

“A STUDY ON IMPEDIMENTS TO BITCOIN’S SUCCESS”

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ABSTRACT

The Bitcoin convention can be thought of as a worldwide record or ledger upgraded for esteem exchange. Bitcoin is a widely used crypto-currency as a medium of exchange online. It is a type of virtual currency which uses the block-chain technology. The paper aims to bring out all the drawbacks responsible for not making Bitcoin a legal tender and one major reason being high volatility and speculative in nature than the real currencies. The high level of intelligence required in order to acquire bitcoins make it more complicated for the use of it and acts as a barrier for its wide use.

Keywords: Bitcoin, Decentralized Network, Security

1. INTRODUCTION

Bitcoin is a widely used crypto-currency as a medium of exchange online. It is a type of virtual currency which uses the block-chain technology. Bitcoin being traded online for fund transfer between parties is not a legal tender or is not regulated by any authorized government interventions. The key feature of bitcoin which makes it stand out is its decentralized system. It is highly volatile and an experimental currency you need to have a trial run for. There will be an algorithm which will be identified in Nakamoto white paper from which a snippet of code will be drawn known as bitcoin. Creation of bitcoin is done from a process known as 'mining'. Bitcoin transactions are irreversible in nature where in when you have made a transaction using a bitcoin system, you can't do anything to change or alter it so that it can be reversed.

1.1 Drawbacks of Bitcoin

The limiting factor is the time which is required to distribute the data and agree upon the same which is stored in analogous fashion. Highlighting the next major problem which is about the communication bandwidth which is required as there will be an increase in the requirement of

data and amount of communication as it is a decentralized network. The lag time which is in the consensus time of minutes is inherent due to the involvement of many nodes. Another challenge in implementing block-chain technology to nonfinancial applications is that how the security will be improved in using this as it is a decentralized system. Bitcoin system could overcome existing payment systems very easily but initially it has to overcome certain risks and issues as follows: regulatory risk, market risk, risk, transaction risk, counter party risk, operational risk, connective risk, privacy risk, and other contingent risks.

2. REVIEW OF LITERATURE

The research article titled *“Evaluating User Privacy in Bitcoin”* (Androulaki, 2013), elaborates on the privacy issues and its reliance. This paper is an investigation of the privacy guarantees in a scenario where bitcoin is used as a basic currency for daily payments of individuals. The areas covered under study are analysis of the genuine bitcoin system, use of a simulator which mimics the operation system of bitcoin which is used in a university for all its transactions. The result of the study shows that though the users use privacy measures over 40% of their profile can be recovered. The procedure used to find these results are highly reliable as they themselves have designed and implemented the simulator for bitcoin which can be used to model the interaction between its users in general.

Bitcoin and Stability (HARPER, 2014), briefs about the future scope of bitcoin by including the statement that Bitcoin convention can be thought of as a worldwide record or ledger upgraded for esteem exchange. Anybody can add on to the record, known as the "block-chain," and no one can delete them. Cryptography anchors resources recorded on the ledger and guarantees its respectability. This framework enables individuals and organizations to exchange esteem straightforwardly and all inclusive, without the impedance of an outsider mediator.

In the article *“Implications Beyond Currency”* (Joshua Baron A. O., Implications Beyond Currency , 2015), the draw backs of bitcoin are well noted by showing the limiting factors and the highlighting few major problems in the decentralized system of bitcoin. It also talks about the sophistication used in the block-chain technology behind bitcoin and tries to make the common people aware of its benefits.

The findings of the article *“Bitcoin for Merchants: Legal Considerations for Businesses Wishing to Accept Bitcoin as a Form of Payment”* by (Middlebrook, 2014), lets you know how to get license and the requirements for getting the registration of the business dealing in bitcoins. In order to reduce the legal risk involved in the acceptance of Bitcoin there should be legal actions and assistance made to overcome the challenges such as tax implications etc. as the interest in

using bitcoins is increasing day by day by the public and the merchants as a form of payment online

"The Past and Future of Bitcoins in Worldwide Commerce" (Rice, 2013), this article reveals the past of bitcoin that it is around since 2000s and it is not a new thing in the virtual world. Bitcoin originated in 2008 when the white paper was self-published by a certain set of people who were computer geeks by using an imaginary name "Satoshi Nakamoto". There will be an algorithm which will be identified in Nakamoto white paper from which a snippet of code will be drawn known as bitcoin. The creation of bitcoin involves a certain set of mathematical calculations which are complex for the purpose of adding blocks to the 'block chain'. The article also involves the criminal issues and its future perspectives.

