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A STUDY ON CRYPTOCURRENCY – w.r.t Bitcoin and Ether

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ABSTRACT

The cryptocurrency market has evolved erratically and at unprecedented speed over the course of its short lifespan. Since the release of the pioneer anarchic cryptocurrency, Bitcoin, to the public in January 2009, more than 550 cryptocurrencies have been developed, the majority with only a modicum of success.In addition to this, there are hundreds of crypto currencies with market values that are being traded and thousands of crypto currencies that have existed as some point.

There is a common element among these different crypto currency systems called as 'Public Ledger' which is technically termed as "Block Chain" that is shared between network participants and use of native token as a way to incentive participants for running the network in the absence of a central authority.The majority of crypto currencies are largely clones of bitcoin or other crypto currencies and simply feature different parameter values (e.g., different block time, currency supply, and issuance scheme). These crypto currencies show little to no innovation and are often referred to as 'altcoins'. Examples include Dogecoin and Ethereum Classic.

This research paper emphasized on the emergence of crypto currency as a result of digitalization. The data has been analysed from published and unpublished.

Key Terms: Digitalization, Technology, Block Chain, Bit Coin and innovation.

1.0 INTRODUCTION

The world's money and finance is transforming on a fast pace, shifting its paradigm from age old barter system to today's digital money. Privatization, Liberalization and Globalization has led to Digitalization. Financial products, instruments and systems are getting digitalizing on par with the changing face to globalization.

The cryptocurrency market has evolved erratically and at unprecedented speed over the course of its short lifespan. Since the release of the pioneer anarchic cryptocurrency, Bitcoin, to the public in January 2009, more than 550 cryptocurrencies have been developed, the majority with only a modicum of success.In addition to this, there are hundreds of crypto currencies with market values that are being traded and thousands of crypto currencies that have existed as some point.

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The majority of cryptocurrencies are largely clones of bitcoin or other cryptocurrencies and simply feature different parameter values (e.g., different block time, currency supply, and issuance scheme). These cryptocurrencies show little to no innovation and are often referred to as '*altcoins*'. Examplesinclude Dogecoin and Ethereum Classic.

In contrast, a number of cryptocurrencies have emerged that,while borrowing some concepts from Bitcoin, provide noveland innovative features that offer substantive differences.

As of April, 2017, the following crypto currencies are the largest after Bitcoin in terms of market capitalization:

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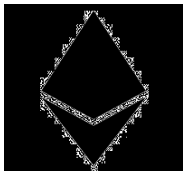
Table 1.0

Sl No.	Crypto Currency	Year of Launching	Features
1.	Ethereum (ETH) 	2015	De-centralized computing platform which features its own Turing-complete programming language. The block chain records scripts or contracts that are run and executed by every participating node, and are activated through payments with the native cryptocurrency 'ether'.
2.	Dash 	2014	This is a privacy-focused cryptocurrency, that experienced a significant increase in the market value since the beginning of 2017.
3.	Monero (XMR) 	2014	This aims to provide anonymous digital cash using ring signatures, confidential transactions and stealth addresses to obfuscate the origin, transaction amount and destination of transacted coins.
4.	Ripple (XRP) 	2012	This is the only crypto currency that does not have a block chain, but instead uses a 'global consensus ledger'.
5.	Litecoin (LTC)	2011	It borrows the main concept from bitcoin. It is considered to be 'silver' to bitcoins 'gold' due to its more supply of 84 million LTC
6.	Bitcoin	2009	First decentralized cryptocurrency developed by Satoshi Nakamoto.Itensures every block and transaction it accepts is valid, increasing not only your security but also helping prevent miners and banks from taking control of **Bitcoin**.

Source: Secondary Data

The above table reveals that there are 6 types of cryptocurrencies, launched in different years since 2009 to 2015, with independent features.

