

## **"The Government Digital Currencies"**

### **The Next Step for the Global Banking System**

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#### **Abstract:**

Central Bank Digital Currencies (CBDCs) constitute a recent advancement in the financial sector, with numerous central banks contemplating the issuance of their own digital currencies as a digital alternative to conventional money. This study endeavors to present a comprehensive framework concerning the nature of cryptocurrencies and central bank digital currencies, emphasizing their significance and characteristics in enhancing the efficiency of the financial system and promoting financial inclusion. Furthermore, it investigates the factors influencing the acceptance of CBDCs by individuals and institutions. The study concludes that government-issued digital currencies substantially improve access to financial services, reduce transaction costs, and facilitate cross-border payments in the Philippines. It also observes that several countries and collaborative projects have either launched or are progressing towards the launch of government-backed digital currencies.

**Keywords:** Central cryptocurrencies, cryptocurrencies, CBDCs.

**JEL Classification:** E42; G23.

## **1. Introduction:**

In response to rapid advancements in the financial sector, numerous central banks have investigated the feasibility of issuing central bank digital currencies (CBDCs) as a potential alternative to cryptocurrencies. Cryptocurrencies have proliferated swiftly and extensively in recent years, posing a potential threat to the global economy.

This study aims to introduce cryptocurrencies and government-issued digital currencies, delineating their characteristics and key distinctions. Furthermore, it assesses the impact of government-issued digital currencies on traditional financial systems. This study also examined the factors influencing the acceptance of government digital currencies by individuals and corporations. This study aims to provide comprehensive insights into the future of digital currencies and their implications for the global economic landscape.

In response to rapid advancements in the financial sector, numerous central banks have explored the feasibility of issuing central bank digital currencies (CBDCs) as a potential alternative to cryptocurrencies. Cryptocurrencies have proliferated swiftly and extensively in recent years, posing a potential threat to the global economy. This study aims to introduce cryptocurrencies and government-issued digital currencies, delineating their characteristics and key distinctions. Furthermore, it assesses the impact of government-issued digital currencies on traditional financial systems.

This study also examines the factors influencing the acceptance of digital currencies by individuals and corporations. This study seeks to provide comprehensive insights into the future of digital currencies and their implications for the global economic landscape. Based on the above discussion, the central problem of this study can be framed as follows: How will Central Bank Digital Currencies (CBDCs) affect the traditional banking system, and to what extent will they gain public acceptance? This problem highlights two interrelated dimensions: the potential transformation of the banking sector and the societal response to adopting innovations. Addressing this question is essential for understanding the institutional and behavioral implications of CBDCs in the evolving global financial landscape. In light of the growing global interest in Central Bank Digital Currencies (CBDCs), this study seeks to address several fundamental questions, specifically, how do CBDCs differ from cryptocurrencies in

terms of stability and transparency? What impact might CBDCs have on banks' ability to deliver their traditional services? How can trust in CBDCs be enhanced among potential users?

To respond to these questions, this study pursues three main objectives. First, it aims to provide a detailed analysis of the key differences between CBDCs and crypto-assets. Second, it examines the potential influence of CBDCs on banks and financial institutions. Third, it endeavors to identify the factors that shape the acceptance of CBDCs by individuals and businesses. Methodologically, this study relies on a descriptive-analytical approach to explore the nature of money and digital currencies, as well as their operational mechanisms. Furthermore, it proposes a conceptual framework for a central bank digital currency model, considering the factors that may affect its acceptance by both individuals and institutions.

