



THE IMPACT OF CRYPTOCURRENCY ON THE INDIAN ECONOMY

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ABSTRACT

In the wake of the swift development of information and communication technology, a plethora of our routine affairs has morphed online. The vast spike in the internet user base has initiated virtual world concepts and given rise to a new business circumstance, using digital gold to ease monetary operations like trading, buying, and selling. This study aims to provide a better understanding of crypto currency and to analyze the impact digital currency has on the world from the environment to the financial market and the social impact. The study educates one on the history of crypto currency and further explores the user's anticipation of the crypto currency in the time ahead. It goes on about the situation of digital currency in India and the simmering discussion of whether crypto-currencies should be banned or controlled. Apart from this, the paper focuses on spreading awareness about crypto currency so that people have a clear understanding of it before investing in it.

Keywords: Bit coin, Block chain, Crypto currency, Gold farming, Virtual currency

1. INTRODUCTION

Beyond the shadow of a doubt, the reign of information and communication technologies has brought with it myriad golden opportunities for people from all walks of life. The business and finance sector is one of the areas that bear fruit from this reign. Crypto currency (CC) is "any medium of exchange, apart from real-world money, that can be used in many financial transactions whether they are virtual or real transactions". They can be deemed as

intangible currency which can be utilized electronically in manifold networks, platforms, and applications such as virtual worlds, online social networks and games, and peer-to-peer networks. This hot off-the-fire phenomenon has attested itself as a reputable and viable, and lucrative source of currency across the globe because of its autonomy, flexibility, effectiveness, and convenient nature. Diverse forms and aspects of crypto currency were procured to provide an alternative source of currency. Crypto-currency enables transacting participants to stay incognito all along ascertaining that the proceedings are valid. It is not possessed, regulated, or ruled by any organization, government, or privately-run institution. Basically, it is modeled to be safe, protected, and incognito.

Crypto currency is followed up with the internet using cryptography. Cryptography can be defined as the process of modifying comprehensible information into code that is nearly impossible to decipher so as to keep a track of purchases and transfers. There are many well-known digital currencies like — Bitcoin, Ethereum, and Litecoin. Crypto currencies are always brought about to be free from government plots and schemes. A senior government official of India said, "One bitcoin today is worth as much as 10 grams of gold. The market cap for all crypto-currencies has just crossed \$100 billion, with most of the increase coming in the past few months."

On April 1, 2017, "the total market cap was just over \$25 billion, representing a 300% rise in just over 60 days" (Mazer, 2017). This is a brief study on the challenges faced by crypto currency, its issues and drawbacks, its benefits, and the impact it had on India and the Indian economy.

2. LITERATURE REVIEW

2.1 HISTORY OF CRYPTOCURRENCY

To understand the impact of crypto currencies on the economy thoroughly, understanding their history and origin is a prerequisite. The digital currency got going in 2008 when Satoshi Nakamoto — the name used by the alleged pseudonymous person or persons who published their white paper detailing which later, came to be known as Bitcoin. It became the first decentralized crypto currency to be coined upon its inception and went public in 2009. In 2011, Namecoin, Litecoin, and Ripple began to rise. In 2012 & 2013 Peercoin, and Primecoin, Emercoin, and Gridcoin were introduced. DigitalNote, Auroracoin, Vertcoin, and

many others were created in 2014. In 2015, Ethereum, SixEleven, IOTA were founded. In 2017, Bitcoin Cash, Ubiq, and BitConnect came into existence. Bitcoin is the most widespread and has the maximum dominance in the crypto currency market. Meanwhile, several other coins like Ethereum (ETH), Ripple (XRP), Litecoin (LTC) came to be significantly recognized. Taking into account the popularity and history of Bitcoin, the term “altcoin” was devised to define several crypto currencies like bitcoin, particularly coins with small market capitalization (Singh and Singh, 2018).

2.2 CRYPTOCURRENCY AND BLOCKCHAIN

Crypto currency or digital currency employs block chain to function. They are inherently linked owing to crypto currency’s reliance on block chain technology. Block chain is defined as "the master public ledger that records and stores all prior transactions and activity, validating ownership of all units of the currency at any given point in time”. Technically, a transaction involving crypto currency is not complete unless it is introduced to the block chain, which is generally resolved within a few minutes. The transaction cannot be reversed once it is completed. This delivers a secure and permanent audit trail for them. The information is hence encrypted and cannot be altered or twisted as soon as the computers on the network have verified, cleared, and approved it. In other words, block chain is putting together a database that would be very difficult to tamper with. Hence, the bitcoin makes it difficult to manipulate the source code of crypto currency. It prevents the currency of similar units from being copied and sent to any other recipient. It is immutable and thus renders increased security.

