

The Era of Cryptocurrency

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Abstract:- The purpose of this study paper is to describe the new method of exchange, which is digital currency (in specific- cryptocurrency). It will also discuss the history of cryptocurrencies, its benefits and drawbacks, and the impact of bitcoin on people's lives, particularly the middle class. The technology built to prevent illicit activity during transactions will also be the subject of this article.

Keywords:- Cryptocurrency, Blockchain, Transactions, Bitcoin, Dogecoin, Mining.

I. INTRODUCTION

A cryptocurrency, crypto-currency, or crypto is a binary data designed to work as a medium of exchange wherein individual coin ownership records are stored in a ledger existing in a form of a computerized database using strong cryptography to secure transaction records, to control the creation of additional coins, and to verify the transfer of coin ownership. Bitcoin is the first cryptocurrency which was invented in 2008 and introduced in 2009 followed by a financial global crisis which made a huge negative impact. It was introduced by an anonymous person or group of people using the name Satoshi Nakamoto. Cryptocurrency consists of coins which are sold to the people in return of tokens, they put up as collateral. In return they get authority over the token in proportion to the amount they stake. Cryptocurrencies typically use decentralised control as opposed to a central bank digital currency. When implemented with decentralised control each cryptocurrency works through distributed ledger technology, typically a blockchain, that serves as a public financial transaction database. Blockchain prevents the criminals or the hackers to perform criminal activities such as frauds, money laundering etc. Crypto mining is a process in which transactions for various forms of cryptocurrencies are verified and added to the blockchain digital ledger. At present, there are more than 4000 cryptocurrencies introduced to the world out of which only a few are gaining public's attention.

II. ADVANTAGES OF CRYPTOCURRENCY

From the past few years, since the introduction of cryptocurrency many people have been investing in it, some losing and some getting big rewards. There are many other advantages of cryptocurrency specified as follows:

USER AUTONOMY:

This function of cryptocurrency involves direct transaction between the buyer and the seller, no intermediaries are involved, thus preventing any fraud or the extra charges charged by the intermediaries. Every transaction is self – governed. It is an extremely rapid way of exchange. The price of a cryptocurrency is not linked to any government policies, so basically users regulate its price as they are the owners.

DISCRETION:

Discretion works both as an advantage and also as a disadvantage. Talking about the advantage of discretion, it allows the person to make transactions without revealing their identities. This prevents the hackers or the people doing cyber crime to get our personal information will not lead to activities such as black-mailing, bank accounts being hacked etc.

ELIMINATION OF BANKING FEES:

The legal procedure of transactions or taking loans from banks is a lot complicated than that of cryptocurrency. The day-to-day transactions done through the banks using current account charges certain amount of money or fees which is a little too high where as in cryptocurrency there are very few charges compared to no charges and the process is too simple for the user to use it anytime and anywhere.

Talking about the international transaction banks charge a big amount of fees as compared to cryptocurrency the international transactions can be made very quick and with almost no extra charge.

Mobile Payments And Easy Accessibility:

All the transactions are done using mobile phones and there is no need to carry hard cash in our wallets. There are very less chances of our mobile being stolen or lost as compared to our wallets.

III. DISADVANTAGES OF CRYPTOCURRENCY

In addition to the advantages, it also has a bunch of disadvantages which are neglected by most of the people but some people believe that it is causing a bad impact on the environment and economical structure of the world.

Scalability:

Although, at present, there are more than 4000 cryptocurrencies in the world and numerous new born tokens are being introduced to the world each day. However, there are only a few cryptocurrencies which are gaining public's interest. Being bitcoin at the top with a market cap of more than \$700 billion, followed by Ethereum which is the second most popular cryptocurrency with a market cap of \$300 billion. Being the most popular one, bitcoin is restricted to a total supply of 21 million out of which almost 20 million have already been sold. Because of increasing demand and lack of supply it has gained a huge price which makes it almost impossible for the common people to exchange in it. Public cannot rely on the less famous cryptocurrencies as one never knows when it is going to collapse. The poor technology in some parts of the world have made it difficult to exchange in it.