## **2. Literature Review:**

Cryptocurrencies are a class of digital assets that utilize sophisticated cryptographic techniques to ensure the security of transactions, authenticate financial exchanges, and control the creation of new units (Official website of Binance platform) . These assets are exclusively traded online and are predominantly stored using blockchain technology, which serves as a distributed database function, providing a transparent and tamper-proof ledger of all transactions. Bitcoin, which was introduced in January 2009 (Bouthelja2022), is the first and most renowned cryptocurrency, followed by others such as Ethereum, Litecoin, and Ripple. A defining feature of cryptocurrencies is decentralization, as they operate independently of any governmental or financial authority. Transactions are collectively managed by users across a peer-to-peer network, eliminating the need for intermediaries, such as banks. This decentralization offers several advantages, including enhanced privacy, reduced transaction costs, and expedited global transfer. Nonetheless, cryptocurrencies encounter significant challenges, including legal ambiguities, high market value volatility, consumer protection risks, and potential use in illicit activities such as money laundering. These vulnerabilities have led governments worldwide to implement regulations and restrictions on their circulation and exchange (Ben Hadou, 2022).

Central Bank Digital Currencies (CBDCs) are digital iterations of national currencies issued and regulated by central banks. They embody the official value of a nation's currency in a secure digital format. As digital analogs to traditional cash, CBDCs function as legal tender endorsed by the state and are managed through centralized digital infrastructure under the oversight of monetary authorities (Virtanen,2021). Their primary aims include the modernization of the financial system, enhancement of financial inclusion through universal access to digital payment services, and improvement of monetary policy effectiveness. By enabling central banks to monitor monetary flows in real time, CBDCs can bolster financial stability, mitigate the risks of money laundering and fraud, and ensure greater transparency in the financial system. Additionally, they have the potential to reduce transaction costs and broaden digital access across all societal segments. Nonetheless, they present challenges concerning user privacy, cybersecurity, and the necessity for robust digital infrastructure and comprehensive legal frameworks to ensure their secure implementation (Bouthelja2022).

The historical evolution of cryptocurrencies can be traced to the early years of the twenty-first century, arising in response to the constraints of the conventional financial system and the increasing demand for enhanced financial autonomy. In 2008, an anonymous entity or collective operating under the pseudonym "Satoshi Nakamoto" released the Bitcoin white paper, which articulated the concept of a decentralized electronic cash system (Ammous, 2021). This groundbreaking innovation was actualized in January 2009, signifying the inception of Bitcoin as the first functional cryptocurrency. Bitcoin's architecture is based on blockchain technology, which facilitates the transparent and secure recording of transactions without the need for centralized intermediaries. Its success rapidly garnered global attention, not only as a novel medium of exchange but also as an investment vehicle and safeguard against traditional financial risks. Since then, the proliferation of cryptocurrencies has been exponential, with the number reaching nearly 13,000 by September 2024, and hundreds of new coins being introduced or phased out each month. Global trading platforms such as Binance, which listed approximately 400 cryptocurrencies by 2024, exemplify both the dynamism and volatility inherent in this market (Official website of Binance platform).

In contrast, the concept of Central Bank Digital Currencies (CBDCs) is relatively recent, emerging as a direct response by governments and central banks to the rapid proliferation of cryptocurrencies and digitalization of

finance. Recognizing the necessity of maintaining monetary sovereignty while leveraging technological advancements, several central banks-initiated experiments with digital currencies in the late 2010s (Hayashi, & Toh,2022). China was among the pioneers, launching pilot projects for the digital yuan (E-CNY) in 2020 to provide a secure, government-controlled payment instrument and to address the increasing demand for digital transactions. This initiative prompted other central banks to explore similar projects in the following years. The Bahamas introduced the Sand Dollar in 2020, making it one of the first fully implemented CBDCs. Nigeria launched the eNaira (occasionally referred to as JAM-DEX in the Caribbean context) in 2021, and Sweden commenced testing its e-Krona in 2020. Concurrently, the European Central Bank and U.S. The Federal Reserve has been conducting studies on the feasibility of a digital euro and a digital dollar. These projects aim to enhance payment efficiency, reduce costs, strengthen financial inclusion, and improve monetary policy. However, they also encounter significant challenges in areas such as privacy protection, cybersecurity resilience, and the establishment of comprehensive regulatory frameworks. (Shams, & Motori, 2025).