2.0 REVIEW OF LITERATURE

The review of literature of cryptocurrency reveals that, the era of electronic currency dates back in 2009 with the launching of bitcoin which was the first successful decentralized cryptocurrency. In short, a cryprocurrency is a virtual coinage system that functions much like a standard currency, enabling users to provide virtual payment for goods and services free of a central trusted authority. Cryptocurrencies rely on the transmission of digital information, utilizing cryptographic methods to ensure legitimate, unique transactions. Bitcoin took the digital coin market one step further, decentralizing the currency and freeing it from hierarchical power structures. Instead, individuals and businesses transact with the coin electronically on a peer-to-peer network. It caught wide attention beginning in 2011, and various altcoins – a general name for all other cryptocurrencies post-Bitcoin – soon appeared.Bitcoin is an open source, peer-to-peer digital currency first proposed in a 2008 white paper published under the name of Satoshi Nakamoto. Nakamoto begins his paper by stating that "Commerce on the Internet has come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments. While the system works well enough for most transactions, it still suffers from the inherent weakness of the trust based model".

Thus, the cryptocurrency industry includes much more than just Bitcoin, although Bitcoin has a market capitalization of approximately 3.3 billion compared to the total market capitalization of the cryptocurrency industry of 3.8 billion (86%).

3.0 Objectives of the study

On the basis of review of literature, the following objectives are taken for the study:

1. To study various about cryptocurrencies as an emerging financial product in the market.
2. To study the legal status of cryprocurrencies in various countries.

4.0 ResearchMethodology

1. **Sources of Data: (a) Secondary Data** – Most of the data is collected from the empirical evidences drawn by the expert research analysts on cryptocurrency from various countries, journals, articles, digital libraries and reputedinternet sources.

Scope of the study

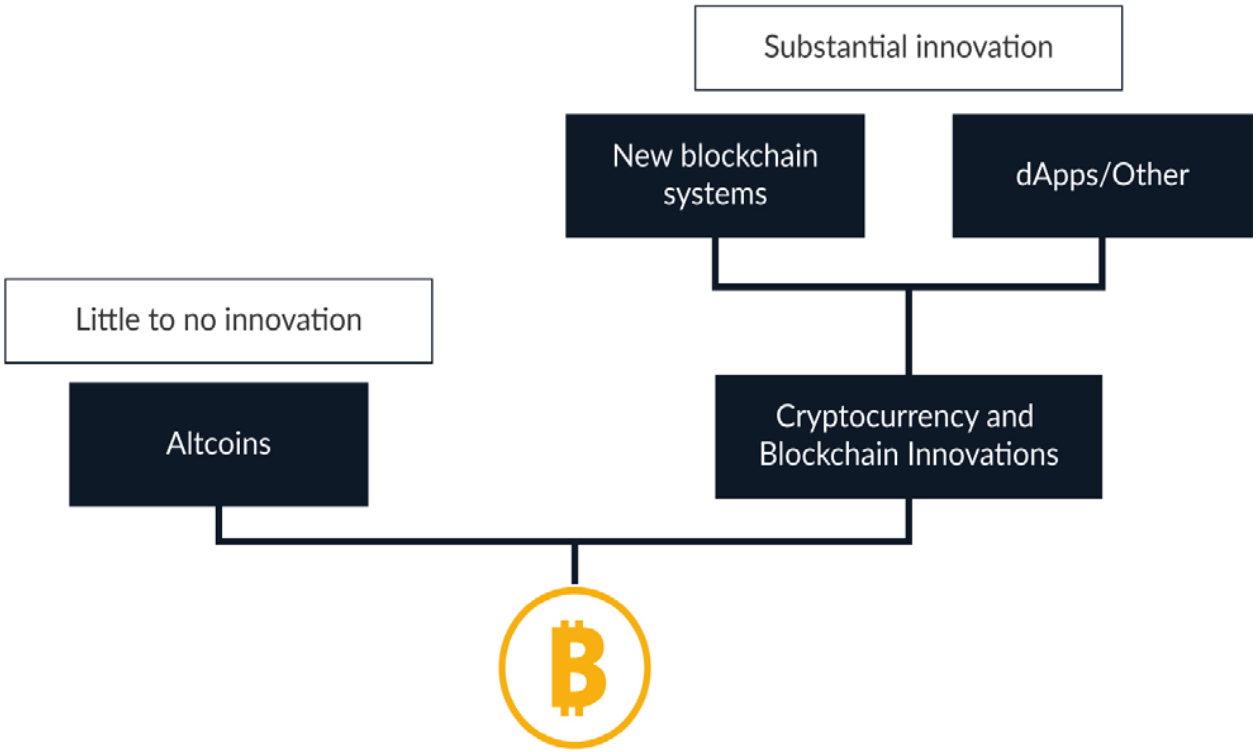
The study is confined to the economic analysis viz., Demand and Supply of cryptocurrency in India and other major countries (selected) and its share in our money market. The growth of various cryptocurrencies in different years, its value from time to time and its status as a renowned currency.

