BITCOINS AND OTHER CRYPTOCURRENCIES: GROWTH AND THE
CHALLENGES

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Abstract

In this technological world rapid developments have taken place, and many activities in our daily life have been merged online and they become more flexible and more effective. A huge growth in number of online users has activated virtual world concepts and created a new business phenomenon which is cryptocurrency to facilitate the financial activities such as buying, selling and trading. Cryptocurrency is encrypted peer-to-peer network for facilitating digital barter.

The use of virtual currency is on large scale in many different systems in recent years. This paper aims to investigate the user’s expectations of the future of cryptocurrency. It also explores the use of cryptocurrencies in different countries and its growth and impact in India and also the challenges faced by it.

keywords: Cryptocurrency, virtual currency, user's expectations, growth of cryptocurrency

INTRODUCTION

Undoubtedly, the era of information and communication technology has created many golden opportunities for every sector in several aspects. One of the fields that benefit from these technologies is the financial and business sector. A growing number of online users has activated virtual world concepts and has helped in creating a new business phenomena. Thus, many new type of transactions and currencies have emerged, for eg, cryptocurrencies. Cryptocurrency (CC) can be defined as any medium of exchange, apart from real world money, that can be used in many financial transactions, could be virtual or real transactions. Cryptocurrencies represent valuable and intangible objects which can be used electronically or virtually in different applications and networks such as online social networks, online social games, virtual worlds and peer to peer networks. Thus, it is a digital asset designed to work as a medium of exchange that uses strong cryptography to secure financial transactions, control the creation of additional units, and verify the transfer of assets.

Since the creation of Bitcoin in 2009, numerous private cryptocurrencies have been introduced. Bitcoin is by far the most successful one. More importantly, a number of central banks started recently to explore the adoption of cryptocurrency and blockchain technologies for retail and large-value payments. Many proponents believe that cryptocurrency and blockchain technology will have a significant influence on the future development of payment and financial systems.

The Bitcoin has maximum share of around 45% in the cryptocurrency market & market capitalization of $142.2 Billions (Rs 9.25 Trillion). Its market price is $ 8254.8 i.e Rs 5,35,767.

Other cryptocurrencies that exclude bitcoins are referred collectively as altcoins, it includes other 1550 currencies that are traded.

BLOCKCHAINS

Blockchains are an incredible innovation with the power to reshape our world. The hope is that blockchain technology will allow us to decentralize systems and applications and restore power to individuals. Blockchains are known for their ability to facilitate transparency and trust among peers. The transaction of cryptocurrencies took place through a signed piece of data that is broadcast to the network and, if valid, ends up in a block in the blockchain for the purpose of transferring the ownership of an amount of cryptocurrency to a designated digital address. The validity of each cryptocurrency’s coins is provided by a blockchain. Blockchains are secure by design and are an example of a distributed computing system with high Byzantine fault tolerance. Decentralized consensus has therefore been achieved with a block chain.

THE CRYPTOCURRENCY MARKET

According to the report, the global market for cryptocurrency was valued at around US$0.5 bn in 2016 and is anticipated to expand at a CAGR of around 31.3% from 2017 to 2025 to attain value of US$6.7 bn by the end of forecast period. As of March 18, 2018 there are 1564 Cryptocurrencies available & traded in about 9422 exchanges.

ITS RISE IN INDIA

India with a population that is over 1 billion strong has been on something of an economic renaissance in the last few years. Such has been the extent of the country’s growth that the IMF has called it the fastest-growing emerging economy. More than 40 percent of the country’s population has access to telecoms and internet services. In a short space of time, many new
cryptocurrency exchanges have been established within the country. Pioneers like BtxIndia, Unocoin, and Coinsecure began offering cryptocurrency exchange and trading services in India. Over time, others like Zebpay, Koinex, and Bitcoin-India were added to the list. The general level of prices of cryptocurrencies in India is on the high side as the Market rates are relatively higher by as much as 5 to 10 percent compared to the global average.

