CRYPTOCURRENCY AND CHALLENGES IN ITS ACCEPTABILITY

Dr. Satyendra Kumar Singh
Principal
Divine International Group of Institutions
Gwalior, M.P.-474001

Abstract

Digital currency and online transaction got advantages over cash and cheques and accepted as the best fit alternative. Cryptocurrency came in existence since 2009 in order to facilitate demand of people who wanted to use digital transaction securely, anonymously and without government's control, proved to be better than cash or credit, exchangeable for goods or services, convertible to fiat currency, stability in value, and fast and easy to use. Study 'Cryptocurrency and Challenges in its Acceptability' is descriptive in nature and based on extensive literature review and secondary sources like online available scholarly articles. Study suggested that Cryptocurrency is the digital substitute for the fiat currency without intervention of intermediary, confidentially with the help of digital tokens which are being used to transfer and exchange and being traded at market rates for fiat currencies. Study also suggested that in spite of its continuous growth, market adoption of Cryptocurrency by general public remain very thin. There is hardly any person today, who thinks of Cryptocurrency as the only means of making payment for his future purchase. Major challenges in acceptance of cryptocurrencies remain its misfit with regulatory framework and financial integrity, protection of consumer interest, tax calculation, getting aligned with monetary policy and its high volatility nature. Even though most of the financial institutions are in the process of investing significant amount on adoption of Cryptocurrency, for making payment but still it is not yet openly accepted.

Keywords*:* digital currency, Cryptocurrency, challenges, acceptance, misfit, liquidity hole

Introduction

Early man started using commodity money around 9000BC, which letter switched over to fiat currency and later got recognition from government. Slowly cash and cheque based transactions started being replaced by digital currency and later moved to Cryptocurrency up to certain extent. The word 'Cryptocurrency' is made from two words; crypto and currency. Dictionary meaning of crypto is not openly declared. Cryptocurrency uses cryptography in order to facilitate secure transfer and exchange of digital tokens after its inception in 2009 in order to facilitate demand of groups of people who wanted to use digital transaction securely, anonymously with trusted third party intermediary and without government control. Today Cryptocurrency is a buzz word for both good and bad reasons. Though few Cryptocurrencies has came in physical form like plastic credit cards, but still majority of these currencies are in intangible form and remain out of control of government and always under fire, it has grown up very rapidly and become popular among groups of investors. Among the known Cryptocurrency, Bitcoin remain more acceptable and known due to higher liquidity. Rest other virtual currencies are known as altcoins and they tried to claim more reliable. As per one estimate there are more than 1600 cryptocurrencies today. First one was Bitcoin launched in 2009 and next was Litecoin (LTC) launched in 2011 and claimed to be adhering with superior technology. But today also Bitcoin is considered as trendsetter. Other known virtual currencies are Zcash (ZEC), Ripple (XRP), Monero (XMR) and Bitcoin Cash (BCH). Money is expected to perform certain role like medium of exchange, store of value and as a unit of currency in economy. To be proper fit for fiat money, Cryptocurrency is expected to perform all functions as being performed by fiat money (Figure-1).

Figure-1: Differences between Money and Cryptocurrency

Function	**Money**	**Cryptocurrency**
Medium of exchange	Provides medium of exchange for buyers and sellers to get agreed upon some value for product and services.	Due to limited acceptance it partially acting as a medium of exchange.
Store of value	Store and transfer value over time period.	Value is depending upon market and is only valuable when converted in to local currency.
Unit of currency	Acts as a stanadardised unit of currency to enable economic agent to make decision.	Due to volatility and unpredictability prices it fails to act as a unit of currency.

One of the advantage and disadvantage of using Cryptocurrency is that it is free from third party intervention and in majority of cases it becomes almost impossible to ascertain integrity of transactions as well as knowing integrity of person doing transactions. Transaction without government's control Cryptocurrency and transactions in a government control centralized bank account differs from each other and is laid in Figure- 2.