Period of study

From the above theory it has been revealed that the electronic currency has been emerged in the year 2009. Hence, the period of study is taken from 2009 to 2017.

Figure 1.0

The world of cryptocurrency beyond bitcoin:



Source: Secondary Data

The above figure 1.0 reveals that there are many other currencies beyond bitcoin which has been emerged with the change in the time, since 2009 to 2015. But there is a significant difference between the bitcoin launched in 2009 and substantial innovations.

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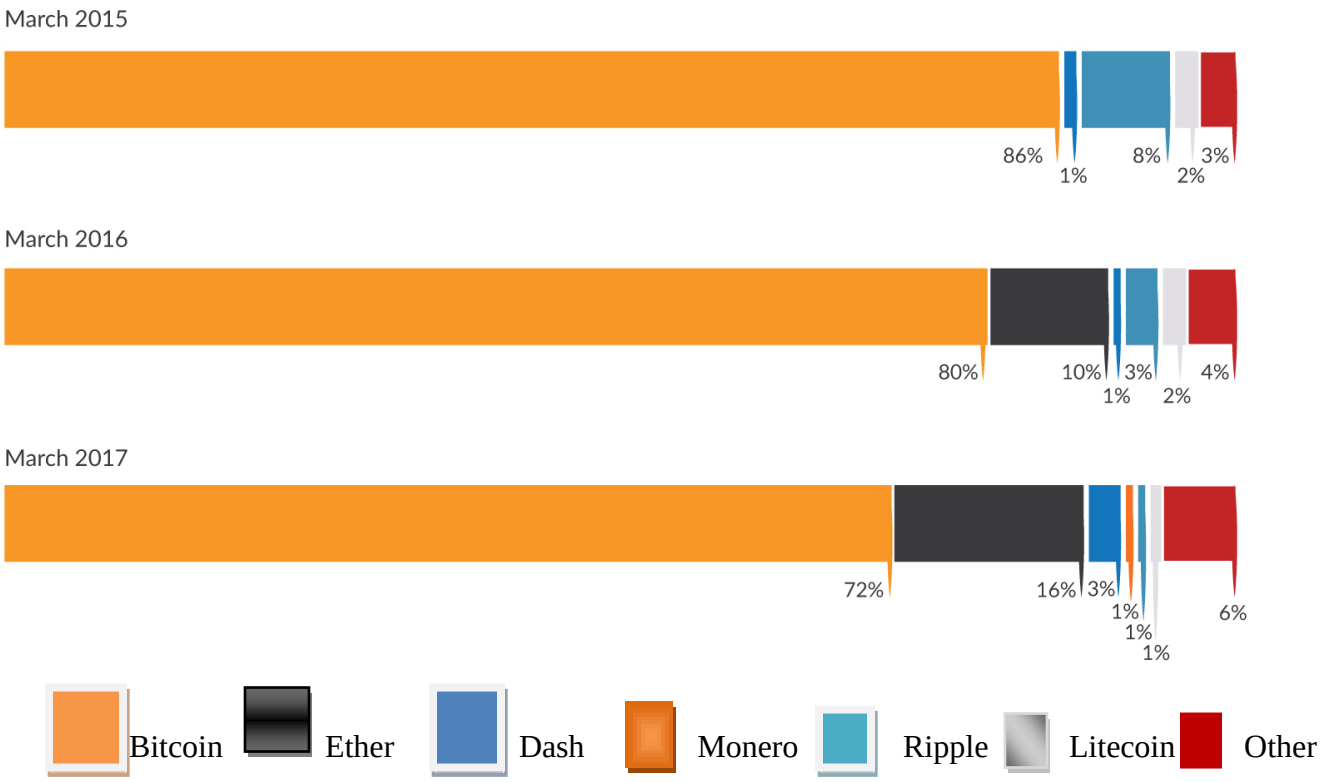
Figure 2

