USING CRYPTO CURRENCY AND ASSOCIATED ADVANTAGES AND DISADVANTAGES

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ABSTRACT

Bitcoin is a crypto currency digital currency which was founded in 2008. It is a form of currency with no physical form, created and held electronically. It can be used to buy things electronically and in that sense it is no different than conventional dollars. It is designed for secure financial transactions that require no central authority, no banks and no government regulators completely transparent and easy to set up. Despite of several advantages bitcoin, it remains as uninvestigated financial product, chance of illegal and questionable activity, absence of relevant theoretical background, unregulated commodity and absence of consumer protection and also prone to al or risks- theft, loss of key, hacking, value collapse. It has already put its footprint in India with significant rise in recent years. It has already put its footprint in India with significant rise in recent years. In India it has not been regularized and has no well defined regularity framework for bitcoin. Hence, people may use it own risk and due care till the above mentioned issues can be resolved and the volatility related to bitcoin can be removed.

KEYWORDS: Cryptocurrency, Bitcoin, Digital Transaction, Block Chain, Bitcoin Mining, Security Issue.

INTRODUCTION

The human civilization has witnessed different means and medium of transactions for exchange of services and commodities. Mostly, all these are mean and medium are physical in form such as metal coin or paper currency. However, with the advancement of technologies, especially computer and internet, digital mode of transaction has come into existence. Most of financial institutions and Government of the countries have promoted the online payment as a safe and quick mode of transaction of physical currency. This type of usage of the currency is an attempt of digitalization of physical currency. In the recent time the complete and true digital currencies (i.e. no physical form) have also been introduced time to time.

Some of those currencies which have emerged in the recent time are Litecoin (LTC), Ethereum (ETH), EOS (EOS), Cardano (ADA), NEO (NEO), Bitcoin (BTC), Monero (XMR), Ripple (XRP), Dash (DASH).

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The large majority of these digital currencies remain entirely virtual and intangible. These are also called as cryptocurrency where the term "crypto" refers to complicated cryptography which allows for a particular digital token to be generated, stored, and transacted securely and, typically, anonymously [1].

All these digital currencies exhibit properties similar to physical currencies, but allow instantaneous and borderless transactions among the users [2]. Bitcoin is one of these digital currencies which was invented in 2009 anonymously by a group of people under the name Satoshi Nakamoto. It is a form of digital currency (physical form is absent), created and held electronically. It can be divided into smaller unit called Satoshi (one hundred milionth of a BTC) [3]. Bitcoin continues to lead all the cryptocurrencies, in terms of market capitalization, user base and popularity. In the present communication, an attempt has been made to through some insight in the working principle of Bitcoin along with its advantage and disadvantages so that people can able to make their independent decision regarding the use of the crypto currency.

FEATURES OF BITCOIN

The working of bitcoin system is entirely unique and different from conventional currencies in use across the globe. Bitcoin functioning is based mathematical protocol whereas the conventional currencies are based on reserve back up of valuable metals such as gold and silver of equal amount. Moreover, unlike conventional currencies the any transaction made in Bitcoin is recorded in a public ledger using its own unit of account (Bitcoin) [4]. Bitcoin has got numerous striking features that distinguished it from the conventional currency quite easily and some of those features are presented below:

DECENTRALIZED

The first and foremeost thing which is being included as feature of Bitcoin is that it is decentralized one. It mean there is no central authority (for example Reserve bank of India,) or any other financial institutions that control its transaction network. It implies that it is not under the control of any agency which can play with monetary policy i.e change the valuation of the Bitcoin. It is rather controlled by a protocol maintained in a peer-to-peer system by a community of people without any need for a third party. The interesting thing is that anyone can join this community which makes it a fully decentralized monetary system [5].

