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A Survey on Factors Leading to Rapid Fluctuations in the Price of Cryptocurrency

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Abstract:- This paper aims to explain the factors behind the rapid fluctuations in the prices of cryptocurrencies such as Bitcoin, Ethereum, Dogecoin and so on. Nowadays, a lot of people are fascinated and investing in cryptocurrencies as it is secure and reliable. Unlike standard currencies, cryptocurrencies are not issued by central government and it is not under any authority like a bank. Hence inflation, government policies, budgets, economic growth does not influence the price of cryptocurrencies. So, what are those factors exactly on which the fluctuations in the prices of cryptocurrencies depend? We will discuss it in this paper.

And it is also essential to discuss this topic before investing in cryptocurrencies. Because investors should know about the factors that are going to influence their investment. Knowing about such factors will help in better decision-making and it will eventually lead to better returns.

Keywords:- *Cryptocurrencies, Rapid Fluctuations in Price, Bitcoin, Influence on Market, Investment.*

I. INTRODUCTION

A “cryptocurrency” is a digital currency or virtual currency that has become quite popular and is used to buy goods and services on an online platform; And to ensure safe transactions, it is secured with strong cryptography. It helps to provide a safe environment for online transactions to take place and prevents any fake transactions.

Cryptocurrency uses the concept of decentralized networks that is based on blockchain technology. It uses a dispersed technology; that means it is distributed across a large number of computers worldwide that currently manage and record transactions. This distributed structure helps them to come out of the control of governments and central authorities. Thus making them immune to government manipulation and interference and hence, increasing security. Increased security helps to protect the transaction records and users data.

II. MOST COMMON TYPES OF CRYPTOCURRENCY

Currently, there exist more than 10,000 cryptocurrencies in the world that can be traded publicly. This number is continuously rising with time.

Some of the common cryptocurrencies are-

- **Bitcoin -** It is considered as one of the original and most common currency and is also known as “cash for the internet”. It was created in the year 2009 using blockchain technology. Bitcoin has special features that allow users to do transparent peer to peer transactions. All the users can view these transactions, but only the real owners can decrypt the transaction using the private keys that are given to them.
- **Litecoin -** Litecoin was launched as an alternative to Bitcoin in the year 2011 by a formal Google employee. It is also an open-source, global payment that is completely decentralized. Litecoin became popular because it has faster transaction times. The current coin limit for Litecoin is around 84 million.
- Ethereum –Ethereum was created in 2015. It does not focus on a digital currency like many other currencies. Its focus is on decentralized applications, and it works on an app store thus, taking control away from middlemen. Only the original creator can make changes to the app using Ether as a token.
- **Ripple** – Ripple was first released in 2012. It does not depends upon blockchain technology. Ripple acts as a network for digital financial transactions and also as a cryptocurrency. Ripple’s prime function is payment exchange, be it in the form of dollars or bitcoins or others. Currently, it claims to handle 1500 transactions per second.
- **Dogecoin** – It is also an open-source peer to peer and a digital currency that became famous among the Shiba Inus around the world. Currently, Dogecoin has the largest and most active member communities in the world of cryptocurrencies. Unlike other currencies like Bitcoin, Dogecoin has no upper limit. This has resulted in more than 100 billion Dogecoins in circulation.
- **Stellar** – Stellar’s prime focus is on money transfers. And it is designed in such a way that these transfers become more efficient and faster. It is operated by stellar organization, which is a non-profit organization. They have a goal to assist the developing economies in the world which do not have investment opportunities.

III. FACTORS LEADING THE RAPID FLUCATIONS IN CYRPTOCURRENCY PRICES

A. INTERNAL FACTORS

List of some internal factors that can affect the price of cryptocurrencies are here, shown in Fig1.

