were surveyed are male and the remaining 33.3% are female. This may be because tech industries are mostly male dominant as males tend to be more addicted to gadgets at early ages.



From the above statistics it was observed that majority of people that were surveyed are in the age group of 25 – 25 years (57.6%) because teenage people are more adventurers and they want to explore new innovation

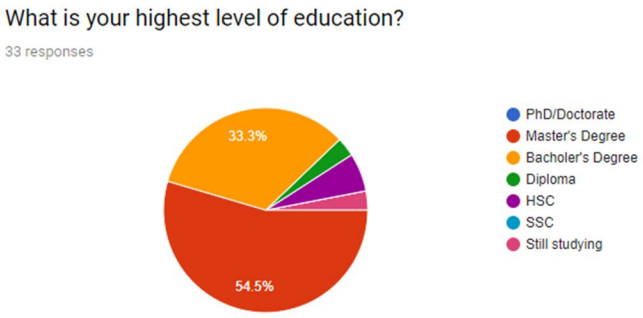


From the above statistics it was observed that majority of people that were surveyed stay in Mumbai.

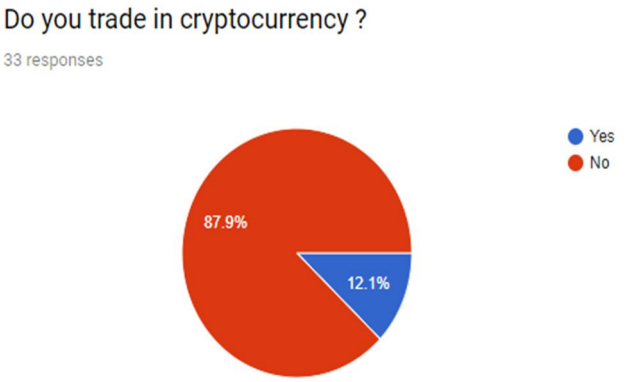


From the above statistics it was observed that majority of people that were surveyed employed.

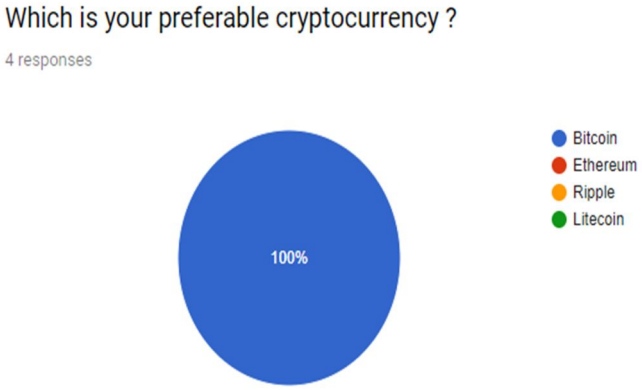
©IJRASET: All Rights are Reserved



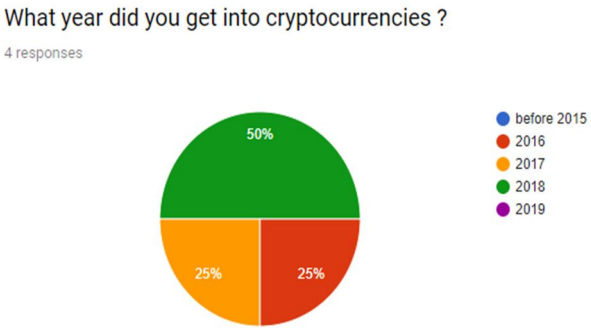
From the above statistics it was observed that majority of people that were surveyed are master's degree holders.



From the above statistics it was observed that majority of people that were surveyed i.e. 87.9% do not trade in cryptocurrency.



From the above statistics it was observed that majority of people that were surveyed i.e. 100% which traded into cryptocurrency preferred bitcoin.

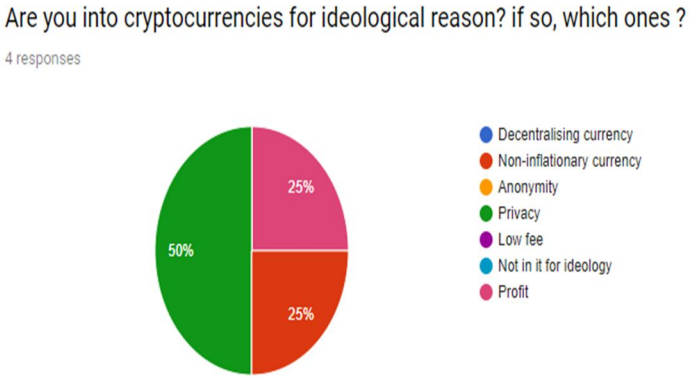


From the above statistics it was observed that majority of people that were surveyed i.e. 50% do started to trade in the year 2018.

