Bitcoin: An Innovative Alternative Digital Currency: An Exploratory Study

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INTRODUCTION

Bitcoin (BTC) has emerged as the most successful cryptographic currency. Its creator (or creators), whose identity to this day remains unknown, goes by the name Satoshi Nakamoto. Nakamoto published a paper describing his or her creation entitled “Bitcoin: A Peer-to-Peer Electronic Cash System” in 2008. Since its inception, bitcoin, a virtual currency has grown in both its popularity and its use.

In 2008, Bitcoin announced, and a white paper penned under the pseudonym Satoshi Nakamoto was posted followed quickly by the source code of the original reference client.

In many ways it functions as a currency, whereby one party can send a unit of currency (in this case a string of code) to another party in exchange for a good or service. As such bitcoin is often referred to as a “virtual currency” or cryptocurrency”.[1]

“Mining” [2] in the world of Bitcoin is transaction processing, in which transaction records of current Bitcoin public ledger, known as blocks, are added to the record of past transactions, known as the block chain. Bitcoin provides a reward in exchange for the mining services provided by several “miners” throughout the world. This is a necessary incentive, as without the miners, the Bitcoin technology wouldn’t be able to operate. For being an effective miner, specialized & high-performance equipment is used. For even more efficient use of resources, mining “pools” are created. A mining pool is basically a number of miners mining on blocks as a group. Even though the blocks are mined faster, the rewards have to be divided in proportion to the efforts put in by individual miners as compared to the entire group.

The network generates a maximum of 50 bitcoins per block and this number decreases over time with the usage of the software, and it is thus designed such that no more than 21 million bitcoins [3] exist in the world.

This is a contrast to traditional money which is unlimited and prone to over-printing. The concept of Bitcoin was originally described and proposed by Wei Dan in 1998 [4], who conceptualized this cryptocurrency to be an alternative to traditional money which is currently centralized, and government-backed. The first official implementation of this concept was conceived [5][6] and published in 2009. Bitcoin has been drawing the attention of media, academicians, economists and practitioners.
OBJECTIVES
As per the discussions and forum on bitcoin it is understood that all the stakeholders in the society have expressed mixed opinion which are predominantly negatively biased reports. It is inferred that though Bitcoin may have its drawbacks like every new technology does, it can serve as a great tool from social, economic and financial point of view. Therefore this research and work is an attempt to project on both sides of the Bitcoin taking into both internal and external factors into consideration.

- Perception of the Bitcoin amongst individuals
- Impact of bitcoin on global economy

The purpose of this work is to explore the use of Bitcoin to further the cause of technological advancement, encourage free trade and transactions, and store monetary sums in a safe repository. In short towards common global economy.

METHODOLOGY
This is an exploratory study. Secondary data available on the website is referred. All the sources have been acknowledged.

REVIEW
The concept of money began with barter, progressed to the first metal money in 1000 B.C. which continues to be in practice in the form of paper money and metal coins. It has also evolved enough to be represented by plastic in the form of credit cards, ATM cards, and so on which in turn has been supported by physical payment machines of banks. Online banking has also found its way to the computers of many, and by extension, mobile banking has also come into play. In the ascent of money, several currencies exist in the world. Due to the fact that majority of the countries in the world have their own currency, there are about 180 currencies as of 2017. The advent of a global currency has divided the society into three groups: those who are against Bitcoin, those who are in support of Bitcoin, and the largest of these groups, those who do not know about Bitcoin.

Bitcoin uses the concept of global digital single currency which allows for cryptographic proof in lieu of trust and solves the problem of over-printing of traditional money that contributes towards inflation, amongst several other benefits [7]. It also keeps a record of each transaction in what is called a block chain, which acts as a public ledger for each transaction ever made, and so each bitcoin has a history that can be traced. Four variables regulation, security, acceptance and accessibility are identified in the ecosystem of Bitcoin in general [8] along with human factor and the technical factor. The six elements of human factor are users,
companies, exchanges, associations, miners and investors. There is a need for a common single currency for all 191 nations by 2024 and a global monetary union to collectively save the transaction fees.