The literature delineates several fundamental distinctions between cryptocurrencies and Central Bank Digital Currencies (CBDCs). Structurally, cryptocurrencies function on decentralized networks, wherein blockchain technology facilitates community-based validation of transactions without the need for a central authority. Conversely, CBDCs are centralized and issued directly by central banks, which retain oversight and control over the creation and circulation of money. Regarding security, cryptocurrencies depend on cryptographic algorithms and the immutability of the blockchain, whereas CBDCs rely on state-managed infrastructures with centralized mechanisms for fraud prevention and system protection. Furthermore, value stability differentiates the two: cryptocurrencies are characterized by extreme volatility, rendering them risky investment instruments, whereas CBDCs are pegged to national currencies and supported by governments, thereby ensuring relative stability.

Privacy is a significant point of divergence between cryptocurrencies and central bank digital currencies (CBDCs). Cryptocurrencies are characterized by high levels of anonymity, which enables users to conduct transactions without revealing their personal identities. In contrast, CBDCs afford central banks the capability to track and monitor transactions, thereby enhancing transparency, but simultaneously raising concerns regarding governmental surveillance.

The objectives of these digital currencies also differ markedly: cryptocurrencies are predominantly utilized as speculative assets, investment vehicles, and instruments within decentralized finance (DeFi), whereas CBDCs are intended to facilitate inclusive access to financial services, enhance the efficiency of monetary policy, and reinforce state control over financial flows. The dynamics of supervision and regulation further underscore this contrast between the two countries. Cryptocurrencies generally operate outside the formal financial system and are only gradually becoming subject to government regulation, whereas CBDCs are fully integrated within state frameworks from their inception (Shams, & Motori, 2025).

Each system is associated with distinct risks: cryptocurrencies are susceptible to sharp price fluctuations, limited consumer protection, and associations with illicit activities, whereas CBDCs must address issues related to privacy, cybersecurity, and the substantial infrastructural requirements necessary for large-scale adoption. The examples illustrate these distinctions. Prominent cryptocurrencies such as Bitcoin, Ethereum, Ripple, Solana, Tether, Binance Coin, Dogecoin, and Cardano are extensively traded in global markets (Virtanen, 2021). Conversely, CBDC initiatives include China's digital yuan, the Bahamas' Sand Dollar, Nigeria's eNaira, and Sweden's e-Krona, alongside ongoing projects such as the proposed digital euro and digital dollar (Ammous, 2021). Collectively, the literature indicates that while both cryptocurrencies and CBDCs are digital financial innovations, they embody opposing monetary development models. Cryptocurrencies represent decentralization, anonymity, and independence from state authority, whereas CBDCs are rooted in centralization, stability, and government oversight. Understanding these contrasting paradigms is essential for analyzing the implications of CBDCs for the traditional banking sector and for evaluating the prospects of their acceptance among the public.

**Figure2.1:** Key Differences Between Central Bank Digital Currencies (CBDCs) and Cryptocurrencies

Feature	Central Bank Digital Currencies (CBDCs)	Cryptocurrencies
Authority	Centralized, issued under the supervision of the central bank	Decentralized, without government authority
Encryption & Security	Based on a secure digital infrastructure managed by the state	Based on encryption and blockchain technology for security
Stability	Relatively stable, backed by national currency	Highly volatile, subject to sharp price fluctuations
Anonymity	Greater tracking and control by authorities	Provides high anonymity for users
Primary Purpose	Financial inclusion, support of monetary policies	Trading, investment, decentralized finance
Control & Oversight	Subject to government regulation and control	Not subject to any specific authority
Risks	Privacy concerns, cybersecurity threats	Volatility, potential illicit use
Exemples	eNaira (Nigeria), Digital Yuan (China)	Bitcoin, Ethereum, Solana