Figure-2: Transaction in a Government control Centralised Bank and Cryptocurrency

Transactions in a government control centralized bank account	Transaction without governments control Cryptocurrency
A buyer purchases a good from the seller, who initiates shipment upon perceived confirmation of the payment. If the payment takes place via bank accounts – ie via a centralised ledger – the buyer sends the payment instruction to their bank, which adjusts account balances debiting the amount paid from the buyer's account and crediting it to the seller's account. The bank then confirms payment to the seller.	If payment takes place via permission less Cryptocurrency, the buyer first publicly announces a payment instruction stating that the Cryptocurrency holdings of the buyer are reduced by one, while those of the seller are increased by one. After a delay, a miner includes this payment information in a ledger update. The updated ledger is subsequently shared with other miners and users, each verifying that the newly added payment instruction is not a double-spend attempt and is authorised by the buyer. The seller then observes that the ledger including the payment instruction emerges as the one commonly used by the network of miners and users.

Source: BIS Annual Economic Report 2018 (Adapted from R Auer, "The mechanics of decentralised trust in Bitcoin and the blockchain", BIS Working Papers, forthcoming)

Literature review

As per Nakamoto, (2008) Electronic cash, Cryptocurrency was first time used to get rid of double spending problem without third party intervention. Chief Investment Office Americans, Wealth Management (2017) found that Cryptocurrency after its inception and getting in to lime light in 2008, it has grown up to more than 1000 in number and its market value reached to market capitalization of IBM. As per Dourado E. and Brito J. (2014) Cryptocurrency is different from that of commodity and fiat money both and expected to act as a new, digital currency. Split after split, suspicion of foul play, un interested institutional players, unfavorable report in media and regulating agencies are the major reason for recent tumbling of

Cryptocurrency (Times of India media reports December 08, 2018). Though Bitcoin is likely to grow more in next few years, Ethereum has lower value need to be included in investment portfolio (Alfonso A.D., Langer P., and Vandelis Z., 2016). As per chief investment office America, Wealth Management (2017), rise in Cryptocurrency valuation in recent month is speculative bubble but block chain technology is definitely going to put significant impact on all walk of society and particularly finance, manufacturing and healthcare. Kam, Y. (March 2017) stated that Cryptocurrency is a virtual currency used particularly in real life to make payment for goods and services and also for investment purpose. Its value remain volatile over a period of even short span of time and not yet having any specific guidance in IFRS and US A GAAP on accounting of Cryptocurrency. Set of rules with computer code for doing transaction by members, for storing history storing device may be ledger, and network with multiple decentralized network for doing transactions are major elements ensures smooth and proper working of Cryptocurrency and following proper banking procedure (BIS Annual Economic Report, 2018). As per Parsons M. (2018), high price volatility nature of Cryptocurrency creates gap between their purchase and selling price in to fiat currency as decrease in its price doesn't increases volume or demand and increase in price doesn't decreases volume or demand. Donge, H. (2018) stated that crypto assets may one day reduce demand for central bank money.

Objectives

Objectives of present study are;

i. To find out why Cryptocurrency was required to be introduced

ii. To find out major challenges in acceptance of Cryptocurrency

Research methodology

Present study is descriptive in nature and based on secondary data. The secondary data is collected from various secondary sources like articles published in various journals and available on online web portal. Data Collected were analysed using simple statistical tools.

Description

Why Cryptocurrency was required to be introduced?

Bitcoin, the first known Cryptocurrency is an innovative payment network and new kind of money came in existence in 2009 as a digital substitute of fiat currency in order to make digital payment confidentially without third party intervention using digital tokens to transfer and exchange at market rates for fiat currencies, attracted new sets of investors and users.

