

# A STUDY OF BENEFITS AND CHALLENGES FOR BIT COINS AND CRYPTO CURRENCIES

<sup>1</sup>SHUBHAM GUPTA, <sup>2</sup>DR. SWATI MISHRA

<sup>1</sup>Student, <sup>2</sup>Associate Professor

International School of Business Management, Suresh Gyan Vihar University, Jaipur, Rajasthan, India

E-mail – <sup>1</sup>shubh.g23@gmail.com <sup>2</sup>swati.mishra@mygyanvihar.com

**Abstract:** *Bitcoin has become a well-known team in the global economy in today's date. The prime aim of this research paper was to evaluate the advantage and disadvantage of crypto currency and Bitcoin. The concept of Bitcoin can be referred to as a currency, terminology or simply a technology. Ever the time this concept of crypto currency or Bitcoin has been announced this news is dominating as a heading in all the leading financial newspaper. In this research paper the null hypotheses has been rejected and the alternative hypothesis is accepted. Thus, it can be expected that the emerging of Bitcoin will lead the usage of virtual currency in the future years. In addition to this, Bitcoin can also be referred to be safe and secure for using. In this research paper, the advantage of Bitcoin and crypto currency that has being identified includes anonymity, small transaction and absence of central authority.*

**Key Words:** *Crypto Currency, Bit Coins, Virtual Currencies, Digital Currency, Advantages and Disadvantages of Crypto Currencies.*

## 1. INTRODUCTION:

The virtual currencies have some unique nature due to the inherent advantages of bit coin and crypto currency. The concept of Bitcoin can be referred to as a currency, terminology or simply a technology. Ever the time this concept of crypto currency or Bitcoin has been announced this news is dominating as a heading in all the leading financial newspaper. Bitcoin can be termed as a digital currency which is used for utilising a network of peer to peer in an open decentralised manner. This peer to peer network is seldom termed as block chain. Although Bitcoin have certain advantages but its complexity seldom creates confusion among its users who are not much technical expert.

### 1.1. OBJECTIVE:

The primary objective of this research paper is to determine the benefits as well as challenges of the usage of crypto currency and bitcoins. In addition to this research paper has some secondary objectives as well which includes:

- To examine if use of crypto currency is beneficial for its users or not
- To identify the challenges that a user of crypto currency may face due to the usage of Bitcoin
- To find recommendations in order to overcome the challenges of Bitcoin usage
- To check where the usage of Bitcoin is secure or not

### 1.2. HYPOTHESES:

This research paper aims to identify the benefits as well as the challenges that a user may face with the using of Bitcoin and crypto currency using the following hypothesis. The alternative hypothesis is considered to be H1 and the null hypothesis is H0.

**H0-** the use of crypto currency and Bitcoin does not prove to be beneficial for the purpose of business processing.

**H1-** the use of crypto currency and Bitcoin proves to be beneficial for the purpose of business processing

## 2. LIMITATION OF THE STUDY:

This paper of research is found to be limited to time relevance as well as technological aspect. Thus, the research has to restrict the processing of the research in one sector of technology that is block chain. In addition to this research is also restricted within the crypto currency of one type that is Bitcoin and fails to deal with the advantages and disadvantages of other types of crypto currency. As a result of there, this research paper has also lack of information as well. Thus, further studies can be done by considering the additional parameters discussed which includes the advantages and disadvantages of other crypto currencies like that of Ripple, Ethereum, and Montero etc.

## 3. REVIEW OF LITERATURE:

Cryptocurrency and bitcoins has proved to be revolutionary as it enables the concept of payment that is based on peer-to peer in the absence of trust on a third part of even on the responsible group like that of central bank in case

of regular currency<sup>[1]</sup>. In the case of crypto currencies like Bitcoin the transaction are performed with the help of the technology of network chain termed as block chain. Block chain performed as an open source which implies the fact that the code of original source can be accessed by everyone and something new can be created using it<sup>[2]</sup>.

**3.1. BITCOIN:** The first crypto currency that was decentralised in nature was Bitcoin. It uses the network chain of block chain technology in order to let the uses to perform transaction among peer to peer. The use of Bitcoin lets the user to restrict the use of trusted third party or central bank in order to control the currency supply or transaction verification<sup>[3]</sup>. Thus, the block chain distribution can be termed as a ledger which enables the transaction in an effective manner using the crypto currency Bitcoin. This application of block chain enables the user or the party to own theme the crypto currency and bitcoins which can be transacted in the form of digital cash in an effective manner<sup>[4]</sup>.

**3.2ADVANTAGE OF BITCOIN AND CRYPTO CURRENCY:** there are a number of advantages of using crypto currency and Bitcoin that has been identified in this research paper. The first advantage that is being identified is anonymity of the user. The purchase of Bitcoin can discrete their identity unless the user publish the vulnerable transaction of the purchased Bitcoin<sup>[5]</sup>. Thus, the address if anonymous Bitcoin can be generated for purchasing purpose of the user which can be changed for all the transactions. Further the use of Bitcoin also insures that there will be no interruption of third party as well. Thus the transaction type is purely based on peer- to- peer mode that the user will have greater advantage of high degree of freedom than the usage of regular currency system<sup>[6]</sup>.