The share of various cryptocurrenciesbetween 2015 to 2017:

Bar chart

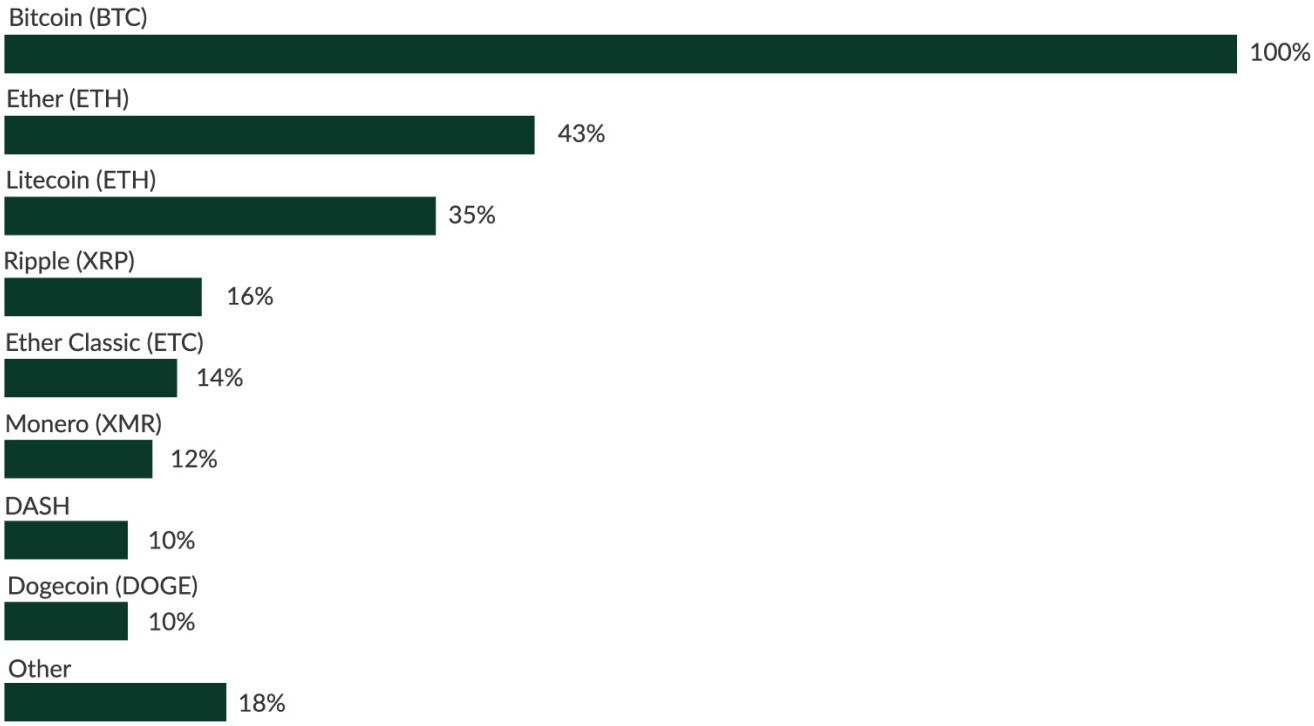


Source: Secondary Data

From the above figure, it is evident that Bitcoin has occupied 86% of the share when compared to Dash (1%), Ripple (8%), Litecoin (2%) and Others (3%) in 2015. During 2016, Bitcoin share was 80%, followed by Ether (10%), Dash (1%), Ripple (3%), Litecoin (2%) and Others (4%). During 2017, the Bitcoin share was (72%), Ether (16%), Dash (3%), Monero (1%), Ripple (1%), Litecoin (1%) and Others (6%).