As per coinmarketcap.com, Bitcoin, Ether and Ripple are the most popularly used among available Cryptocurrency. Cryptocurrency transaction is done using block chain i.e., distributed ledger technology to construct a database, which acts as a ledger and maintained across a network to cross verify double transaction. To ensuring safe transaction using Cryptocurrency and preventing it from getting misused or double used, each member of the network are required to verify and validate transactions using crypto technology and after getting consensus from its members, the transaction is added to the ledger and validated. Cryptocurrency users can transact cryptocurrencies only at exchange for the fiat currency of their choice, subjected to facilities available at the exchange. Cryptocurrency function mainly using Computer code along with some rules by participants, Block chain as a ledger to store transaction history and decentralized network of participants who follow the laid down rules and protocol. Using these principles it is not easy to make any fraudulent in using Cryptocurrency. One of the main advantages of Cryptocurrency is that it allows secret transfer of long distance transaction very quickly and at very low cost. Another advantage of cryptocurrency is that it enables clearance and settlement of payment comparatively in lesser time without using third party and hence, costly and time taking cross border payment using cryptocurrencies have become simple and instantaneous and simple compare to banking networks. It is expected that within very short span of time few of these Cryptocurrencies may be accepted as money may be in some region or some private networks. Block chain acting as a ledger store and provide detail history of transactions and since it is in open network, it can’t be changed or alter by any single entity. Each transaction is being validated and agreed upon by the network members. These network members who validate transactions are suitable rewarded with newly minted Cryptocurrency.

Challenges in Acceptance of Cryptocurrency

Cryptocurrency is digital money promoted to be used in place of fiat money. The basic decentralized and borderless nature of Cryptocurrency without having facilities to identify issuer posed serious challenges to regulators and made them reactive and cautious about its use and prohibiting banks from buying and selling of Cryptocurrency. Financial Action Task Force (FATF) one of the Global Antimony Laundering (AML) standards setting body in 2015, provided its members to risk based approach.

Now, question arises that why Crypto currency is not being promoted or accepted by masses. Following are few possible reasons why Cryptocurrency could not get acceptability:

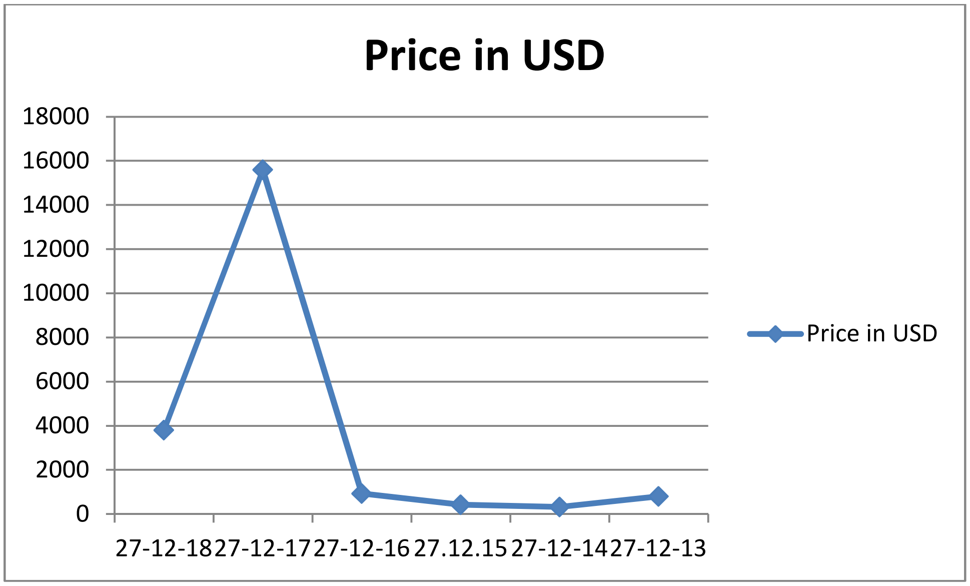
1. Fluctuation in price makes common investors in doubt and keeps on wondering about actual price. Bitcoin traded at .30 USD on December 27, 2011, it again reached to USD 5.27 on December 27, 2012. On December 27, 2013 it reached to USD 797.55, after one year on December 27, 2014 it came down to USD 320.84, on December 27, 2015 it again reached to USD 418.15, on December 27, 2016 it reached to USD 925.04, and on December 27, 2017 it reached to USD 15,593 and on December 27,2018 it came down to USD 3,790.87 (Table-1).

