

A Critical Review on Future Trends of Digital Currency

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Abstract

In today's world, digital currency has become the most important part of our lives. Banks, the financial sector, and governments are encouraging digital currency exchange, and other online digital money has the potential to transform the financial sector. Through my research on digital currency, I will outline advantages, threats, and possible issues associated with it. When we talk about digital currency, it means more than just currencies. Cryptocurrencies are a part of digital currency. Digital currency includes various forms like cryptocurrencies, virtual currencies, and central bank digital currencies (CBDC). When Bitcoin started in 2009, it caught the interest of tech fans and curious people. A country's Central Bank issues Central Bank Digital Currency (CBDC), which represents a digital form of currency. Unlike cryptocurrencies like Bitcoin, CBDCs are usually supported by the governments and recognized as lawful tender. They represent a digital version of a nation's official currency, and their purpose is to provide a digital alternative to physical cash but with any opportunity come risks like price uncertainty, Cybersecurity, etc. In December 2023, the Unified Payments interface (UPI) achieved a significant milestone, with over 1,200 crores transactions valued at more than 18 lakh corers, marking a peak in both transaction count and value [1].

Keywords: Cryptocurrency, Banks, Digital currency, CBDC, Bitcoin, Cybersecurity, Unified Payments Interface (UPI).

1.Introduction

Digital currency, like Bitcoin, and electronic versions of fiat currency both exist only in electronic form. They're not the physical cash you find in traditional bank accounts. Cryptocurrency is the first type of digital currency that has garnered attention. Private individuals and firms generate and secure it with cryptography. Cryptocurrency, a significant subset of digital currency, relies on cryptography to ensure security, so this makes counterfeiting extremely difficult [2].

In 2016, the government of India made a big change by stopping the use of certain money, pushing more people to use digital payments. Before everyone started using digital money, a big problem was that many transactions used physical cash. This caused issues like not being able to trace transactions, things being slow, and not everyone having easy access. Digital currency fixed these issues by making payments faster, showing transactions more clearly, and spreading control away from one central place [3].

The rise of digital currencies is happening because of a mix of important reasons. One pivotal force is the principle of decentralization, where these currencies, especially cryptocurrencies, operate on distributed networks, reducing dependence on centralized entities like governments or traditional banks. This not only inspires a sense of trust but also affords individuals worldwide the opportunity to apply greater control over their financial transactions. Accessibility stands as

another driving force, as digital currencies dismantle geographical barriers, allowing anyone with an internet connection to partake in monetary activities, irrespective of conventional banking infrastructure. The robust security offered by blockchain technology, the foundation of many digital currencies, is a significant contributor, it makes sure that transaction records are clear, and it's hard for anyone to tamper with them. Additionally, the cost-effectiveness of digital currencies, particularly in international transactions, positions them as a compelling alternative to traditional banking systems. Enhanced privacy features, innovation through smart contracts, and the seamless facilitation of global transactions further amplify the appeal of digital currencies. The attraction and investment opportunities they offer also shape this landscape, drawing a diverse array of investors. As a result, these multifaceted forces collectively propel the widespread acceptance and inclusion of digital currencies into the fabric of the global financial ecosystem.

2. Government Role in Digital Currency and Market overview

After Bitcoin's price exceeded \$10,000, digital currencies acquired increasing popularity each day. Bitcoin is designed as a direct, person-to-person e-payment system, enabling electronic payments to move directly between parties without the need for intermediaries. This introduction of Bitcoin marked a revolutionary development in commercial currency. Other notable digital currencies that followed Bitcoin include Libra and DCEP. Libra, created by Facebook, is a different type of digital currency and cryptocurrency [4].



figure 1. Unified Payment Interface

While some raise concerns regarding the potentially inflated value of Bitcoin, many countries are adopting the underlying blockchain technology to develop their own digital currencies. Countries like Sweden, Tunisia, Ecuador, Japan, India, and Russia are exploring the use of blockchain technology. DCEP, a particular digital currency and cryptocurrency, is launched by the Chinese central bank, using blockchain and cryptographic technology [5].