The block chain network is decentralized. This means that there is no governing authority, providing a system of peer-to-peer transactions or other entries that deems third parties like conventional banks or other financial institutions unnecessary.

2.3 DIFFERENT ASPECTS OF CRYPTOCURRENCY

Apart from Bitcoin, and others, crypto currency is carried out on many other platforms like social networks, social games, and peer-to-peer networks.

Various surveys on the web proposed that 70.9% of the players have been dealing with digital currency in social games like Second Life, CityVille, FarmVille, Travian, and Farmhouse. These games have virtual currency arrangements in their operation. This reveals that online social gaming participants are involved in dealing, exchanging, and trading of

virtual currency. So, it proves that the usage of digital currency in online social games is increasing significantly (Haque and Farooqi, 2018).

If we take the parameters like, spread and increase into consideration then the peer-to-peer network slips down to the end of the list. However, it can stand at the top in other aspects like functionality and control. As mentioned early in the paper, there are different types of virtual currency with different manners of trading, and dealing with them. The surveys examined some of these manners to assess how people are, dealing, trading, and exchanging their virtual currency. From the surveys, it is found that most of the people involved in online social gaming, are procuring digital currency from the gaming experience by beating monsters, completing levels, and winning races. These people embody 64.3% of the aggregate online social gaming players who deal, handle, and trade in crypto currency. The use of virtual currency in varied platforms is rising day by day suggesting that the confidence and reliance in using them has improved too.

According to Greenwood, people from many European countries like Italy, Greece, and Spain have reclaimed their tangible money, particularly crypto currency Bitcoin, in the fear of facing a financial crisis in future. Moreover, the huge percentage of dealing, exchanging, and trading virtual currency QQ coin, Linden Dollar, indicates the improving assurance and trust in the usage of virtual currency. Many social games and applications developers are inclining towards monetizing their methods by enforcing digital currency. As discussed before, there are different manners in which trading, dealing, and exchanging of virtual currency of different aspects is done. This digital platform still has no common virtual currency. So, the virtual currency can be produced and collected in many different ways such as, pay for crypto currency, Offer-based method, Loyalty-based method, and Self-effort-based method. Similarly, the exchange can be performed in two major ways: by use of tangible items like money, goods, services, and for digital items within the virtual world (Delgado et al, 2018).

2.4 RISE OF CRYPTOCURRENCY IN INDIA

Bitcoins have been procurable and contributing to various small-scale transactions in India since 2012. These were the initial days of the journey of Bitcoin when only selective people were piqued by Bitcoin. By 2013, it had begun to achieve a certain level of approval and regard. It was extending across many countries and some of the businesses had started embarking towards dealing in Bitcoin. In the short span of time, exchanging in crypto

currency had begun in India too. Some of the pioneers like BtcxIndia, Coinsecure, and Unocoin commenced exchanging, dealing, and trading of cryptocurrency services in India (Dey et al, n.d). Gradually with time, many companies like Koinex, Zebpay, and Bitcoin-India were introduced to the list. With the spike in crypto currency, many such trading and exchange outlets had expanded from its mediocre state in 2013 to its remarkable position in India. Presently, over 10 Crores Indians hold crypto currencies (Yadava, 2018).

Crypto currencies, predominantly Bitcoin, have been expanding by leaps and bounds in India in spite of the skepticism of the Reserve Bank of India (RBI). Back in 2018, RBI had prohibited banks and other regulated financial institutions from marketing with clients holding private crypto currencies like Bitcoin. But, soon the Supreme Court revoked the RBI's order. Hence, diminishing uncertainties about the legal status of crypto currencies and giving rise to a swift rise in trading volumes. Currently, 11 Bitcoin trading platforms reside in India. CoinSwitch Kuber, CoinDCX, and Zebpay are a handful of the various hot off-the-fire platforms that have stood up to encourage trading, dealing, and exchanging in crypto currencies (Jani, 2018).

2.5 INDIAN GOVERNMENT'S STANCE ON CRYPTOCURRENCY

The stance of the Indian government with regards to Crypto currency is quite inconsistent and clouding. The Indian government has warned citizens against dealing and trading in the digital currency due to absence of lawful protection and uncertainties involved in its trade.