Source: Prepared by the researcher based on the previous data

### **3. Discussion :**

#### **3.1.The Impact of Central Bank Digital Currencies on the Traditional Financial System**

The emergence of Central Bank Digital Currencies (CBDCs) represents a profound transformation in the architecture of the global financial system. By introducing a state-backed digital currency, CBDCs are expected to redefine the functions of traditional banking institutions and the framework of financial transactions. This transformation offers opportunities for enhanced efficiency and financial inclusion, while also presenting challenges to established financial intermediaries. The subsequent analysis examines two primary dimensions of this impact: the role of banks and the evolution of financial transaction.

### **3.1.1. Impact on the Role of Banks:**

The introduction of CBDCs fundamentally alters the traditional role of commercial banks, potentially reducing individuals and businesses' reliance on banks as primary financial intermediaries. With CBDCs, users can interact directly with the central bank through digital wallets, thereby diminishing the need for conventional bank accounts and cash. For instance, in China's digital yuan project, users can download a dedicated application issued by the central bank to conduct transactions directly without requiring an account at a commercial bank. Such a model may significantly weaken the role of commercial banks in deposit and lending activities. To adapt to these changes, banks may seek to develop new services and offer additional benefits to retain users. In Sweden, for example, the central bank's e-krona initiative aims to enhance the efficiency of payment systems, creating opportunities for banks to participate in managing digital transactions or expanding into digital financing services such as online lending (Atlantic Council, 2024). Banks may also reposition themselves by offering advanced financial advisory services or adopting blockchain technology to improve transparency and efficiency, thus preserving their relevance within the evolving financial system. On a broader scale, in international settings such as the European Union, the proposed digital euro could enhance financial integration among member states. If implemented, the digital euro would facilitate seamless cross-border transactions using a unified currency. A notable development in this context occurred on April 3, 2024, when 40 banks joined a pilot project named "Agora," led by the G7 in collaboration with the Federal Reserve Bank of New York and several leading central banks. This initiative, which focuses on wholesale CBDCs restricted to interbank use, seeks to overcome challenges related to time zone differences, legal frameworks, and technical regulations. The participating commercial banks include J.P. Morgan, HSBC, UBS, and Mitsubishi UFJ Bank. (Central bank digital currencies, 2021)

### **3.1.2. Impact on Financial Transactions**

Central Bank Digital Currencies (CBDCs) are instrumental in the modernization and reform of traditional financial transactions by streamlining and expediting payment processes, particularly in international contexts. For example, CBDCs can replace slow and costly cross-border transfer systems, such as SWIFT, by enabling near-instantaneous and low-cost cross-border payments. A pilot project involving China, the United Arab Emirates, Thailand, and the Bank for International Settlements demonstrated the efficacy of CBDCs in enhancing international transfers and significantly reducing the substantial costs typically associated with

interbank transactions (Shams, & Motori, 2025). Domestically, CBDCs offer a secure and efficient alternative for everyday payments, thereby enhancing financial inclusion by providing greater access to financial tools, even in remote regions. For instance, China's digital yuan project allows users to make payments by scanning QR codes without relying on commercial banks, thus accelerating and streamlining the payment process. Mobile applications enable individuals without bank accounts to access digital currency services, thereby promoting financial inclusion. Consequently, the digital yuan not only modernizes domestic payment systems but also helps bridge the financial gap among underserved populations (Howarth,2024)

The public acceptance of Central Bank Digital Currencies (CBDCs) is contingent on several factors, including personal convenience, security, and ease of use. The primary consideration is the convenience and usability of these currencies. If CBDCs can be readily accessed and utilized via smartphones or other digital devices, individuals are more inclined to incorporate them into their routine financial transactions. User-friendly interfaces are pivotal in promoting adoption, as they reduce the technical barriers that might otherwise deter individuals from engaging with digital currencies. Privacy is another significant factor. Many individuals express concerns regarding the potential for government or regulatory bodies to monitor their financial transactions. Consequently, achieving a balance between preserving transactional privacy and ensuring transparency is vital for building trust and promoting the widespread adoption of CBDCs in the future. Financial incentives also play crucial roles. When governments or financial institutions offer benefits, such as fee reductions or innovative services, to encourage the use of CBDCs, individuals are more likely to adopt them. For instance, China's digital yuan initiative includes incentives provided through mobile applications, which have enhanced its attractiveness among citizens (Lim, YQ,2024).