**3.3.DISADVANTAGE OF BITCOIN AND CRYPTO CURRENCY:** in addition to the advantages, usage of bitcoin has some disadvantages as well. The most prime disadvantage of Bitcoin is that there is lack of understanding and awareness among the users about the usage of Bitcoin. Most of the people have no knowledge or is unaware about the usage of bitcoins and their proper usage<sup>[7]</sup>. There is also the absence of networking in order to spread Bitcoin in an effective manner. Another factor of disadvantage that has been identified is that this crypto currency is vitality as well as risky in nature<sup>[8]</sup>. The main reason of volatility of bitcoins and is that there is limited availability of coin whereas the demand of crypt currency is increasing in every passing day<sup>9</sup>. Further, there stage of crypt currency as well as Bitcoin is still in infancy rate and it is developing in every passing day. As a result to this, the bitcoins and crypt currency has not yet gain final or full potential.

**3.4. SUMMARY:** it can be concluded that although Bitcoin cannot be referred to as completely perfect but it has a number of advantages<sup>[10]</sup>. Due to the prominent and huge number of advantages, more and more people are interested in using crypt currency as well as bitcoins in the recent era. On comparing to the regular physical currencies it can be stated that crypt currency as well as bitcoins provides its users which many more advantages. However in addition to

<sup>1</sup> Bonneau, J., Miller, A., Clark, J., Narayanan, A., Kroll, J.A. and Felten, E.W., 2015, May. Sok: Research perspectives and challenges for bitcoin and cryptocurrencies. In *Security and Privacy (SP), 2015 IEEE Symposium on* (pp. 104-121). IEEE.

<sup>2</sup> Sas, C. and Khairuddin, I.E., 2017, May. Design for Trust: An exploration of the challenges and opportunities of bitcoin users. In *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems* (pp. 6499-6510). ACM

<sup>3</sup> Chatt, R., 2017. Anonymity and the Obfuscation Issues in the Cryptographic Currency: Bitcoin. *International Journal Of Engineering And Computer Science*, 6(7).

<sup>4</sup> Kostakis, V. and Giotitsas, C., 2014. The (A) political economy of bitcoin. *tripleC: Communication, Capitalism & Critique. Open Access Journal for a Global Sustainable Information Society*, 12(2), pp.431-440. [Online] <https://doi.org/10.31269/triplec.v12i2.606> [Accessed May 3, 2018]

<sup>5</sup> Khairuddin, I.E., Sas, C., Clinch, S. and Davies, N., 2016, May. Exploring motivations for bitcoin technology usage. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems* (pp. 2872-2878). ACM

<sup>6</sup> Böhme, R., Christin, N., Edelman, B. and Moore, T., 2015. Bitcoin: Economics, technology, and governance. *Journal of Economic Perspectives*, 29(2), pp.213-38.

<sup>7</sup> Gainsbury, S.M. and Blaszczynski, A., 2017. How blockchain and cryptocurrency technology could revolutionize online gambling. *Gaming Law Review*, 21(7), pp.482-492.

<sup>8</sup> Guadamuz, A. and Marsden, C., 2015. Blockchains and Bitcoin: Regulatory responses to cryptocurrencies. [Online] Available: <https://poseidon01.ssrn.com/delivery.php?ID=852002002112007097072107029086122071121046022072028063018098016109094022067124117096001012057097017112026090001025077078123031021001010026044025029090004070091125067050075064110008092016030097074109115093102031098089080089122084067018027023086079106&EXT=pdf> [Accessed May 3, 2018]

<sup>9</sup> Brito, J. and Castillo, A.M., 2016. *Bitcoin: a primer for policymakers*. Mercatus Center, Fairfax: George Mason University.

<sup>10</sup> Chuen, D.L.K. ed., 2015. *Handbook of digital currency: Bitcoin, innovation, financial instruments, and big data*. Cambridge: Academic Press.

the advantages, crypto currencies have some disadvantages as well. The reason of these persisting disadvantages is mostly because the concept of crypt currency is still new is relatively a new form of currency.

**4. RESEARCH METHODOLOGY:**

The information that has been used in this research paper has been obtained from various journals, and government websites. In addition to this, these data has also been obtained from a sample size of 25 people who has been randomly selected from different banking organization and the sector of IT security providers. In order to do the analysis descriptive approach as well as inferential statistics has been chosen. The purpose of choosing descriptive approach is that this approach will be able to give a proper description and clarification of the data that has been collected by the researcher. Standard deviation as well as mean has also been selected as the central tendency measure in order to get a properly defined conclusion. The inferential statistics will also help the researcher in obtaining a profound conclusion by studying the data collected from the sampled response of the respondents.