CHALLENGES AND SOLUTIONS

A number of challenges remain to cryptocurrencies, becoming more widely adopted as a method of payment instead of cash payments. Many of these are linked to the technological factors but also include legal, economic and social factors.

A. Regulation vs reputation

Reputation and trust are vital in the DLT ecosystem and business models. A good reputation system employed by the network makes the system go smooth and avoid manipulation; and creates a safe environment for network participants to interact and reveal their preferences truthfully and trust upon each other. Currently, the regulations being defined and implemented and governance around cryptocurrencies and initial coin offerings (ICOs) vary greatly across different nations. Therefore, there is a necessity of a global regulatory framework or perhaps a self-governance model in which regulation is largely replaced by good reputation mechanisms.

B. Privacy and trust

While it is intuitively appealing to use blockchains to provide a transparent single source of truth, it is often desirable for there to be different levels of privacy available to stakeholders when it comes to accessing details of specific transactions, smart contracts or personal data. This is a serious challenge for those public permissionless blockchains like Bitcoin and Ethereum which expose all transactions, smart contract code and state to other parties in the network, thus potentially enabling privacy erosion and forms of industrial spying based on blockchain analysis. A common criticism of such cryptocurrencies is that, like cash transactions, they can be easily used to fund criminal activity due to our inability to track exchanges. So, this results in lack of privacy and trustworthiness.

C. Volatility

Volatility can be both a technical and an economic challenge, and is currently a major hindrance to cryptocurrencies in the use which are widely adopted payment system as it creates difficulties relating to all three functions of money, but especially the function of store of value. The very high volatility of cryptoassets has the potential to negatively affect perceptions and hamper their use in all kinds of long-duration transactions. Volatility of cryptocurrencies have been subjected to the influences of investors holding on to large portions of the total pool of digital assets available in the crypto-ecosystem. These investors can potentially create major shifts in the market upon the purchasing of new assets or the liquidation of their current holdings.

D. Scalability

Issues relating to scalability could delay/prevent blockchain’s capability to transform businesses, economics and governance. Many foundational public permissionless blockchain protocols do not scale to high transaction volumes on account of being limited in terms of transaction throughput by design. This is because many of these protocols feature restrictions on block size or transaction complexity, and deliberately regulate the rate at which blocks are published (via regulation of the difficulty of the mining process) in order to control the rate at which new tokens are produced. This can lead to poor transaction response times and very high transaction fees.

E. Usability and adoption

DLT businesses, cryptocurrencies and cryptoassets need to invest in ‘design thinking’ as user-friendly design is at the core of any successfully adopted technology. This facilitates the engagement of two main parties - individual users and bigger organisations. Not only users but also operators of exchange platforms often face difficulties interacting with traditional fiat-money-based banking facilities in the process of conversion of cryptocurrencies/assets to fiat currency.

F. Collapse concerns in cryptocurrency systems:

Issuing of virtual currency without any limit will lead to economic problems since its issuing is not based on the demand and supply factors. On the other hand, it will suffer from inflation and will lead to collapse in the virtual currency system.

G. Money laundering:

Money laundering is one risk that is very likely to occur with the use of VC especially with platforms that enable users to exchange virtual currency with real money. In practical case occurred in Korea in 2008, the police arrested a group of 14 persons for laundering $38 million obtained from selling virtual currency. The group converted the amount of $38 million, which is generated by gold farming, from Korea to a paper company in China as payments for purchases.

STATUS OF GOVERNMENTS ON CRYPTOCURRENCY AROUND THE WORLD
Exchanging virtual currency with real currency is a serious concern in E-business and E-commerce industries. Trading cryptocurrency for cash is banned and prohibited in some countries where in other countries, it is either allowed or not regulated yet.

**United States:** The U.S. is in favour to foster innovation and growth of blockchain and cryptocurrency while protecting investors from high risks and fraud.

The SEC’s policy is intended to mitigate risk to investors, protect investors from fraud, and hold cryptocurrency projects potentially liable for selling non-registered securities to U.S. investors.