The article *"Majority is not Enough: Bitcoin Mining is Vulnerable"* (Siner, 15 Nov 2013), elucidates by letting know that the bitcoin which is a crypto-currency will record its transactions at a public log which is known as block-chain. The security of these transactions is based on the protocols which maintain the block-chain. This protocol is run by the miners and is secure so that it does not collude with others. When the rational miners join selfish minor colluding groups, they grow to become a majority and thus the bitcoin currency system turns out to be a decentralized currency. When there is more amounts of resources applied by a miner there are better chances for a puzzle being solved by him in the first place. The protocol used in the bitcoin requires maximum number of miners to be honest. These miners are strategic players and form their own pools as proven by the empirical studies.

In the paper *"Is Bitcoin a Real Currency? An Economic Appraisal"* (Yermack, 2013), when bitcoin became the top list in the world financial news in the late 2013 it's worth grew more than five folds for a single bitcoin at the U.S. dollar exchange rate. The article also talks about the great catastrophe of bitcoins in the late 2013 or 2014 which was surrounded by the euphoric news. Though bitcoins went missing worth hundreds of millions of dollars with the failure of Mt. Gox, in other exchanges the value of bitcoin remained at the same phase with up to dollar 450 each. According to David Yermack "he argues that bitcoin does not behave moreover like an actual currency according to the criteria widely used by the economists instead bitcoin resembles a speculative investment which is similar to that of Internet stocks of the late 1990s."

According to *"Bitcoin: Economics, Technology, and Governance"* (Rainer Böhme, 2015), bitcoin is the new form of transaction medium which is being used widely in which virtual currency with a uniquely designed form is used and no centralized control is made for every transactions. Bitcoin system could overcome existing payment systems very easily but initially it has to overcome certain risks and issues as follows: regulatory risk, market risk, risk, transaction risk, counter party risk, operational risk, connective risk, privacy risk, and other contingent risks.

In Bitcoin, virtual currency is being used through an online communication protocol wherein electronic payments and transactions are being made.

3. STATEMENT OF THE PROBLEM

In this paper, we are trying to find out the reason behind the limited scope of Bitcoin and the drawbacks which are withholding it from being a legal currency. The limited scope here talks about the very few businesses which have adopted bitcoin as a part of their payment system and yet to progress due to security issues and other problems embedded in the system.

4. OBJECTIVES OF THE STUDY

- To know the drawbacks of using bitcoin.
- To find out the reasons for not using bitcoin as a legal currency.

5. RESEARCH GAP

The article concentrates on bringing into light the hindrances faced by bitcoin in becoming a legal currency, therefore the opportunity of being a legal currency for bitcoin can be a topic with more scope for further study.

6. DISCUSSION

According to the latest report as of 3rd July 2018, RBI clearly directs all the regulated entities including banks not to indulge in any activities with the individuals or businesses who deal in virtual currencies. In other words it means a ban on banks for trading with any individuals or business entities dealing with virtual currencies.

6.1 Drawbacks of bitcoin

The disadvantages of bitcoin is the negativity in the wide acceptance of bitcoin as they are accepted only by a few set of online traders hinders its further growth as a reliable currency. Chances of losing the wallets in bitcoins are less, but if lost they cannot be recovered when attacked by virus which corrupts the data, or if the wallet is lost or when there is a hard drive crash.

Fluctuation in its valuation is due to constant fluctuation in its demand and its acceptance for change of prices. No cancellation of transactions can be done as bitcoin transactions are irreversible, there is no protection to the buyer as the money he has paid won't return even if the goods haven't arrived.

The absence of central bank for Bitcoin leads to absolutely no centralized control for bitcoin, the Federal Reserve has held responsible the US to deal with all its flaws and to withstand the financial panics as it holds the capacity to manage a unified national currency. Conventional currencies allow fraudulent and criminal activities and are definitely subjected to laundering and imitation. There are very less chances in which we can eliminate these kinds of risks completely. The anonymous exchange of bitcoins stands as the main reason behind this. And the digital QR code exposes itself to theft revealing of the underlying location by the QR code while transmuting digital bitcoin to paper medium makes it easy to steal the bitcoin just with the scan of that QR code anonymously. Unknown technical flaws may assume a huge risk as it is a new system and when it is widely spread if there is a certain loophole it can be of a great loss. As there is no physical form for bitcoin it will always have to be converted into another currency, where it doesn't even support card transactions. Bitcoins are more likely to have a built in deflation due to the large number of bitcoins being capped at 21 million as its main cause.

Health hazard along with energy sink from mining bitcoins is common as 'mining' here stands out from the real mining process. Here mining is done by running obsolete hardware due to which the video cards will be able to process the random digits into raw bitcoins. Because of which multiple machines need to be run overnight increasing the risk of heat stroke. Easier ways to mint copycat crypto-currencies as copycat currencies are destroying the credibility of the crypto-currencies like bitcoin, litecoin etc. The US economy tolerated decentralized currency minting for some of its record until the agreement of the frontier demanded a nationally integrated economy.