### **3.2.Public Acceptance of Central Bank Digital Currencies**

Public awareness and education are equally important. In numerous countries, public knowledge regarding the operation of Central Bank Digital Currencies (CBDCs) and their potential advantages remains deficient. Consequently, government-led or institution-driven awareness campaigns are essential to inform citizens, dispel misconceptions, and foster

confidence in these currencies to ensure their success. Such educational initiatives can substantially enhance the overall public acceptance of CBDCs by rendering individuals more comfortable and informed (CBDS tracker, Algeria CBDS tracker).

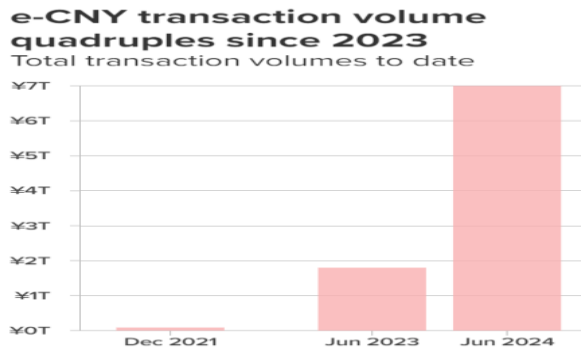
However, institutional acceptance is influenced by a distinct set of factors, primarily associated with technological readiness, regulatory frameworks, and economic benefits. Technological infrastructure is a critical component, as institutions require advanced systems capable of seamless integration with CBDC platforms. When governments provide supportive digital infrastructure, such as modernized banking systems and robust technological frameworks, institutions are more inclined to adopt CBDCs (Shams, & Motori, 2025). The regulatory and legislative environments are crucial determinants of institutional acceptance. Clear and comprehensive legal frameworks that delineate the usage, taxation, and regulation of CBDCs provide institutions with the clarity and stability required to confidently engage with digital currencies. For instance, in China, the government has established a well-defined legal framework for the digital yuan, facilitating its integration into financial institutions. Security and monitoring capabilities also play pivotal roles. Institutions demand high levels of cybersecurity to safeguard against fraud and cyberattacks while simultaneously benefiting from the enhanced monitoring capabilities that CBDCs provide. This combination of security and transparency bolsters institutional confidence in the adoption of CBDCs (Fintechnews Middle East, 2024).

Furthermore, efficiency is a key driver of institutionalized acceptance. CBDCs can reduce transaction costs, expedite cross-border payments, and minimize banking fees, all of which align with the institutional objectives of reducing operational costs and enhancing competitiveness. Instances of public acceptance can be observed in China, where large-scale trials of the digital yuan revealed a preference among many individuals for its convenience over traditional methods such as cash payments or credit cards. Similarly, in Sweden, preparations for the launch of the e-krona underscore institutional acceptance, as banks and financial entities actively collaborate with the central bank to establish a secure and efficient environment for its use in daily commercial and financial transactions in Sweden (Central Bank Digital Currencies (CBDCs) in 2024),

### 3.3. Countries and Projects Intending to Issue Central Bank Digital Currencies

As of 2024, many countries worldwide are engaged in the exploration, testing, or active development of Central Bank Digital Currencies (CBDCs). This document provides an overview of selected nations and the respective stages of their CBDC initiatives.

