

# The Direction of the Cryptocurrency: Current and Future Perspectives

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**Abstract.** The development of technology has brought multiple changes in the economy, one of them being how people purchase goods and services. Technology has improved online business and how payments are made through digital means. Initially, people used to make payments using their credit cards, but the invention of digital currency has eased the transaction process. Cryptocurrency has emerged as the newest way for people use to make transactions. The majority prefers cryptocurrency since it is faster and does not require intermediaries like the traditional mode of payment. However, various issues have emerged that may influence its development. Security issues and scamming have become rampant, which has discouraged investors. In addition, cryptocurrency experiences huge volatility, which may discourage people from investing since failure to have previous data may made the investors fail to predict the prices. Fraud and the presence of scammers have discouraged people from investing since they fear losing their fortune from these individuals. The continuous adoption of cryptocurrency has made the organisation invest in cryptocurrency to diversify its portfolio risks.

**Keywords:** Cryptocurrency; blockchain; Bitcoin.

## 1. Introduction

The growth of technology has led to changes in how the economy operates and how people purchase goods and services. These developments have forced people to prepare for the unexpected economic changes influencing their ways of life. Purchasing goods and services has become easy since customers can perform their transactions in the comfort of their homes. In addition, the mode of payment has changed over the years and currently, people do not only use money but they also use other means to pay for their goods and services. Virtual currencies have become rampant in the past decade, and customers use them to purchase goods and services [1]. Cryptocurrency is one of the currencies that is virtual and is regarded as the sub-section of digital currency. The development of cryptocurrency has played a crucial role in eliminating the traditional means of financial transactions since it tries to remove the middleman, mostly banks and other financial institutions. For instance, while transacting cryptocurrency, there is no ban or use of credit cards that is used to complete the transaction. In this case, a person using the cryptocurrency must only have a wallet that will act as the ban vault. Therefore, cryptocurrency is a virtual asset that acts as a medium for trade whereby the users possess coins that are stored in a computer-like database and ledger that allows effective cryptography usage and steady transactions [1]. Cryptocurrency does not appear physically like real money and is not used through common means. Compared to bank transactions that are centralised, cryptocurrency is decentralised. Cryptocurrency is posed with multiple challenges, such as fraud, that make people invest in it. Since there is no specific ledger that can meet the qualities of recordkeeping such as correctness and cost efficiency, blockchain has been considered a more efficient method for overseeing cryptocurrency [2]. The incorporation of blockchain has made transactions through cryptocurrency, leading to more effective compared to the traditional ledger.

The emergence of cryptocurrency emerged in 2008 through the pseudonymous “Satoshi Nakamoto” where a paper was published to describe where there was a clue of the development of a digital currency that will use blockchain technology to perform transactions. The developments have led to the emergence of multiple cryptocurrencies such as Bitcoin, Dogecoin, Litecoin, and many more.

Digital currency has led to multiple changes in the economy and has led to how people view the new method. The technology has gone miles to provide services to millions of people since it is cheap and has instant transactions. Cryptocurrency is the most trending and fast-growing mode of transaction in the 21<sup>st</sup> century. However, the consideration of its volatility, regulations from different governments, and its acceptability among people and institutions are some of the ways that can ensure its upward trajectory in the future. In addition, security issues, fraud and climatic effect are some of the challenges that are influencing the sector since the mining of cryptos attract many scammers who spend a lot of time mining leading to energy consumption.

## 2. The Market Volatility

In the contemporary global economy, cryptocurrency has gained popularity and many crypto have emerged. Statistics show that there are more than 18,000 currencies across the globe although some are not traded [3]. Most of the traded cryptocurrencies across the globe include Litecoin, Bitcoin, and Ether, which have experienced profound growth over the years. The emergence of these platforms has gained popularity which has led to the supply and demand of the coins leading to changes in prices. Any financial market is exposed to volatility which entails the changes in prices of the assets. When the volatility is healthy, the investors enjoy profits and when the volatility is unhealthy, the investors will experience losses. Cryptocurrency is a risky business and the majority of the cryptos experience these changes which in turn leads to changes in investment levels. Cryptocurrency is a fast-growing market and its growth is expected to increase in the future. Therefore, there should be a need to analyse the volatility of cryptos and how it can be compared to other financial markets.