Table-1: Historical Price and Volume of Bitcoin

Date	Price in USD	Volume in USD
27-12-2013	797.55	11073604
27-12-2014	320.84	6940337
27-12-2015	418.15	28259303
27-12-2016	925.04	45966615
27-12-2017	15,593	2162831129
27-12-2018	3790.87	130, 286,266

Source: cointelegraph.com/bitcoin-price-index

Graph-1: Historical Price and Volume of Bitcoin



Source: Statistics calculation

The major reason behind getting more than 76% fall in value may be because of multiple set back i.e., split of Bitcoin to Bitcoin Cash and its further split in to Bitcoin Cash ABC and Bitcoin Cash SV. These fluctuations in price have brought down confidence of investors.

2. Probe ordered by the US Justice Department against possible manipulation in price fixation of Bitcoin has created doubt among investor. It was doubtful on the part of Cryptocurrency that Tether was used to stabilise and rig the price of Bitcoin last year. These types of news further affected Cryptocurrency.

3. Civil penalties against crypto founders by USA Securities and Exchange Commission, has also raised doubt in the mind of investors. In spite of high growth in price of Cryptocurrency, banks and finance firms have not yet shown any interest in investing in it.

4. To transact Cryptocurrency special hardware and software is needed which is not easily available. Therefore, most of the users operate it through third party crypto wallet providers or crypto exchanges due to higher transaction costs and there remain chances of theft. Investors Protection from digital theft remains one of the challenging issues.

5. Regulatory issues in using Cryptocurrency issues remain major challenges in its acceptance. As payment made through Cryptocurrency is anonymous and it cannot be quantified for its use and hence there is likelihood of tax evasion through its illegal use and may be utilised for antinational activities and terror funding.

6. It is being seen that fall in price of Cryptocurrency do not bring new buyers rather generate more sellers whereas rise in price of Cryptocurrency increases number of buyers. Value of Cryptocurrency remains volatile since its inception and there remains big gap between their conversions in fiat currencies which is clear sign of low liquidity (table-1).

7. One of the major challenges in pseudo anonymity of Cryptocurrency make it vulnerable to be used in money laundering and terror financing as there are no intermediary checks about integrity of transactions and identity of the people involved in it.

Conclusion

Digital payment with confidentially without third party intervention has made Cryptocurrency an innovative payment network and new type of money used as digital substitutes for fiat currency. In spite of its continuous growth market adoption of Cryptocurrency by general public remain very thin because still it is away from fulfilling the expectations of common people. Today, there will be hardly any person who thinks of Cryptocurrency as the only means of making payment for his future purchase. Major challenges in acceptance of cryptocurrencies remains its misfit with existing regulatory framework like financial integrity, protection of consumers, payment of tax and misfit with monetary policy and liquidity volatility. Majority of financial institutions are in the process of investing significant amount on adoption of Cryptocurrency for making payment but still it is not yet openly accepted. In recent time banks have also using digital technology to improve the efficiency and soundness of payments and the broader financial system and economise on liquidity provision to real time gross settlement (RTGS) systems. Today to increase its acceptability, it is expected that Cryptocurrency should by better than Cash or Credit and easily exchangeable for goods and services, easily convertibility, stability and ease of use.

References

Ramis, J., Sherwin, L., Rodrigo P. (2016). Cryptocurrency digital asset class of the future – bitcoin vs ethereum? https://www.economist.com/sites/default/files/ economist_case _comp _ivey.pdf (Accessed on December 3, 2018).

Alexander, D., Peter L., & Zintis V. (2016). The Future of Cryptocurrency An Investor's Comparison of Bitcoin and Ethereum, https://www.economist.com /sites/default /files/the_future_of_cryptocurrency.pdf (Accessed on December 3, 2018).

Chief Investment Office Americas, Wealth Management (12 October 2017), Cryptocurrencies Beneath the bubble https://www.ubs.com/ content/ dam/ Wealth Management Americas/cio-impact/cryptocurrencies.pdf (Accessed on December 5, 2018).