6.2 Reasons explaining the drawback of bitcoin

Difficulty in understanding as crypto-currency itself is a new concept on the learning curve and people are less aware of it. Lack of knowledge about the working of block-chain technology as most of them does not know how to use bitcoins. More chances of being exposed to the hackers. No modes to reserve the payments even if the transaction is carried out unintentionally, as there will be any refund of the same made. Limited speed and space it can provide with respect to the number of transactions that can take place at a time which is also known as scaling.

Misunderstanding, and less safe as these transactions only require the wallet ID of the buyer excluding their name and contact there is a high degree of anonymity which is the reason for its negative appearance.

6.3 Main reasons for the Stagnancy stage

Less popular even though there is a fair attention on bitcoin given by the media, the user group remains remarkably small. The digital nature of Bitcoin is that as it is not physical in nature it is

hard to store and use it in a normal shop. It is still in beginner's stage and in order to be a perfect system to function, bitcoin has to cross this early stage and go a long way ahead. And regarding illegal activities there is considerable amount of misuse happening with virtual currency as the transactions remain anonymous. Under the process of bitcoin mining as verifying each and every transaction costs a lot and is not user friendly, it is a tough task as it also overheats the machines and asks for special hardware.

6.4 General disadvantages of crypto-currencies influencing bitcoin

Though the number of business organizations accepting bitcoin has increased, it still remains small and insignificant. Incomplete development as the software being used holds many incomplete features, there are rigorous developments being made in order to make it more secure and update on the new tools, features and services being adopted. There can be possible government interventions as the government need not take away the bitcoins, but can ban the usage of the same forcing the bitcoin companies to shutdown. There will be a lack of way out if bitcoin wallet is lost all the coins in the wallet is lost forever. Until and unless it is backed by a backup phrase code.

Fact is that many are still unaware about virtual currencies which include bitcoin in its basket. Though education has been provided, it is reaching only a few and the number of businesses adopting bitcoin also reduces to least, therefore networking is the current main means to spread more knowledge on the subject.

6.5 Reasons for Bitcoin not becoming legal

Article on The Hindu Business Line titled "why bitcoin should not be allowed" highlights various reasons such as how crypto-currency is adding fuel to laundering of black money and also financing terrorism around the world leaving the monetary policies ineffective. The main reason is that it helps in the evasion of tax and also serves as a haven for the black market and money laundering.

6.6 Legality of bitcoin with respect to India

Indian Finance minister Mr.Arun Jaitley, made a statement saying that the government would take efficient measures to cease the usage of bitcoins or the other virtual currencies in India for any criminal activities at his budget speech held on 1 February 2018. He repeatedly said that India does not identify them as a legal tender and can encourage block-chain technology as an alternative in the payment systems.

According to Jaitley "Crypto-currency is not recognized as one of the legal tender by the government and it is taking all the measures to eliminate the use of these crypto-currencies in financing criminal activities or which is used as a part of the payments system". Reserve bank of India which is India's central bank announced this year about the ban regarding the sale or purchase of crypto-currency.

6.7 Reasons to be considered for not investing in Bitcoin



Source: (economictimes.indiatimes.com)

Bitcoin price shooting up to 750% in a year. *The reports from China said that there was a fall in the prices by 30% in recent weeks.(Oct 03, 2017)*

Bitcoin involves extreme volatility as there are no regulators involved and this imposes very high risks in investing in this avenue. Bitcoin is neither a commodity nor a currency as it lacks the clarity about its origin. Investing without understanding adds on to lack of knowledge and it is advised by the experts and few global bankers not to invest in crypto-currencies as it is like a bubble which is about to burst. As crypto currencies are not regulated by any governing bodies unlike other investment avenues, there will be no authorities like SEBI to attend to the grievance

redressed along with the issue of not being a legal currency makes it more prone to illegal activities.

7. CONCLUSION

The main drawback is that bitcoin is disconnected from the banking system. To be established as a legal currency it should become a stable store of value as assured in the commercial market. The risk of high competition can make bitcoins way bit difficult so, changes as per the changing business environment are must for the bitcoins survival in future. The other major drawback is that bitcoin transactions are irreversible in nature where in when you have made a transaction using a bitcoin system, you can't do anything to change or alter it so that it can be reversed. Bitcoin account can be created very easily and by anyone so that money creation and transaction can be done through it. Misuse of the virtual currencies are happening easily by terrorists group and other organizations, so a proper security software should be used along with advanced cryptographic techniques like firewalls for detecting and preventing hacks. In order to reduce the legal risk involved in the acceptance of Bitcoin there should be legal actions and assistance made to overcome the challenges such as tax implications etc. Despite of the present challenges the new virtual currency should also foresee the upcoming challenges in future for sustaining itself in the market and public understanding about the virtual currency is the key factor so that usage of it increases.

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