Although cryptocurrencies are regarded as offering diversification among investors and may be used in hedging, they can be influenced by unhealthy volatility which can lead to losses among investors. A study conducted showed that Bitcoin and Gold are some of the cryptos that can be used as a weak hedge in case of global financial crises [4]. In addition, the inefficient nature of crypto markets is one of the issues that may lead to high volatility in the future since investors may be reluctant to invest in unreliable assets. The identification of the relationship between cryptocurrencies and the volatility of returns can help investors and miners make data-centric decisions that will ensure they do not make losses [3]. The lack of diversification and safe haven qualities such as bonds and stocks makes cryptocurrency more volatile. Since cryptocurrency is a young platform, it is common to lead to spillover effects due to price downturns.

## 3. Government Regulations

The use and growth of cryptocurrency have increased attention among economists, scholars, and financial analysts who have argued about its direction in the coming years. With the rise in the number of users and players in the market, it has attracted many investors due to its lucrative return. However, many governments have raised alarm regarding cryptocurrency which has influenced its expansion and growth. The crash of prices of these cryptocurrencies has made many governments restrict their use and warn investors to avoid investing in them. The majority of central banks have issued warnings regarding cryptocurrency and some have rejected it as a form of currency [5]. The low liquidity and market volatility have made the government impose strict policies that govern cryptocurrencies. In addition, the majority of central banks from different nations across the globe have emphasised that cryptocurrency is not a legal tender and can make users experience unforeseen changes that may occur while transacting.

Various researchers have investigated how different nations regulate the use of the cryptocurrency. A study conducted by the Global Research Center in 2018 showed that in those nations that allow the use of cryptocurrency, the users must follow the required set rules and regulations [5]. These regulations have a huge influence on the growth of cryptocurrency since governments have a role in protecting their investors from losses. In addition, some governments view cryptocurrency as a money

laundering scheme which makes it prohibited. The anti-laundering policies and legal frameworks on cryptocurrencies have a significant influence on how the new development may move in the future [6]. The regulations may influence how the crypto assets are obtained and the process of exchange from one user to the other. Lastly, the regulations may influence the movement of these cryptos since the investors or miners may be required by the authorities to offer insurance and dispute resolution approaches.

#### **4. Investments by Institutions in Cryptocurrency**

The adoption and acceptability of cryptocurrency among many people across the globe has made the interests of many organisations to have interest in investing in the field. Companies have started setting their funds and resources and investing in cryptocurrency. The growth of digital currencies and increased legitimacy have made it possible for companies to start investing in these currencies. Studies have shown that the majority of institutional investors have started having confidence in the crypto-currencies which has made the prices of these coins go high [7]. For instance, the price of Bitcoin has increased dramatically for the past 4 years which makes companies see it as a potential investment. The willingness of these organisations to invest in these companies is due to the change in perception about the crypto and large profits generated from such investments. In addition, the global economy has experienced global challenges such as the COVID-19 pandemic and the Russia-Ukraine war that has led to losses and closure of businesses. Therefore, firms have started devising ways they can diversify risks in their portfolios. Investing in cryptocurrency is a modern way these institutions have applied to ensure they reduce the level of risks and maximise their returns. In the future, there is the possibility of many companies investing in the field as a way of stabilizing the market despite the volatility that these digital currencies experience. Further, those firm who invest in cryptocurrency outperforms those who do not invest making the digital currency more reliable in future [8]. The essence of investing in cryptocurrency among many institutions is due to the willingness of managers to accept change in the financial market. Companies tend to prefer investing on a long-term basis in cryptocurrency since they perceive it as an increase in value and protection from uncertainties. Diversification of portfolios and returns can make the investment by institutions increase in the future.

#### **5. Fraud and Security Issues in Cryptocurrency**

Although cryptocurrency has gained popularity among many people and the investment levels have increased over the years. Despite the growth, the direction of these digital currencies may take some drastic changes due to the rise of fraudulent and insecurity issues. In addition, technological advancements have led to easy movement of information among people posing a huge threat to digital currency developments. The Federal Trade Commission has raised concern about the increase in cryptocurrency scams over the past few years. Statistics show that between 2020 October and March 2021 more than 7,000 people were scammed which totalled about \$80 million. In addition, research showed that in February 2014 hackers stole about \$460 million from Bitcoin [9]. Such statistics may pose a significant challenge to the development of the cryptocurrency in the next few years. The mining process of cryptocurrencies is done individually or in groups which raises security concerns. In addition, the issue of cloud computing also leads to multiple security issues such as authentication, policy integration, access controls, and inadequate user control which may pose a challenge to growth of the digital currencies [10]. The phishing scams are a huge threat to the growth of the cryptocurrency industry since there are so many impersonators who destroy the reputation of the legitimate sellers of coins. Such cases may put fear on investors who may feel insecure investing in the industry. In addition, the rise of pseudonyms in the cryptocurrency industry makes investors fear being taken advantage of since individuals will promise unrealistic returns which are not real. The majority of investors end up losing millions from such lies which dwindles investors' trust. The cryptocurrency

faces stiff regulation and limitations from many governments across the globe. Therefore, customers are not protected from scammers and hackers which makes many investors feel insecure investing in the field. Currently, there is the development of security features such as user education, hardware and signature wallets, and audits that ensure that investors' money is protected from scammers. The growth of the field requires changes in security and a rise of confidence among minors for the growth of the cryptocurrency industry.