**5. RESULT:**

**Descriptive statistics**

Categories	Classification	Number of participants	Percentage %
Age	25-34 years	8	32
	35-44 years	10	40
	45-54 years	5	20
	55 and above	2	8
Working sector	Banking sector	13	52
	IT security sector	12	48
Professional experience	1-3 years	3	12
	3-5 years	12	48
	5-7 years	8	32
	More than 7 years	2	8
<b>Total</b>		<b>25</b>	<b>100</b>

**Table 1: Respondent Description**

(Source: created by author)

According to the data given in the above table it is being identified that the response samples are mostly divided into four broad sections. The first section is of the age group if 25 to 30 years under which 32% of the respondents has participated. The second section comprises of the age group ranging from 35 to 45. In this section of age group maximum number of participants has been found (40%). Under the age group of 45 to 55 years the percentage of responses has found to be 20%. Further only 8% of the respondents were found from the age group of 55 years and above. Among these 20 respondents 52% of the respondents belonged from the banking sector whereas the remaining 48% of the respondents were from the IT security sector. The experience of these respondents has also been evaluated from which it came under notice that the maximum number of respondents (48%) had an working experience of 3 to 5 years. 12% of the respondent has a experience of up to 3 years, 32% of respondents were having experience of 5-7 years and only 78% of the response has experience of more than 7 years. This proves the fact that the respondents who have been selected will have sufficient knowledge about the advantages as well as disadvantage of the usage of crypt currency and bitcoins.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	25	1.00	4.00	2.0400	.93452
working_sector	25	1.00	2.00	1.4800	.50990
profetional_experinece	25	1.00	3.00	2.2400	.66332
Valid N (listwise)	25				

**Table 2: descriptive statistics**

(Source: created by author)

It has been observed from the descriptive table that the standard deviation of age is found to be 0.93 and the mean of age is 2. Thus, it can be stated that this is a heterogeneous distribution. In addition to this, the standard deviation for the forking sector is found to be 0.5 where as the mean in 1.4. Thus it can be said that this will be a homogeneous distribution. Furthermore the professional experience is also heterogeneous distributing. Thus, it can be stated that their responses that has been obtained are mostly heterogeneous in nature and are scattered as well.

**Hypothesis testing**

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
<b>Pearson Chi-Square</b>	34.375 <sup>a</sup>	4	.000
<b>Likelihood Ratio</b>	33.733	4	.000
<b>Linear-by-Linear Association</b>	19.093	1	.000
<b>N of Valid Cases</b>	25		

a. 8 cells (88.9%) have expected count less than 5. The minimum expected count is .48.

**Table 3: Chi-Square test**  
(Source: created by author)

In this research paper, null hypothesis has been applied by the Chi-Square test. From this test it has been analyses that the null hypothesis is not valid that is the usage of Bitcoin and crypt currency is not beneficial for the business processing. This fact has been established with Chi-Square formula. The value of P that has been obtained from this Chi-Square is found to be less than the significant level of 0.05. Thus the value of P has been found to be less than the significant value so it can be stated that the null hypothesis has been rejected and the alternative hypothesis will be selected. Thus, based on the result of this hypothesis test it can be said that H0 is failed to be accepted and the alternate H1 is accepted. Thus, the use of Bitcoin and crypto currency has effective perspective in business purpose.

**5. DISCUSSION:**

It has been observed with the reference of the result that use of crypto currency and Bitcoin has proved to be effective in increasing the business perspective. The value of P that has been identified in found to be less than the significance level of 0.05. Thus, it implies that the critical value of P is high than the test of Chi square. For this reason the null hypothesis H0 has been rejected and the alternative hypothesis H1 has been accepted. Further, it is being observed that Bitcoins are safe and secure for being used. In addition to this the implementation of crypto currency in financial organisation will also increase the security factor of crypto currency and thus will reduce further finding.

**6. CONCLUSION:**

Thus, it can be concluded that the usage of Bitcoin and crypto currency has a number of advantages although there are less number of disadvantages as well. Thus, it can be expected that the emerging of Bitcoin will lead the usage of virtual currency in the future years. In addition to this, Bitcoin can also be referred to be safe and secure for using. In this research paper, the advantage of Bitcoin and crypto currency that has being identified includes anonymity, small transaction and absence of central authority. The disadvantages include risk in exchange, technical hacking and volatility.

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## APPENDIX

### Appendix 1: Survey Questionnaire

#### Block 1: Demographic Block

1. Age group
  - a) 25-34
  - b) 35-44
  - c) 45-54
  - d) Above 55

PLEASE RATE YOUR RESPONSE IN THE FOLLOWING SCALE-

#### Block 2: Identifying advantage and disadvantages

2. I expect Bitcoin to emerge as leading virtual currency in upcoming years
  - Agree
  - Disagree
  - No response
3. Bitcoin is safer and more secure for monetary transactions
  - Agree
  - Disagree
  - No response
4. Implementation of crypto currency in financial organisation could increase information security and prevent fraud
  - Agree
  - Disagree
  - No response
5. I expect Governments would soon pass law on Bitcoin for limiting purchase of Bitcoin
  - Agree
  - Disagree
  - No response
6. Bitcoin and other virtual currencies have following advantages
  - Anonymity
  - Small transaction
  - No central authority
7. Bitcoin and other virtual currencies have following disadvantages –
  - Exchange risk

- **Technical hacking**
- **Volatility**