Furthermore, Indian citizens were not able to get any assistance in case of fraud or deception while dealing in crypto currency. This led to formation of a proficient committee to measure the risks involved. This committee had to analyze the development of crypto currencies and release the statement in a few months. As of today, some of the nations have been ratifying crypto currencies, formulating the judgment while others lack behind. Crypto currency comes with a lot of drawbacks and difficulties. The Reserve Bank of India (RBI) has cautioned people about risks involved in the trade of crypto currencies.

The Government of India has not banned the crypto currency but refused to endorse or ratify them. Only the approaching time will be able to disclose the direction in which the Indian crypto currency market will shift concerning the aspect of legalization. As of now, the topic of legality regarding crypto currency is still vague in India. According to sources, the government has been intending to introduce a regulatory regime for crypto currencies like Bitcoin. This regime would allow the taxes on the Goods and Services but the trade, deal,

and exchange would be supervised by the stock market regulatory, Securities, and Exchange Board of India (SEBI) (Agarwal and Arora, 2018).

2.6 CHALLENGES & ISSUES

Crypto currencies are not unencumbered by financial problems, challenges, and drawbacks. A handful of the major issues and impacts of crypto currency can be categorized into:

Collapse suspicions regarding crypto currency - Boundless circulation of digital currency on myriad platforms will bring about financial crises as it is not issued based on demand and supply. Some of the suppliers may issue indefinite crypto currency and heighten the prices of their digital items so as to attain surplus of real revenues. However, this may lead to inflation, financial issues and cause damage to the system of digital currency.

Impact on the environment: Two of the prominent sources of energy across the globe are Coal and other fossil fuels and hence, are valuable to industries of crypto currency and mining. Apparently, burning of coal is a predominant contributor to climate change given the carbon dioxide that it releases and 35.95 tons of carbon dioxide that is emitted each year. Moreover, the mining process of crypto currency produces a critical portion of e-waste. This happens when the hardware is out of date. This is primarily credible for application-specific, specialized hardware for Bitcoin, Litecoin mining. As Digiconomist attested, the Bitcoin system produces about eight to 12 thousand tons of e-waste per year (Alfonso et al, 2016).

Effects on the real monetary system: As some of the systems in crypto currency deal with real-world money, they are expected to influence the demands and supply of real-world money. This allows a user to trade, deal, exchange, and purchase digital and actual goods and services from crypto currency on platforms that may decrease the demand for real-world money. People will not be reliant and dependent on money to perform financial operations. They would rather trade in virtual money. Whereas if some platforms allow people to trade, deal, and exchange their digital currency with real-world money, it would improve the markets for real-world currency.

Risks involved in gold farming: The term, gold farming is a rather vogue concept in China and other developing nations. The gold farmers are those people who are involved in playing online social games to win the virtual currency referred to as, gold. Later on, they trade it for real-world money with targeted buyers or players who do not have sufficient time for playing the game and winning virtual currency. This gold farming process generates massive cash

flow, which is not monitored and regulated. This is ought to intensify deceit, fraud, and financial risks whenever crypto currency is traded, sealed, in exchange of real-world money.

The variation in the value of virtual currency: It is understandable that the value of a virtual currency varies with the incline or decline of the virtual platform that it works on.

Money laundering: The threat of money laundering is relatively prone to emerge with the usage of Crypto currency, even more so with platforms that allow people to trade, deal, and exchange digital currency with real-world money (Raymaekers, 2015).

3. METHODOLOGY

Through the study, the impact Crypto currency has on the Indian economy is dealt with. Further, the study goes about the question of whether crypto currencies should be banned or controlled. In addition, the study deals with the history and expectations revolving around the future of crypto currency. It also shines light on the subject of Blockchain and Bitcoin. The study educates one on the challenges and issues digital currency brings.

The study is majorly based on a Qualitative approach. The qualitative approach has to do with the "what", "how" and "why" of opinions, mindsets, and beliefs. Qualitative data is usually in the form of writings, photographs, videos, and audio. Articles, scholarly papers, research papers were studied to analyze, find out, and validate the study. This approach was adopted as it gives detailed descriptions of people's experiences, opinions, and perceptions which the Quantitative approach doesn't. At necessary points, the Quantitative approach is also adopted as statistics make the study more reliable which the qualitative approach alone doesn't. Quantitative research is the process of collecting, organizing, analyzing, and interpreting numerical data. Various statistics and surveys on the web were referred to and briefly analyzed for the study.