Eli, D., & Jerry B. (2014). Cryptocurrencyhttps://coincenter.org/wp-content/uploads/ 2015/05/cryptocurrency-article.pdf (Accessed on December 5, 2018).

BIS Annual Economic Report (2018). Cryptocurrencies: looking beyond the hype. https://www.bis.org/publ/arpdf/ar2018e5.pdf (Accessed on December 6, 2018)

Morten, B. & Rodney, G. (2017). Central bank cryptocurrencies. https://www.bis.org/publ/qtrpdf/r_qt1709f.pdf (Accessed on December 6, 2018).

Stephen, C., Jeffrey, C., Saralees, N. & Joerg, O. (2017). A Statistical Analysis of Cryptocurrencies. file:///C:/Users/ssaty/Downloads/jrfm-10-00012.pdf (Accessed on December 6, 2018).

Public private analytic exchange programme (2017). Cryptocurrency as a payment model. https://www.dni.gov/files/PE/ Documents/9---2017-AEP_Risks-and-Vulnerabilities-of- Virtual-Currency.pdf (Accessed on December 6, 2018).

Yuonne, K. (2017). PWC/IFRS News March, Cracking the cryptocurrency code; or what is bitcoin anyway? https://www.pwc.lu/en/ifrs/docs/pwc-ifrs-march17.pdf (Accessed on December 6, 2018)

Garrick, H. & Michel, R. (2017). Global Cryptocurrency Benchmarking Study https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/down-loads / 2017-global-cryptocurrency-benchmarking-study.pdf (Accessed on December 6, 2018).

Prastudy, F., Sarah M., Rebekah, M., & Claudio O. (2018). Quisquis: A New Design for Anonymous Cryptocurrencies https://eprint.iacr.org/2018/990.pdf (Accessed on December 6,2018).

Rodney, G. (2018). Liquidity Or Leakage Plumbing Problems With Cryptocurrencies https://www.longfinance.net/media/documents/Liquidity_Or_Leakage_KQg79GR.pdf (Accessed on December 6, 2018).

Stefan, I. & David, D. (2018). Money, Transformed The future of currency in a digital world https://www.imf.org/external/pubs/ft/fandd/2018/06/pdf/fd0618.pdf (Accessed on December 6, 2018).

Shingo, L. (2017). Democratizing Cryptocurrency https://www.ethos.io /Ethos_Whitepaper.pdf (Accessed on December 6, 2018).

Ryan, F. (2015). An Analysis of the Cryptocurrency Industry.https://repository.upenn.edu/cgi/viewcontent.cgi?article=1133&context=wharton_research _scholars (Accessed on December 6, 2018).

Cameron, H. (2016). Cryptocurrency and the Problem of Intermediation http://www.independent.org/pdf/tir/tir_20_04_05_harwick.pdf (Accessed on December 6, 2018).

Gita, B. (2015). Currency Notes, https://www.imf.org/external /pubs/ft/fandd/2015/12/pdf/currency.pdf (Accessed on December 6, 2018). 18. Peter, D. D. (2017). An Analysis of Cryptocurrency, Bitcoin, and the Future.

https://www.researchgate.net/profile/Peter_Devries2/publication/316656878_ An_Analysis _of_Cryptocurrency_Bitcoin_and_the_Future/links/590a0af90f7e9b1d0823c253/An-Analysis-of-Cryptocurrency-Bitcoin-and-the-Future.pdf?origin=publication_detail(Accessed on December 25, 2018).

Eli, D. (2014). Cryptocurrency. https://www.researchgate.net/profile/ Eli_Dourado/publication/298792075_ Cryptocurre -ncy/links/56ec12ad08a ee4707a384f3a/ Cryptocurrency. pdf (Accessed on December 25, 2018).

Nakamoto, S. (2008). Bitcoin: A Peer-to-Peer Electronic Cash System. bitcoin.org. https://bitcoin.org/bitcoin.pdf. https://bitcoin.org/en/ (Accessed on December 25, 2018).