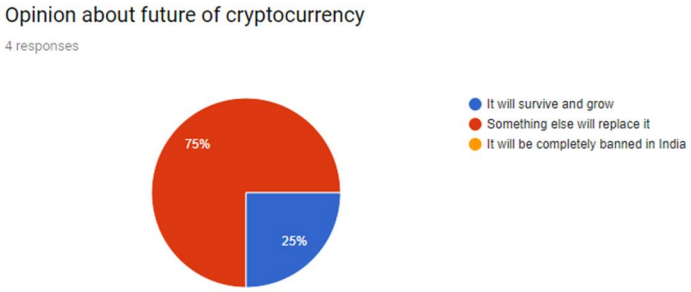
©IJRASET: All Rights are Reserved



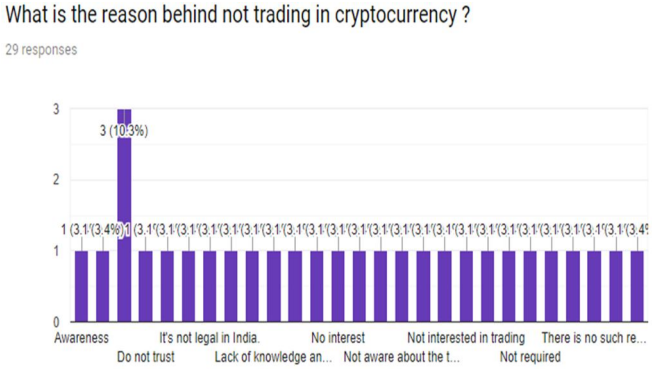
From the above statistics it was observed that majority of people that were surveyed used almost all wallets.



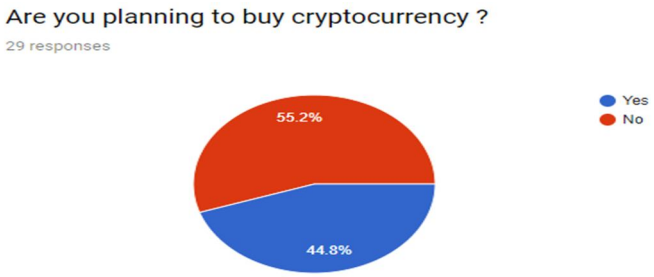
From the above statistics it was observed that majority of people that were surveyed i.e. 50% trade into cryptocurrency due to privacy.



From the above statistics it was observed that majority of people that were surveyed i.e. 75% feel something else will replace cryptocurrency.



©IJRASET: All Rights are Reserved



From the above statistics it was observed that majority of people that were surveyed i.e. 55.2% who do not trade in cryptocurrency are not planning to trade in near future.

VI. FINDINGS

1. Under market capitalization, Bitcoin (57.28%) tops the list by the investors followed by etherum (10.67%) and Ripple (6.74%). Cryptocurrency has the advantage of the purchase or transactions not being taxed.
2. It is found that maximum users of Bitcoin are male as compared with female.
3. From the usage of bitcoin based on age, it is inferred that majority are in the age group of 20-25 years.
4. It is observed from the survey that main reason given by majority of people for not trading in cryptocurrency is lack of knowledge and the confusion regarding its legalization in India.

VII. SUGGESTIONS

A. RBI through its press release dated 24th December, 2013 has warned the public about the negative attributes of bitcoins and its usage.
B. Since they are stored digitally, they are exposed to risks such as hacking, attacks, compromises etc.
C. Bitcoins are not backed and/or regulated by a centralized agency till date which makes them less reliable.
D. There is no forum, where a user can possibly reach out for any help or grievance and as a result the Indian consumers are being exposed to several risks.
E. Another issue pertains to awareness. Lot of consumers has little or no information regarding risks associated with bitcoins lending them into unwanted trouble under regulations such as anti-money laundering.
F. One of the very important attributes of bitcoin is it is volatile. Steep changes every second are expected.