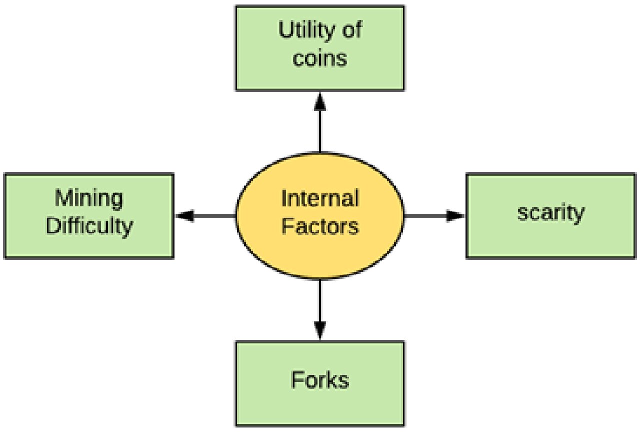

Fig 1 Internal factors that leads to fluctuation in prices

- ***Utility of Coins***

A cryptocurrency is considered the most valuable digital asset only if it has more utility. Utility means that it should be profitable, useable and beneficial for us. As we know, cryptocurrencies depends upon blockchain technology for distributed network and security. Therefore, to improve the utility of cryptocurrencies, they must be made useable within the blockchain environment.

The most significant example of this factor can be that we cannot use the Ethereum platforms until we use Ether that acts as fuel to using these platforms. Ether is a coin designed specifically to run transactions within the Ethereum platforms. Thus, if more people execute transactions and develop applications, more would be the demand for Ether and more will be the prices.

- ***Coin Circulation and Scarity***

Scarcity refers to the finite number of digital coins and currency. Ideally, the demand for digital coins should be more than the supply of digital coins; so that their value may increase. Economically, there should be a stable supply of any currency as with the increase in demand, its value also increases.

The main example for this factor is that we know that there are a finite number of bitcoins circulated the world which is 21 million. As more bitcoins are mined, the demand for these increases, thus increasing their value.

- ***Forks***

As we know, these cryptocurrencies are not governed by government authorities. But certain rules are still governing the transactions and these changes are done by developers. Changes to these rules are called "forks". Soft forks mean changes done in rules will not lead to the creation of a new cryptocurrency. But on the other hand, Hark forks means changes done in rules can result in the creation of a new cryptocurrency.

Currently, the bitcoin software can process approximately three transactions per second. Many are concerned that these slow transaction speeds will force investors to move towards other competitive cryptocurrencies. Now changing the rules related to transactions is call forks, and it is a factor on which the price of cryptocurrencies depends.

- ***Mining Difficulty***

As we know, the production cost or mining of coins is significantly high. Specialized hardware is required to mine these coins and these may take up vast amounts of energy that is about $400 million to $6.2 billion. But all this energy that is used to make these coins is not wasted as it is the only way to ensure safety for the users. Thus, High Production cost leads to the rapid fluctuation in the prices of currencies.

B. EXTERNAL FACTORS

List of some external factors that can affect the price of cryptocurrencies are here, shown in Fig2.

- ***Market Capitalization***

Market Capitalization is considered the most significant factor in determining the value of a cryptocurrency. It can be calculated by multiplying the total supply of coins by the current price of each coin. A coin with less current price can have more market capitalization if more coins of that type are being circulated in the blockchain environment.

- ***Currency Exchange Rate***

Just as equity investors trade stocks online, similarly cryptocurrency investors also trade cryptocurrencies over platforms like Coinbase, GDAX and so on. In the form of cryptocurrency/currency pairs (e.g., BTC/USD). If an exchange becomes popular, then it may draw the attention of more investors. Thus, fluctuating the values of these currencies even more.

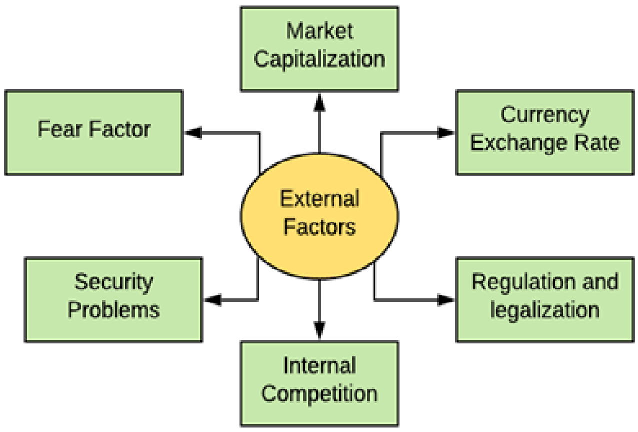

Fig 2 External factors that leads to fluctuation in prices

- ***Regulation and Legalization***

As these cryptocurrencies have become the mainstream of today's transactions there are high chances of them coming under some government regulation which may lead to legalization. This may lead to centralized digital money which may impact the prices of cryptocurrencies.