Over the past nine years, the volume of digital transactions in India has increased from a simple 127 crore in 2013-14 to an impressive 12,735 crore transactions by March 23, 2022, an exponential increase exceeding 100 times. This period has witnessed an exceptional growth in digital payment transactions throughout the country [6].

In 2019, the digital currency held a valuation of ₹112,485,412,320.00 (INR), and it's anticipated to witness a compound annual growth rate (CARG) of 12.3% This expansion is forecasted to propel the market value to ₹380,465,365,200.00 (INR) by the conclusion of the projected period, spanning from 2021 to 2031.

3.Understanding Digital Currency: CBDCs, Cryptocurrency, and Virtual Currency

3.1. Central Bank Digital Currency (CBDC)

Central Bank Digital Currency (CBDDs) symbolize the digital from a country's fiat currency, regulated by central bank. They are different from cryptocurrency as their values are fixed by the central government and similar to the country's fiat currency. CBDCs aim to promote financial inclusion, then simplify monetary in physical policy implementation, and enhance final security.

Key points about the CBDC includes:

1. They can be accessed more widely than reserved and have a greater potential for retail transition compared to cash.
2. CBDCs possess a unique operational framework compared to other types of central bank currency, enabling them to fulfill unique core objectives.
3. They can be interest-bearing, with the interest rate differing from the reserve interest rate.

3.2. Cryptocurrency

Cryptocurrency refers to the form of digital currency employing encryption technology to safeguard and authenticate online transactions. The creation of such a currency is also overseen and controlled through the cryptographic method. Bitcoin stands as a notable example of cryptocurrency. The regulation of a cryptocurrency varies depending on the control, with some having a regulatory framework in space while others do not [7].



figure 2. Cryptocurrency (Bitcoin)

3.3. Virtual Currency

A virtual currency represents an unregulated digital asset, overseen by an evolving entity or an emerging association comprising diverse stakeholders engaged in advancement. Additionally, virtual currency can be algorithmically managed via specified network protocols. An instance of virtual currency includes a gaming token, wherein the economic dynamics are dictated and managed by developers [7].

4. Major difference between digital currency and cryptocurrency

	Cryptocurrency	Digital currency
Technology Basis	Cryptocurrency relies on cryptographic techniques for security and operates on decentralized blockchain technology.	Digital currency is a broad term encompassing both cryptocurrency and traditional electronic forms of currency, which may not necessarily be based on blockchain.
Centralization	Cryptocurrencies are typically decentralized, meaning they operate on a peer-to-peer network without central authority.	Cryptocurrencies are typically decentralized, meaning they operate on a peer-to-peer network without central authority.
Creation Process	Cryptocurrencies like Bitcoin are typically mined through complex mathematical computations.	Digital currencies can be created through centralized authorities, like the issuance of traditional fiat currencies.
Regulation	Cryptocurrency transactions, particularly in decentralized systems, can have varying transaction speeds.	Cryptocurrency transactions, particularly in decentralized systems, can have varying transaction speeds.
Examples	Cryptocurrency examples include Bitcoin, Ethereum, and Ripple.	Digital currency examples include both cryptocurrencies and centralized electronic currencies issued by governments or financial institutions.

Figure 3. Different between Cryptocurrency and digital currency

5. Global Trends (Exploring the Potential Impact of CBDCs)

Irrespective of their economic conditions, countries feature changing attitudes towards the adoption of digital currencies. Numerous countries remain hesitant to implement digital currencies, citing concerns such as security, technological infrastructure, adaptability, legal considerations, and the role of central banks. Central Bank Digital Currencies (CBDCs) are seen as a big deal in the world of money evolution. This report digs into different aspects of CBDCs and how they might shape the future of money. We also look at how CBDCs, along with stablecoins and cryptocurrencies, will be present beside traditional, digital, and physical currencies. Instead of being a competition, CBDCs are expected to expand the entire presence of digital currencies in the market. While CBDCs are currently discussed on a large scale in the economy, we believe their effects will soon reach businesses and regular people. In this report, we explore how CBDCs might impact financial institutions, like banks.