Figure 3

% of Exchanges supporting the listed cryptocurrencies



Source: Secondary Data

From the above figure, all exchanges support Bitcoin (100%), while Ether and Litecoin are listed on 43% and 35% of exchanges, respectively.Only a minority of exchanges make markets for the exchangeof cryptocurrencies other than the above three.While 39% of exchanges solely support bitcoin, 25% have two listed cryptocurrencies, and 36% of all entities enable trading three or more cryptocurrencies. We observe that 72% of large exchanges provide trading support for two or more cryptocurrencies, while 73% of small exchanges have only one or two cryptocurrencies listed. 6% of survey participants also provide cryptocurrency-based derivatives, and 16% are offering margin trading.Of all the cryptocurrencies, Bitcoin and Ether are mostly in demand as per analysis made.

Legal Status ofCryptocurrency in various countries:

Table 2.0

Country	Scope of Cryptocurrency	Decision by the Government
China	Prohibition	December 5th, 2013, China's Central Bank prohibited financial institutions from handling Bitcoin transactions. Individuals and private parties can legally trade Bitcoin.
Russia	Prohibition	In February 2015, Russia's Prosecutor General's Office claimed that Bitcoin cannot be used by individuals or legal entities.
Iceland	Prohibition	The Icelandic Central Bank said "it is prohibited to engage in foreign exchange trading with the electronic currency bitcoin, according to the Icelandic Foreign Exchange Act".
Taiwan	Prohibition of ATM's	Taiwan Government refused ATM's for Bitcoin
USA & Singapore	Protection from Money Laundering & Illicit activities	Financial intermediaries to verify the identities of their customers and report suspicious transactions. Bitcoin exchanges and most miners obliged to collect information onpotentially suspicious transactions and report these to the federal Government. Also these two countries opined that sale, exchange and usage of cryptocurrency will result in tax liability.
Japan, Finland & Germany	Tax imposition on Bitcoin	The tax will cover gains from trading Bitcoins, purchases made with Bitcoins and revenues from transactions. Banks and securities firms will be prohibited from Bitcoin trades.
Israel & India	Unclear Regulations	The Israel Securities Issues Authority warned about the risk of using cryptocurrency to the users in their country. Very recently in India, RBI's General Secretary, Ajit Prasad made a statement, stating that, "The creation, trading or usage of virtual currencies including bitcoins, as a medium for payment are not authorized by any central bank or monetary authority."However, cryptocurrencies are currently not regulated.

Source: Secondary Data

From the above table, it has been analyzed that, many of the countries are having a limitation on the sale, exchange and usage of cryptocurrency. There are certain issues like taxation, establishment of ATM's for Bitcoin, which cannot be bring into force as the situation demands, but, the security and benefits in the long run also should be taken into consideration. The RBI made a statement about trading of virtual currencies but it is not exactly declared by the Government to the public making it a policy unlike Demonetization or implementation of GST.

5.0 Findings & Conclusion:

The following are the findings and conclusions drawn from the above analysis made:

1. Liberalization, Globalization and Privatization has led to Digitalization. From the above figure 2.0 it is evident that during 2015, Bitcoin has occupied 81% when compared to other cryptocurrencies.
2. During 2016, Bitcoin has occupied 80% of the share, whereas Ether is contributing only 10%.
3. During 2017, Bitcoin has occupied 72% and Ether 16% when compared to the share of remaining cryptocurrencies.
4. This shows that Bitcoin and Ether is holding a major share in various types of cryptocurrencies.
5. From Table 2.0, it has been analyzed that, every country is trying to impose limitations to the growth of cryptocurrency, anticipating the threat from virtual currency in transactions involving major currency.
6. In India, RBI has given a public statement stating that Bitcoin is not at all a legal currency.

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