EASY TO SET UP

Bitcoin is an open-source software-based payment system. Payments are recorded in a public ledger using its own unit of account, which is also called bitcoin. The simplest way to put money in bitcoin is to link a bank account to a Coinbase account (database available at: https://en.bitcoin.it/wiki/Buying_bitcoins Bitcoin can be store as online exchanges, Wallets, Paper Wallets, Brain Wallets, Transfer money back to bank account, Convert to other currencies, Hardware Wallet (Trezor) [5,6]

ANONYMUS AND TRANSPARENT

Bitcoins are stored in wallet with digital credentials for your bitcoin holdings and allows you to access them. Wallet uses public-key cryptography, in which two keys, one public and one private are generated. Public key can be thought of as an account number or name and the private key, ownership credentials. Bitcoin is transferred to the next owner when the next owner gives a public key and previous owner uses his private key to publish a record into system announcing that the ownership has changed to the new public key. Bitcoin protocol

stores details of every single transaction that occurred in the network in huge version of general ledger (Block chain) .

NEGLIGIBLE FEES AND IRREVERSIBLE PROCESS

Althoguh bitcoin is not the first difitally based cryto currency but what makes it unique is its operation and offer it place from user point of view. Bitcoin is a currency run using mathematical protocol on the internet platform. But the beautiful thing with bitcoin, either national or international, doesn't involve any chrages from its users. Thus it is the first private crypto currency which is based on decentralized peer to peer network avoiding double spending by verifying each transaction added to its chain for uniqueness in the inputs. It enable to ensure the system that input for the transaction had not been previously used [4,5,6]. It is important since digital currency can be otherwise copied and used in several transactions.

WORKING PRINCIPLES OF BITCOIN

The working principle of Bitcoin can be dsicussed under following sub-headings:

ALLOCATION OF BITCOIN

Bitcoins being a digital and virtual currency which do not exist in physical form, it allocation is not as simple and straightforward. It is simple record on public ledger crypted using a complex mathematical problem.

The new bitcoins are generated as a reward for a process known as mining which involves solving complex mathmetical problems using special software by the miners. Miners are rewarded with certain amount bitcoin for each time they discover new block in the block chain without puting money for it. The bitcoin software generally go on creeating new one

untill the total amount of bitcoins reaches 21 millions.

As of the today, the reward received by miner for completing a block is 12.5 Bitcoin which was 50 in the year 2009 when bitcoin was mined for the first time. The number of bitcoin creation and allocation decrease by half every four years, as per the bitcoin protocol. It means in another two years (i.e. in the year 2020), the miners will get 6.25 bitcoins for each block they mine or added to the chain. Thus, all the 21 million bitcoins will be distributed by 2140. It indicates that in the year 2140 the reward will plunge to zero [7, 8].

MONEY CIRCULATION

- The total amount of bitcoin in circulation is governed as below:
- $M \times V = P \times Q$
- Where, M-total amount of money in circulation; V-velocity of money; P-price level; Q-indeks of real value of final expenditures
- Bitcoin as currency increases amount of money and hence leads to increasing price levels (V and Q constant). Since bitcoin is inherently deflationary it will benefit in a way that its usage will cause value decline of other currencies while bitcoin will experience rise [6].

BITCOIN MINING

It is a procedure that helps the bitcoin function as planned and also a mechanism to continuously introducing new Bitcoins till the limit of 21 million coins would have reached by 2140. Bitcoin mining is performed by high-speed computers that can solve complex computational math problems. Bitcoin mining is a lot like a giant lottery where anyone can participate and compete with mining hardware with everyone on the network to earn bitcoins.

The result of bitcoin mining is twofold. When computers solve the complex math problem on the bitcoin network, they produce new bitcoin, and by solving computational math problems, bitcoin miners make the bitcoin transaction network on a public ledger trustworthy, secure and accurate [9]. Thus the bitcoin mining serves the purpose of central authority as in case conventional currencies.

Bitcoin miners achieve the desired authentication in the absence of central institutions by clumping transactions together in "blocks" and adding them to a public record which is referred as "block chain." When bitcoin miners add a new block of transactions to the block chain they make sure that bitcoin are not being duplicated and for adding one block to the chain, miners are currently awarded with 12.5 newly created bitcoins in contrast to 50 bitcoins when first bitcoin mining took place in 2009.