## **6. Energy Consumption and Sustainability**

Climate change is one of the contemporary issues that are affecting the world and there is a high call on conservation of the environment. Globally there are more than 22,000 cryptocurrencies and the miners use their computers to mine these coins. The use of computers contributes to massive use of power which is contributing to global climate issues. Statistics show that the mining of these cryptocurrencies consumes more energy which contributes to the emission of about 90.2 metric million tonnes of carbon dioxide [11]. Such emission has a negative impact on the environment and it will be crucial for the cryptocurrency industry to devise ways that will protect the environment in the future. The consumption of energy during the mining relies on the network the miners are using. The power usage increases since such machines require cooling systems, electricity, backup generators, and other devices that either consume electricity or fuel. The cryptocurrency industry has become more competitive over the years which raises the consumption of energy. The cost of energy consumption per coin has increased drastically from 2016 to 2021 and the rise usually depends on the demand and supply of the coins. The acceptability and adoption of cryptocurrencies in many nations raise environmental and sustainability issues, which require the industry to devise sustainable methods that will reduce environmental degradation. The mining activity has been found to have a high consumption of energy. Studies show that the hash rate has a positive correlation with the consumption of energy [12]. In addition, the use of blocks to facilitate high transactions leads to high usage of energy in the cryptocurrency industry. Although digital currency seems to have an upward trajectory, there is a need to devise ways to reduce energy consumption to ensure that they reduces climate issues.

## **7. Adoption and Acceptability of Cryptocurrency**

The technological development has led to different changes in the financial economy and the demand for cryptocurrencies has increased rapidly. The adoption levels are crucial for the growth of cryptocurrency since the firms offering these services will ensure that they provide better services to their customers. The peer-to-peer transactions, real-time and faster transactions facilitated by cryptocurrency increase the acceptability among many people across the globe [13]. In addition, cryptocurrency ensures that there is minimal cost per transaction which attracts many people who feel the traditional method of payment requires too many unnecessary costs. Since the cryptocurrency entertains cross-border usage and its value does not rely on the countries' political, economic, and social status, it makes it a lucrative opportunity for people to invest. The normal currencies vary from one geo-political to another which makes it an unreliable way of doing business. In addition, the growth of cryptocurrency has gained the attention of governments, scholars, economists, and other professionals. The growth in the attention will ensure that there will be changes introduced to ensure that cryptocurrency becomes more reliable than other forms of currency. In addition, the adoption of cryptocurrency as a mode of payment has made it grow globally. For instance, Elon Must made the Bitcoin increase with a high margin when he started accepting Bitcoin as a mode of payment for any individual who needed a car. Such acceptance will make the cryptocurrency increase in value and grow. Blockchain technology in cryptocurrency has made it easy for cross-border payment which has reduced the amount of time spent to make payments and also reduced the cost. The central banks from multiple nations to explore the cryptocurrency industry are a milestone to the fully acceptable

means of payment. The level of acceptance by various institutions, governments, and people is an opportunity for cryptocurrency growth and soon it may become the most reliable means of transactions across the globe.

## 8. The Scalability

Most online and physical payments and transactions are based on centralized systems where there is a third party controlling them. In this case, the third party usually takes a specific fee for any completed transaction and they have the control and the management of close to all activities that relate to the transactions. On the other hand, when dealing with the blockchain mode of payment there is few transaction and control of the payments since the process is decentralised. Since the launch of Bitcoin two decades ago, blockchain technology has not been widely accepted and many organisations are reluctant to accept it. The challenge is due to its implementation in real businesses which makes the scalability of these cryptocurrencies limited. Studies show that the scalability of the blockchain and cryptocurrencies arises due to the rise of several nodes and transactions [14]. In addition, cryptocurrency usually demands a high level of manpower and internet connectivity which may challenge its use in many underdeveloped and developed nations. Relying mostly on the Internet may cause delays in payments since Internet disconnection may cause transaction failure leading to huge losses for firms relating to cryptos. In addition, the use of cryptocurrency leads to a trilemma of scalability, decentralisation, and security issues which may lead to delays if not considered [15]. The reduction of latency among cryptocurrencies such as Bitcoin raises the transaction throughput raising the issue of insecurity due to the number of individuals or scammers created in the public blockchain. Such issues of scalability may influence the spread and usability of cryptocurrency in many businesses. Therefore, reliable internet connectivity that is available at all times and in all regions may be a crucial step in ensuring that people are comfortable using cryptocurrencies in their transactions without fear of failure or delay.