Bitcoin is a global currency and it is much cause for debate worldwide. The research has unveiled several advantages that come with such a financial model. One of the most basic benefits would be to the common citizen who plans on sending and receiving money. In the current situation they are made to pay heavy taxes for international transactions, which is a problem that Bitcoin solves for the citizens. For the same reasons, even multinational corporations stand to benefit from the said advantage. Vancouver is home to the first Bitcoin Automatic Teller Machine (ATM). Mitchell Demeter of Bitcoiniacs, the firm that installed the ATM, said, “Right now, if I wanted to send you $5,000, and say you’re in Toronto, it would take three to five days for a wire transfer to come through and it would cost me $35, and it would cost you a fee. With Bitcoin, I can send you that money instantly and it would cost pennies” [10]. With a staggering number of different currencies, money exchange tends to come with transaction fee as well as a service charge for institutions that carry out the service. The elimination of multiple currencies can save a lot of resources and cut unnecessary spending. This is not just a theory but also a practice in some parts of the world [11] [12] [13]. The best example of single currency is Euro ease of financial transactions between the European Union members. The European Commission estimated that due to the adoption of a single currency 13 to 20 billion of Euro were saved annually [14]. Free trade is prohibited by the difference in currency exchange rates, neighboring countries that operate under a common currency tend to trade and exchange more often with each other.

APPLICATIONS

As a global economy, Bitcoin is having various social, economical and financial benefits.

The first use of Bitcoin as a currency is thought to be a transaction in May 2010, where one user ordered pizza delivery for another in exchange for 10,000 bitcoins. Since then, an increasing number of merchants and services have adopted Bitcoin and the price has generally risen, reaching a peak of approximately US$1200 per bitcoin in late 2013.

Potential users can purchase bitcoin by using an online exchange. These exchanges act as either brokers or dealers in allowing users to convert a major currency such as the U.S. dollar into bitcoins. The first of these exchanges, Bitcoin Market, open in February 2010. Another exchange, MtGox, first launched in July of that same year.
Based on the dollar values at these exchanges, the market capitalization of bitcoin (the number of bitcoin in circulation multiplied by the market price in dollars) exceeded $1 million by October 2010. By March 2013, the market cap surpassed $1 billion. During that time, bitcoin had come to be accepted as payment by a variety of businesses and organizations, from Baidu in China to coffee shops in Palo Alto and antique shops in New Orleans (Fung 2013, Hill 2013).

It is reality that Bitcoin hasn’t received much publicity apart from the largely negative speculation of the media. There are although several Bitcoin enthusiasts having strong view to support the use of bitcoins as a currency, a form of money and a medium of exchange. It has several entrepreneurs promoting the potential of this currency as it is tax-free.

In several ways, it can be inferred that use of digital money is more secure than traditional money. Traditional money is at risk of causing hyperinflation which occurs due to rapid rise of market prices. Money supply is a theory that suggests hyperinflation is due to increasing amounts of money which is not supported by proportional growth in output.

Latest example Demonetization in India by Modi Government. Historically, ‘demonetizations’ or radical recalls/replacements/redenomination of currencies by governments have been in response to hyperinflations. We know of many such cases of outright withdrawal of notes from circulation being resorted to, when normal means to suck up excess liquidity in the system have failed. The underlying purpose has always been to control runaway inflation and the accompanying loss of faith in the domestic currency, both among investors and the larger public. [15]

Bitcoin on the other hand has a finite number of 21 million bitcoins that can be generated and is fully decentralized. The technology is programmed to accept a particular rate at which bitcoins are generated and how they are created, so there is no way to “create” currency. Therefore, attempts to ease quantitatively will always fail. Secondly, controlled supply of currency can prevent inflation.

Bitcoin is finite and will soon becoming scarce, it resembles gold in that respect. This means that rarity will cause population to save rather than spend, which in turn contributes to economic depression. Therefore making further progress in adoption of bitcoin as a reliable currency.

WHAT DOES BITCOIN MEAN FOR THE WORLD?

As Bitcoin is non-geographic. If economies fall or governments change, Bitcoin won’t be affected like fiat currencies. It is also much more internet friendly, which means online commerce can improve. But the biggest winners here are probably the billions of people across Asia and Africa and other places that have an internet connection.
With the bank we can shop online and send money across the world even though it’s really slow and quite expensive. But in Kenya, they use cell phone minutes as money, they buy groceries with air time. In Argentina people are exchanging money in the black market because of inflation that makes it impossible to save money for a rainy day or for retirement. Non-geographic, global money is exactly what these people need – it works even if your government or banks don’t work.