- ***Internal Competition***

The online market is unpredictable. It means that the launch of new currencies which are faster and more efficient can affect the demands for the older currencies. Currently, Bitcoin has the leading place in the market. But a time will come when it will reach its critical point, and then its value in the market may start declining, which will then be replaced by some other currency.

- ***Security Problems and Bankruptcy***

Various security problems might affect the value of a cryptocurrency in the market. These problems include hacker attacks and system breakdowns which are difficult to track down. A single mistake in the code may lead to a collapse in the market as many holders may lose their funds in the market.

- ***Fear Factor***

The crypto market is mainly controlled by market majors and leaders, who use the FOMO (fear of missed opportunity) and FUD (fear, uncertainty and doubt). The activities of these financial giants are a prime factor in deciding the rise and fall in the price rates. Thus, a statement from them about the currency's price can lead to a positive or negative rise in the value of the cryptocurrency instantly.

IV.EFFECTS OF RAPID FLUCTUATIONSON CRYPTOCURRENCY MARKET

Cryptocurrencies continue to bring a lot of discussion from regulators, investors, entrepreneurs and other people, time to time because of the rapid fluctuations in their prices.

As we know, cryptocurrency commerce can experience swift fluctuations in a matter of minutes or hours. One of the effects that rapid fluctuations can cause on the cryptocurrency market is that when the price increases people start to buy coins which will increase the demand for digital currency in the market, but as soon as it falls people start to crib over it and the demand of digital currency decreases.

But it cannot affect the economy or any policy of countries, as it is based on decentralised networks and is not in the direct control of any authority. Due to this, investing in cryptocurrencies is still considered extremely speculative and risky. But almost all the financial experts say that in the coming years it will lead its way.

V. WHY SHOULD SOMEONE INVEST IN CRYPTOCURRENCY

- **Accessibility-** As we know, cryptocurrency is a digital currency. It means we can do the transaction 24/7 hours. We just need the internet to connect to make a transaction.
- **Transparent Transaction -** As Cryptocurrency uses the concept of decentralized networks that is based on blockchain technology. This means it is distributed across a large number of computers worldwide that currently manage and record every transaction of cryptocurrency trading. It means once the transaction is recorded into the system it cannot be changed or modified by scammers.
- **Free from Government rules -** As it is based on Blockchain technology. It is free from government rules. The complete control of cryptocurrency is in the user's hand.
- **Stable stored value -** It gives us a way to store the currency for the long term without any fear of losing it. Due to blockchain technology, Cryptocurrency does not come under government rules. So, it is a safe way to store our money in form of digital currency.
- **More popularity in Future -** Bitcoin has already gained a lot of attention and has become a global currency. So, cryptocurrency will gain more popularity in future too.

VI. CONCLUSIONS

Cryptocurrency is a digital currency. It provides safe, smooth and secure transactions using the strongest cryptography method. Cryptocurrencies are distributed across a large number of computers worldwide that currently manage and record transactions. This distributed structure is the reason which helps them to come out of the control of governments and central authorities. Thus making them immune to government manipulation and interference and hence, increasing security.

There are many factors on which the fluctuation of prices depends on and we have already studied them in this paper in detail. An increase in prices leads to an increase in the purchase and market demands of cryptocurrency. But a decrease in prices leads to a decrease in the purchase and market demands of cryptocurrency. So, Investing in cryptocurrency is good but we should be aware of the factors that affect the prices of digital currencies, So that we can invest and gain profit from trading them.

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