## 9. Technological Advancement

Technological advancements have revolutionised the global economy and there is the emergence of the digital economy which has attracted millions of players. Technology has led to changes in the way people make transactions and how they pay for goods and services. Digital payment has gained popularity with more than 6,752,388 million dollars being transacted in 2021 and is expected to grow by 12.24% in consecutive years [16]. Cryptocurrency has emerged as the current form of digital currency and has gained considerable support from a large population of people across the globe. Blockchain technology has enabled multinational companies and international businesses to improve and makes them shift to cryptocurrency as a mode of monetary transaction [17]. Although cryptocurrency experiences challenges such as fraud and insecurities, cryptocurrency has reduced these issues by enabling smart contracts which are aimed at enhancing transparency. Since technology continues to grow every day, cryptocurrency will become the most secure and effective mode of payment in the coming years. The tech advancement has led to the popularity of the cryptocurrency. The tech applied in cryptocurrency has made people manage their payment systems and offer new comprehension of their transactions without the involvement of a third party. The cryptocurrency industry is a high-speed train that cannot be neglected by investors due to its speedy growth. However, the future of the cryptocurrency industry relies on the technology put in place to ensure the rights of the investors are protected from fraud and conman ship. Blockchain technology is complicated and hard to comprehend which makes it hard for people to mine the coins. Therefore, the technology can be enhanced to ensure that every miner can use it without failure or difficulties. In addition, security risks are some of the issues that can prevent people from accepting cryptocurrency technology. Therefore, there should be better ways of enhancing people's trust and also ensuring that they are comfortable investing in future.

## 10. Crashes of the Commodity

Cryptocurrency is experiencing challenges that may influence its growth in the future. Compared to the normal financial market, the cryptocurrency market has little past information that may show the price changes of the product. In addition, the prices of these coins have unstable prices which increase and lower with a huge margin. For instance, Bitcoin's rise and drop indicate that cryptocurrency has not gained stability in the market and the majority are having fears investing. Research indicates that cryptocurrency is regarded as a weak commodity since investors cannot predict the prices due to the unavailability of data regarding cryptos [18]. Since cryptocurrency emerged in 2008, there is little information regarding its performance and investors cannot rely on such information to ensure that their investment will bring value for their money. Cryptocurrency is prone to crashes and bubbles. Although cryptocurrency has not experienced any bubble, there is a possibility it will have it in future due to its acceptability in the economy. However, no bubble can completely diminish the cryptocurrency despite multiple bubbles [19]. In addition, cryptocurrency is significantly influenced by speculations and investors cannot entirely feel free to invest in such a commodity. For instance, the price of Bitcoin was \$1,132.26 by the end of 2016 but the prices increased by close to 60% [19]. In addition, the Bitcoin users are few which makes it hard to predict the value and assess the best value of the commodity. As time goes on, the cryptocurrency should try to assess the value since there will be a rise in the number of users. Failure of the industry to change from its security issues the cryptocurrency will continue to experience bubbles and crashes. The instabilities caused by sentiments, advancement of technology, geopolitical regulations and instabilities, fluctuations, and macroeconomic factors will continue to impact the sector. Therefore, to ensure that it has an optimistic future it should ensure that all doubts and failures are solved. Such factors as investors' confidence can be lowered by regular crashes which may reduce the adoption and acceptability of cryptocurrencies such as Bitcoin.

## 11. Conclusion

The technological developments have led to changes in the way the global economy operates. The digital currency has emerged in the past decade and led to emergence of various cryptocurrencies such as Bitcoin, Dogecoin, Litecoin, and others. The emergence has change how the payments are made and majority have preferred cryptocurrency since it does not require middle man and it has minimal transaction costs. However, issues such as frauds may have a negative influence on its growth since majority of investors may feel uncomfortable investing. In addition. There market volatility due to changes of prices of these commodity may discourage many from investing. The technological advancement has crucial role of enhancing data privacy, reduce scams, and ensure no delays in payment to increase consumers' confidence. The growth of the cryptocurrency relies on the capability of ensuring there is security and data protection among investors.

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