Bitcoin isn’t only offering an economic alternative, but also a technological alternative. After all, Dollars today are numbers on a computer which represent numbers on a paper which used to represent hard metals, according to laws written hundreds of years ago. Bitcoin was born in the 21st century, which is why it is able to do lots of things that make people call it “smart-money”. For the same reason phones today are called “smartphones”, because they have more features than cellphones from a decade ago. [16]

FEW CRYPTO CURRENCY ORGANIZATIONS

[Image of logos of various cryptocurrency organizations]
KEY HIGHLIGHTS OF THE STUDY

• The current number of unique active users of cryptocurrency wallets is estimated to be between 2.9 million and 5.8 million.

• The lines between the different cryptocurrency industry sectors are increasingly blurred: 31% of cryptocurrency companies surveyed are operating across two cryptocurrency industry sectors or more, giving rise to an increasing number of universal cryptocurrency companies.

• At least 1,876 people are working full-time in the cryptocurrency industry, and the actual total figure is likely well above two thousand when large mining organizations and other organizations that did not provide headcount figures are added.
• Average security headcount and costs for payment companies and exchanges as a percentage of total headcount/operating expenses are similar, but significantly higher for wallets.

**Chart 1: Bitcoins in Circulation**
The total number of bitcoins that have already been mined; Source: blockchain.info

**Chart 2: Confirmed Transactions per Day**
Source: blockchain.info
COMPANIES ACCEPTING BITCOINS

Expedia- Expedia teamed up with Coinbase in implementing the world's largest travel booking agency found online. Since mid2014, users have been able to make hotel bookings using the Bitcoin payment option. Expedia currently accepts Bitcoins for hotel bookings only, but are expected to expand to include flight bookings and other activities.

Microsoft- Microsoft users can use Bitcoin to purchase games, movies and apps in the Windows and Xbox stores, as well as the Microsoft online stores.

Virgin Galactic-Since 2013, Virgin Galactic, a commercial space flight venture owned by Entrepreneur Sir Richard Branson, that includes companies such as Virgin Mobile and Virgin Airline, accepts purchases using Bitcoin. You can even pay for space travel with Bitcoin.

Overstock- Overstock is a company selling big-ticket items at lower prices, owing to overstocking. Overstock.com was the first online retailer to accept Bitcoins starting January 2014. Overstock partnered up with Coinbase allowing its customers to pay with Bitcoin for all their purchases, from TV sets and laptops to pillows. In order for you to use Bitcoins on Overstock, you need to simply choose the “pay with Bitcoin” option for you to complete your purchases.

Newegg- Newegg is an online electronics retailer who accepts Bitcoin as a payment method. If you are a gadget junkie, then you can make electronic purchases using Bitcoin.

eGifter-eGifter is a popular gift card mobile app, which allows users to buy gift cards for different places, such as Amazon, Sephora, Home Depot and Kohls. eGifter works with Coinbase as their Bitcoin partner. Bitcoins are accepted for purchasing gift cards for places that do not directly accept Bitcoins.

Zynga- For the online gamers, Zynga partnered with BitPay for their Bitcoin payments. Players can use Bitcoins for in-app purchases.

Subway-Subway franchises in Buenos Aires recently accept Bitcoin for payments at the restaurants for their “Eat Fresh” products [17]

CONCLUSION

Bitcoin has potential to replace traditional money. In order to do that, it must first evolve into a more secure form of money. Liaising with other forms of online payment and involving the government in insurance policies for protection against theft, are suggested steps for Bitcoin to grow out of its volatile stage. Bitcoin can possibly be protected in a way that is analogous to the protection of depositors by
the bank through Federal Deposit Insurance Committee (FDIC), thereby minimizing the risks of theft. According to the findings of the present work it is concluded that changes brought in the society are adapted gradually and rapid progress can be possible only through the efforts of showing all the stake holders the benefits of the possibility of a single currency.

REFERENCES

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