6. Challenges and Risk in the Bitcoin Era

Digital currency like Bitcoin often has prices that go up and down a lot.

Instead of being regular money, Bitcoin is more like something people buy and sell to make money, like how famous gamers trade items within online communities. Although Bitcoin calls itself a unit of account, its value changes a lot because it is not controlled by any one group. This makes it hard to use them as a stable way to exchange or to keep their value over time. Some people also say that the way the price of Bitcoin is set can be tricky and not very clear, making it tough for regular people to trust and use digital currency [8].

Digital currency, like Bitcoin, is still commonly used in illegal activities, making it a preferred choice for criminal organization and terrorists to move funds. This secrecy poses a risk to economic property and social stability. Legal issues arise because law enforcement finds it challenging to target a specific entity or location for investigation or asset seizure, as

digital currency operates on blockchain, keeping money outside traditional banks. This anonymity can lead to confusion in transaction flows and hidden income from tax evasion. There are concerns that the rise of Central Bank Digital Currencies (CBDCs) may disrupt critical situations. Additionally, as people look for safer options, there is a risk of a sudden rush to withdraw deposits during stressful times. In summary, the decentralization and anonymity of the digital currency, coupled with its evolving technology, introduces significant risks in the market, legal aspects, and oversight [9][10].

7. Literature review

Digital currencies, including cryptocurrencies, virtual currencies, and central bank digital currencies (CBDCs), have gained popularity around the world. Gilpin (2014) describes the complexities and problems of digital currency, highlighting the role of cryptography in ensuring security. Northeastern Times Magazine (n.d.) discusses the evolution of digital currencies to overcome traditional barriers and make financial transactions more efficient. Mehta (2018) explores India's interest in digital currency to modernize the financial system, while News Center (2023) reports on India's rapid transition to digital commerce. Frankenfield (2021) demonstrates how digital currencies work and the benefits of promoting a decentralized financial system. Carstens (2021) examines the future impact of digital currency on the financial system in terms of managerial decisions. DeRitis (2021) identified risks and opportunities associated with digital currency, emphasizing the importance of risk management strategies. Richards (n.d.) discussed changing preferences for payment methods and the important role of regulatory processes in shaping the future of digital currency. Together, this information provides a better understanding of many digital currency-related phenomena and their impact on global financial reforms.

8. Advancements (Future) and Progress

Predicting future digital currency development is a challenging task. According to Tony Richards, he believes that despite the increasing decentralization of world finance, intermediaries will continue to serve a key purpose [11]. In the field of payment instruments for a settling transition, two key aspects come into play.

Firstly, every individual is likely to prefer payment methods that have a high level of value stability when dealing with financial assets. Few parties, particularly those involved in high value transitions, would opt for settling in highly unstable Cryptocurrency. Instead, fiat currencies, including Central Bank Digital Currencies (CBDCs) or stable coins issued by regulated entities, are expected to gain widespread usage in tokenized access transactions.

Secondly, Richards anticipates that entities engaged in blockchain transactions will priorities conducting transactions with a transparent and final settlement. He sees a future where the establishment of a strong regulatory framework for stable coins may result in their distribution by highly respected entities [12]. There is a considerable likelihood that an increasing number of central banks will transition to issuing CBDCs.

9. Conclusion

In conclusion, the government's involvement, technological advancements, and evolving market dynamics highlight the transformative impact of digital currencies. Navigating this landscape requires careful consideration of regulatory frameworks, risk mitigation, and technological innovations, shaping the future trajectory of digital currencies. Futures and progress in digital currency development are dynamic and challenging to predict accurately. Tony Richards suggests that despite increasing decentralization, intermediaries will continue to play a vital role. Preferences for stable payment methods and the anticipation of a robust regulatory framework for stable coins signal a potential shift towards using fiat

currencies and CBDCs widely in tokenized asset transactions. The likelihood of central banks transitioning to issuing CBDCs remains high, shaping the future landscape of digital currencies.

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