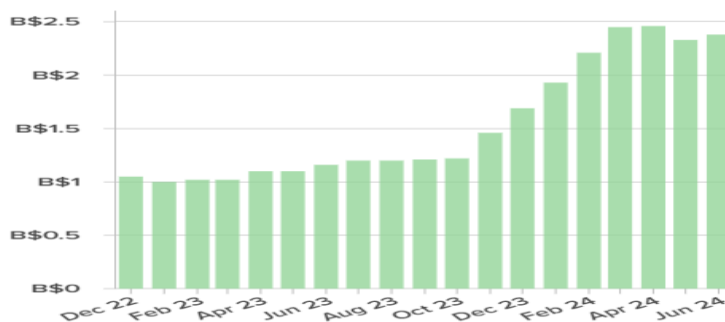
1. China: The digital yuan (e-CNY) is one of the most advanced CBDCs worldwide. It is currently undergoing extensive testing across various cities, with millions of consumers and businesses participating. The accompanying figure illustrates the growth in transaction volumes as reported by the People's Bank of China and the Atlantic Council:



**Source:** People's Bank of China & Atlantic Council. (n.d.). *Official websites of the People's Bank of China and the Atlantic Council*. Retrieved from <https://www.atlanticcouncil.org>

2. The Bahamas: The "Sand Dollar" was the first fully launched CBDC globally, introduced to enhance financial inclusion and improve payment efficiency in the Bahamas. The figure below depicts the evolution of transaction volumes as documented by the Central Bank of the Bahamas and the Atlantic Council:

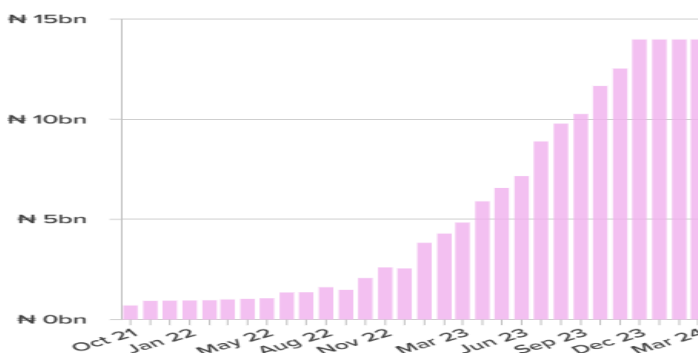
**Total SandDollar in circulation**  
From 2022-2024 (in millions)



**Source:** People’s Bank of China & Atlantic Council. (n.d.). *Official websites of the People’s Bank of China and the Atlantic Council.*  
Retrieved from <https://www.atlanticcouncil.org>

3. Jamaica: The government launched the "JAM-DEX" digital currency to strengthen digital payments and expand financial accessibility (Hayashi, & Toh 2022)
4. Nigeria: The "e-Naira" was introduced to promote financial inclusion and enhance payment systems in an economy that is heavily reliant on cash. Transaction volume data were provided by the Central Bank of Nigeria and the Atlantic Council:

**Total eNaira in circulation**  
From 2021-2024 (in billions)



**Source:** People's Bank of China & Atlantic Council. (n.d.). *Official websites of the People's Bank of China and the Atlantic Council.*

Retrieved from <https://www.atlanticcouncil.org>

5. Eastern Caribbean Currency Union (ECCU): The "D-Cash" initiative was launched to simplify and modernize payments across several member states in the region (Hayashi, & Toh, 2022).
6. European Union: The European Central Bank (ECB) is currently exploring the potential of a "Digital Euro." The project remains in the research and pilot testing phase, with multiple experimental programs underway (Philo, 2024).
7. United States: Although a digital dollar has not yet been launched, the Federal Reserve is conducting extensive research on the potential issuance of a CBDC (Hayashi, & Toh, 2022)
8. Canada: Through "Project Jasper," Canada has been testing digital currency systems and studying the feasibility of a digital Canadian dollar (Philo, 2024).
9. Russia: The Central Bank of Russia is actively piloting a digital ruble.
10. India: The Reserve Bank of India has initiated trials of a digital rupee.
11. South Korea: The Bank of Korea is conducting experiments with a digital won (Hayashi, & Toh, 2022).
12. Sweden: The Riksbank is exploring the "e-Krona" as part of its broader initiative to modernize Sweden's increasingly cashless society.
13. Brazil: The Central Bank of Brazil is developing a digital real (Philo, 2024).
14. Australia: The Reserve Bank of Australia is in the research phase regarding the issuance of a digital Australian dollar.