Cybersecurity Issues:

Cryptocurrency being a digital currency always remains at a risk of being hacked or being stolen by the hackers. Many people investing in cryptocurrency have suffered losses due to their accounts being hacked and their money has been stolen on a very large scale. This has also lead to a belief that people should not invest in cryptocurrency. For example, recently \$600 million has been stolen by a Whitehat hacker. Price Volatility and Lack of Inheritance value:

Some investors believe that the price of cryptocurrencies works on the principle of demand and supply. But if we consider the viewpoint of an institutional investor such as Warren Buffet, cryptocurrency is not based on any such principle. No one can predict the prices of cryptocurrency. Warren Buffet believes that this whole system is a fraud and sooner or later it is going to collapse. For example, in December 2020 the price of bitcoin was \$20000 and then by mid-April 2021, its price rose to \$65000, almost 300% increase in its price and after a month in the beginning of June 2021, its price drastically dropped to \$40000.

If we compare it to stock market, cryptocurrency does not have any inheritance value. There is no information about how the prices are being regulated. People are only buying because of its hype.

Mining:

As it is known that fossils such as gold, silver et cetera are mined by using physical machinery, labour, proper weather conditions etc. Whereas bitcoin which is known as digital gold is mined digitally with the help of hardware and software. The main hardware used in the process is a 'Graphic Card' of a very high hash rate. The graphic card

solves the various algorithms and as a result of opening a one single box, the system rewards with 6.25 bitcoins. Though crypto mining is a very profitable investment but it costs too much heat and money. As carbon is involved in the process. People often mine in the colder regions of the world such as countries like Norway, Iceland and other Scandinavian countries.

Mining for proof-of-work coins uses a lot of electricity and leaves a big carbon impact. Bitcoin mining was predicted to utilize 948MW in 2017, which is similar to countries the size of Angola or Panama, which are rated 102nd and 103rd in the globe, respectively. Proof-of-work blockchains such as Bitcoin, Ethereum, Litecoin, and Monero were estimated to have added 3 to 15 million tonnes of carbon dioxide emissions to the atmosphere in the period from 1 January 2016 to 30 June 2017. Bitcoin was expected to have an annual energy usage of 45.8 TWh in November 2018, generating 22.0 to 22.9 million tonnes of CO₂, rivaling Jordan and Sri Lanka. Critics have also identified a large electronic waste problem in disposing of mining rigs.

Bitcoin is the least energy-efficient cryptocurrency, using 707.6 kilowatt-hours of electricity per transaction. In comparison, the world's second-largest cryptocurrency, Ethereum, uses 62.56 kilowatt-hours of electricity per transaction. These two cryptocurrencies use a significant amount of electricity per transaction in comparison to some of their competitors with a smaller market capitalisation. Dogecoin, for example, uses very little energy, consuming only 0.12 kilowatt-hours each transaction. Ripple, often known as XRP, is the world's most energy-efficient cryptocurrency, consuming only 0.0079 kilowatt-hours each transaction. Additionally, Cardano, which is often referred to as green cryptocurrency, uses only 0.5479 kilowatt-hours of electricity per transaction.

IV. BLOCK CHAIN

Blockchain is a method of storing data in such a way that it is difficult or impossible to alter, hack, or cheat it. A blockchain is a digital log of transactions that is duplicated and distributed across the blockchain's complete network of computer systems. Cryptocurrency is built on the technology called block chain. It is a technology that decentralises the entire system from the central government. Block chain has built the system in such a way that it doesn't allow any hackers or any third party to enter in the system. It divides the tokens into different boxes and one box has millions of boxes. So, if a person manages to enter one box it will be impossible for the person to take further actions in the system. The rising trend of cryptocurrency have been leading to the rise in the financial status of the people. Its advantages have overcome the fear of its disadvantages and people have started investing a lot of money in this currency. In our opinion people should invest more in this digital currency.

V. CONCLUSION

Cryptocurrency have helped a large number of people throughout the world. Despite of its numerous disadvantages, cryptocurrency is gaining a lot of popularity and people have started investing more in cryptocurrency. Several methods for doing sustainable mining of cryptocurrency are also under experimentation and will be out to the world soon. Famous companies like tesla and many other have started accepting cryptocurrency for the transactions they make with the public. Sooner or later cryptocurrency is going to overpower all the other means of transactions like hard cash as it is very easy to carry and stored. In our opinion people should invest their savings in cryptocurrency which will benefit them in the long run. According to our estimation, every person should invest at least 2-3% of his savings in cryptocurrency, which is not a very big amount.

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