Currently, The Internal Revenue Service (IRS) treats cryptocurrency as property, which subject it to be taxable. Trading cryptocurrency to fiat, trading cryptocurrency to cryptocurrency, and spending cryptocurrency are all taxable events that may moderately burden cryptocurrency trading.

**Canada:** The Financial Consumer Agency of Canada (FCA) publishes online information regarding digital and cryptocurrencies to make people aware of its use. The FCA explains aspects of decentralization, peer-to-peer transactions, digital wallets, wallet security, and the risks of using digital currency in order to have friendly attitude towards the use of virtual currency. They further maintain that digital currencies are not legal tender, and that profits made from digital currencies are subject to Canada’s Income Tax Act.

**China (Hostile):** China is notorious for some of the world’s largest bitcoin mines. In 2017, China banned cryptocurrency trading on Chinese exchanges and made ICO fundraising illegal, curving market demand, and causing a large overall downtrend in the cryptocurrency markets. Many Chinese residents turned to use foreign exchanges to trade cryptocurrency instead.

**Japan:** Currently, Japanese Yen accounts for over 36% of Bitcoin’s trading volume, more than every other currency. USD is second at just over 31%. Japan established a well-regulated legal system that supports the cryptocurrency industry in a way that builds credibility among investors and creates familiarity with securities trading. Japan’s Payment Services Act was the first national registration system for cryptocurrency exchanges.

**Russia:** In January 2018, the Russian Finance Ministry drafted a bill that would legalize “digital financial assets” stored on blockchain networks as electronic securities. The bill would define the scope of regulations on cryptocurrency, and ensure that it would not prohibit trading. Further it defines bitcoin mining as an entrepreneurial activity, which could require Russian bitcoin miners to register with the government.

**Poland:** Poland acts on neutral side towards the use of digital currency. It has often promoted cryptocurrency and blockchain technology. Poland is working with The Polish Blockchain Technology Accelerator, which is subsidized by the Ministry of Digitalization, to create a national cryptocurrency called Digital PLN (dPLN) to encourage the use of such currency and motivate people to use it whenever required.

**Australia:** The Australian Taxation Office (ATO) treats financial gains from trading cryptocurrency as property subject to capital gains taxes. So, they favour virtual currency and have friendly opinion towards it.

Analysts are predicting the high demand for cryptocurrencies will force Australian authorities to begin regulating the industry soon.

**India:** More than 500 merchants in India and five of India’s largest companies accepted the cryptocurrency as payment mode. The number grows day by day. Bitcoin is far from popular, and most Indians prefer fiat money, but a recent Forbes article reports that Bitcoin's craze is catching on and now there are more than 600,000 users in the country. Although India’s RBI has long warned cryptocurrency users and traders of its perils, Indian Prime minister, Narendra Modi, indirectly promoted Bitcoin, on July 2, 2015, with his ambitious Digital India. Plans included digitizing government data, improving India’s digital infrastructure, and optimizing its online connectivity. Observers predict that India’s government will regulate Bitcoin in stages. India’s Bitcoin industry welcomes these changes knowing that government acceptance will give the cryptocurrency the backing it needs in the coming years.

**CONCLUSION**

Cryptocurrency offers a new, effective and attractive model of payment methods that can boost companies and operators revenues. It also provide alternative method of payment, apart from real money, that enable users to make financial activities such as buying, selling, transferring and exchanging easily. Although cryptocurrency platforms open many channels for digital financial transactions and provide a new form of currency with different mechanisms and methods, they are not controlled and regulated as they deserved. However, users have not realized the full picture of using cryptocurrency. In fact, many cryptocurrency forms do not deserve that much of trust yet. Many concerns, challenges and issues are existing in many cryptocurrency platforms and they are clearly outlined in the above sections of this paper. Until cryptocurrency is being well regulated and controlled, users need to take extra precautions of using such virtual money. The future of Cryptocurrency concept is promising, revealing more opportunities to bring positive changes and progress to e-Business and e-Payment sectors. With the rapid progress and improve of technology, cryptocurrency will not stop progressing.
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