15. United Arab Emirates: As part of its Financial Infrastructure Transformation (FIT) program, the UAE is developing its own CBDC to enhance digital payment systems (Philo, 2024).
16. Saudi Arabia: The Saudi Central Bank (SAMA) has initiated trials and pilot projects related to CBDCs.
17. Algeria: The government has commenced studies on the potential issuance of a "digital Algerian dinar." In December 2022, the Prime Minister announced that the Central Bank of Algeria was preparing to adopt this currency as part of the country's broader strategy for payment system digitalization (Abdelmoumen, n.d.).

#### **4. Conclusion :**

Conclusion This study elucidates that Central Bank Digital Currencies (CBDCs) represent a significant innovation in the evolution of the global financial system. Unlike decentralized cryptocurrencies, which operate outside formal regulatory frameworks and are prone to volatility and misuse, CBDCs combine the efficiency of digital transactions with the stability and trust associated with government-backed currency. By providing a secure, centralized digital alternative, CBDCs have the potential to modernize financial systems, enhance the effectiveness of monetary policy, and promote greater financial inclusion, particularly in economies with substantial unbanked and underbanked populations.

The analysis suggests that CBDCs could substantially redefine the roles of traditional banks. With the potential for individuals and institutions to interact directly with central banks via digital wallets, commercial banks may experience a reduction in their traditional intermediary function. However, this development also presents new opportunities for banks to innovate by offering value-added services, adopting advanced technologies such as blockchain, and engaging in strategic partnerships that enhance efficiency and customer experiences. Furthermore, CBDCs can revolutionize financial transactions by reducing operational costs, accelerating payment processing, and improving transparency and security in cross-border transactions.

Public and institutional acceptance has emerged as a decisive factor in determining the success of CBDC implementation. The key influences include technological accessibility, data privacy assurance, user trust, and clear regulatory frameworks. Evidence from pioneering countries such as China, the Bahamas, Nigeria, and Sweden demonstrates that well-structured awareness campaigns, robust digital infrastructure, and transparent legal systems are essential for fostering confidence among users and financial institutions.

However, several challenges persist. Issues related to cybersecurity, privacy, and potential disruptions to commercial banking models require careful consideration. Therefore, policymakers must pursue a balanced approach that encourages technological innovation while safeguarding financial stability and individual rights.

#### **4.2 Policy Recommendations:**

It is imperative to fortify legal and regulatory frameworks to explicitly delineate the scope, utilization, and protection mechanisms of Central Bank Digital Currencies (CBDCs). Investing in digital and cybersecurity infrastructure is essential for safeguarding data and mitigating system vulnerabilities. Furthermore, enhancing public awareness and financial literacy is crucial to ensure that citizens comprehend the benefits and secure the use of CBDCs. Encouraging collaboration among central banks, commercial banks, and fintech firms is vital for establishing efficient and inclusive CBDC ecosystems. Additionally, promoting interoperability and international cooperation is necessary to facilitate cross-border payments using CBDCs.

#### **4.3 Future Research Directions:**

Further research should investigate the implications of CBDCs within Islamic finance frameworks, particularly in relation to compliance with Shariah principles, the potential role of CBDCs in Zakat and Waqf management, and their impact on Islamic monetary policy. Comparative studies across Muslim-majority countries could provide valuable insights into the coexistence of digital currencies with ethical and faith-based financial systems.

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