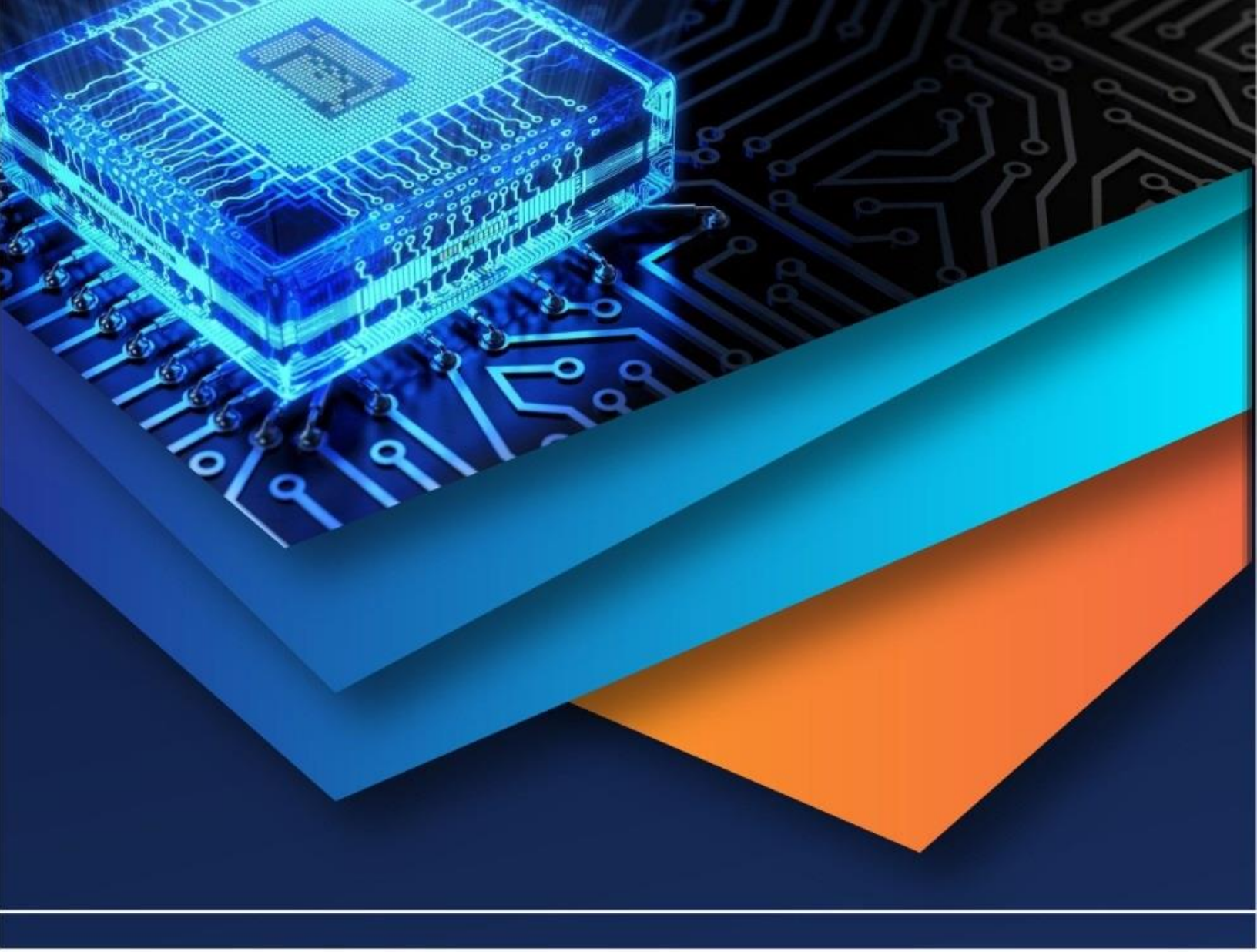
VIII. CONCLUSION

Reserve bank of India and finance ministry has issued warning against the use of these types of currencies to investors, traders etc dealing with these may lead to speculation and money laundering at their own risk and may be non-bailable offence.
The silence of the Narendra Modi 2.0 government on the regulatory status of bitcoins may prove to be damaging.
An industry has grown around bitcoins in India- traders, exchanges and merchants who accept payments in bitcoins. Bitcoins 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.
The sooner this is done, the better.

REFERENCES

[1] http://vinodkothari.com/wp-content/uploads/2017/08/Bitcoints-India-Report.pdf
[2] https://acadpubl.eu/jsi/2018-118-18/articles/18b/61.pdf
[3] https://rbidocs.rbi.org.in/rdocs/PressRelease/PDFs/IEPR1261VC1213.PDF
[4] http://granthaalayah.com/Articles/Vol5Iss1/34_IJRG17_A01_24.pdf

©IJRASET: All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)