BITCOIN: CHALLENGES

Bitcoin has been plagued with several challenges too [10]. Some of those are summarized below:

- Creation of a virtual coin/note: The creation and authenticity of bitcoin is not ensured. Moreover, how to restrict someone from producing more coins leading to inflation is also in vague [11].
- Validation of coin and transaction: It is required to check if the coin is legitimate to use. How to check if a coin is free from double-spending or not copied. Ensuring buyer and Seller protection during online transactions if both the party received their respective dues and there would not be any undue claim from either side. For transaction many third party software are being used and hence trust on third-parties is important. Since the transaction is noted on open ledger, it is verifiable by everyone.

- No central agency to monitor validity of transaction and framed policy to ensure safety/guarantee of the bitcoin.
- Security Issues: Some security related questions arise with Bitcoin uses [12]. The check of authentication of payment to the right person is big challenge. Some other impersonator may get involved in it if not properly verified. The integrity of bitcoin is also in doubt very often. There is always some chance of being double-spent of the coin or an attacker can reverse or change transactions. The availability of bitcoin as per users requirement. Since the transactions are recorded on an open ledger, it also lowers then confidence among the users regarding transactions privacy and anonymity.
- Legality is an important issue, as many of the countries have not legalized the use of Bitcoin. It poses challenge to free transaction of f bitcoin among all the countries.

ADVANTAGE AND DISADVANTAGE

The advantage and disadvantages related to use of bitcoin are summarized below:

ADVANTAGES

- It is easy to set up and it is fast.
- Low and irreversible transaction fees
- Thre is central authority or any financial institution to leive charge (possible disadvantage)
- It is more better form of digitalization of financial transaction as compared to online transfer though banks, credit card, ATM etc.
- It can be used in all countries across the globe.

DISADVANTAGES

- Illegal activities, speculations and nature of this currency-Anonymity and relevant

theoretical base as a digital currency is blurred.

- Uninvestigated financial product-Regulation and taxation issues are not clear

- Undefined legal status-Full of illegal and questionable activity, disputable status of independent and decentralized currency. Illegal or undefined in most countries of the world [13].

- Highly volatile value and an unknown issuer

- Skepticism towards implementation of new, unregulated, theologies in finance sphere.

- Unregulated commodity and absence of consumer protection

- Risks- theft, loss of key, hacking, value collapse

- Mining problems-algorithm behind issue and purchase of bitcoin is not filly expored

EVOLUTION OF BITCOIN IN INDIA

In April, 2017, an IT company in Mysuru became the target of a 'denial-of-service' attack, the attackers demanded Bitcoins in return for sharing the key to restore the company's computer systems. India's biggest Bitcoin trading platform, Buy SellBitCo.in, recently suspended its operations, citing a recent Reserve Bank of India public advisory that highlighted the risks involved in dealing with virtual currencies. Bitcoin and other virtual currencies have begun to gain widespread acceptance in India, despite poor Internet penetration and a natural scepticism of assets not backed by tangible entities such as land [14]. The central bank had issued a notice on the risks involved and added that it could be used for money laundering and funding terrorism activities. It stopped short, however, of issuing a ban or any other restrictions [15].

CONCLUSION

The article introduced the fundamental of Bitcoin along with its pros and cons. At the very first instance bitcoin seems to be promising alternative as a digital currency that can be across the globe without third part (central authority) interference. However, there is no well defined regularity framework. Several security issues are associated with it and in many countries have kept it as illegal. It has already put its footprint in India with significant rise in recent years. In India it has not been regularized and has no well defined regularity framework for bitcoin.

Hence, people may use it own risk and due care till the above mentioned issues can be resolved and the volatility related to bitcoin can be removed. Finally, it is expect that the article will help people to make their independent decision regarding the use of crypto currency.

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