4. DISCUSSION & ANALYSIS

The debate of whether crypto-currencies should be banned still simmers today. In order to work through this one needs to put forth the pros and cons for the same. Where on one hand, some insist that crypto currency will undesirably affect the global economy; on the other hand, others argue that the absence of control and regulation turns out to be more democratic (NDTV, n.d). They further rebut that crypto currency aids financial inclusion in poor nations owing to the heightened transparency during transactions, decentralized ledger system, cheaper cost of the transaction, its potential to overthrow inflation.

Secondly, Crypto currency delivers manifold incentives to entrepreneurs around the world. It's now easier for entrepreneurs to enter and strive in the international markets instead of rigidly trading in the national markets. It has rendered a modern technology-based system to go about business. It has enabled International trade to occur much more smoothly. The advantages of virtual currency are numerous. Some of them are: Crypto currency networks are intrinsically protected and secure as they operate on Blockchain Technology, NSA-created cryptography. It is readily accessible and convenient for the widespread public. The price fluctuations in crypto currency markets are expected to generate large profits. It delivers a simpler way to transfer funds between two people. Crypto currency deals and transactions are more often than not economical than conventional electronic financial transactions. Crypto currency enables users to evade the excessive charges obtained by banks and other financial institutions. Moreover, crypto currency can lessen the cost and complexity of international transactions as they are not under the Central Bank. They don't deal with international transactions in any other manner than they do domestic transactions.

However, this modern form of virtual currency also has shortcomings that have deterred the government from taking that next step. All the advantages that crypto currency brings along do not imply that there stands no risk in financing in crypto currencies. One of the central problems with virtual currency is its incompetency to safeguard buyers. As the system is not in favor of employing a third party to authorize transactions, sometimes consumers are left scammed. Hackers and vicious users learn to sever the system and understand the procedure of virtual currency creations; they can make tons of money (The Balance, 2018). Crypto currency would allow them to establish counterfeit virtual currency or embezzle virtual currency by simply altering the account information. One of the disadvantages is its unfamiliarity and absence of trust and faith among a huge portion of the users. Several people are not informed of how to obtain and manage crypto currency.

People invest in Crypto currency without adequate understanding. Hence they unwrap themselves to hackers and vicious users. One of its other shortcomings is the undue volatility crypto coins exhibit regularly. Furthermore, Crypto currency is less fluid than the stock market. The rules and legislation around crypto currencies are consistently amending. Hence, there is no alternative for digital asset retrieval. Lack of rules and regulations promotes black market activity. Users can establish multiple accounts with hidden identities and manipulate

them for illicit transactions. The use of crypto currencies has been legalized by a few countries only. Making no means to receive a reimbursement of the amount mistakenly paid. Evaluating all pros and cons, what can be drawn from it is that banning crypto currency is not a reasonable option. Even though the odds are massive, the advantages crypto currency brings along cannot be ignored. The reasonable alternative here seems that rather than banning crypto currency the government could legally acknowledge and regulate it. The intention is to deal with such currency in a way similar to the digital market of gold so that it can be traded all the while maintaining a record of its usage for criminal activities such as money laundering, drug trafficking, and so on.

5. CONCLUSION & RECOMMENDATIONS

To conclude the paper, Crypto currency delivers modern, productive, and remarkable techniques regarding payments which can increase the earnings of companies and operators. Furthermore, they also offer another structure for settlement that uses digital currency instead of real money. This structure enables users to conduct financial activities like trading, dealing, buying, selling, transferring, and exchanging skillfully. Even though the platforms for crypto currency give clear multiple incentives for digital monetary transactions and render a unique form of currency, they are still not monitored, regulated and legislated as required. Crypto currency will prosper in the forthcoming future and have a tremendous scope so forth. Nonetheless, this modern form of currency does not safeguard people around the globe from frauds that may occur with them very effortlessly. The absence of rules and legislation is regarded as the primary concern in crypto currency networks. It is now a prerequisite for the government and governing authorities to examine, understand, and acknowledge the working of crypto currency.

Crypto currency institutions along with these authorities can develop a notable and safe currency exchange system. The destiny of Crypto currency would be much more advantageous, reasonable, and is more likely to bring manifold opportunities and growth to the economy with a few amendments. With the help of swift development and the modification of technology, crypto currency will not cease to prosper. On an individual basis, while considering investing in crypto currency, one should evaluate and keep in mind the pros, cons, and impact of crypto currencies. Prior to investing in any crypto currency, the stance of the Indian government regarding its legalization and regulation must be contemplated.

With a simple legitimization judgment of the government, the Bitcoin market will be proficient to broaden the scope of usage. For a bright future of crypto currency, one needs to overcome the obstacles accompanied by crypto currency.

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