



# REVIEW OF RESEARCH

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## PARADIGM SHIFT FROM PHYSICAL FINANCIAL SYSTEM TO DIGITAL CURRENCY

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### ABSTRACT :

Last year, India joined a growing list of countries exploring digital versions of their currencies. It is now planning to broaden the scope of its pilot project in the digital rupee. According to the US-based think-tank Atlantic Council, as many as 130 countries, representing 98 per cent of the global economy, are now exploring digital versions of their currencies, with almost half in advanced development, pilot or launch stages.



**KEYWORDS :** *global economy , advanced development , launch stages.*

### INTRODUCTION:

The Reserve Bank of India is set to launch the pilot of its central bank digital currency (CBDC), which it categorizes as legal tender in a digital form. Commonly known as the digital rupee, it will be exchangeable at par with existing currencies and will be considered acceptable for payments and a safe store of value. Also being called the e₹ or the digital rupee, CBDC issued by the RBI is aimed at creating an additional option to use money and isn't very different from the currently-issued banknotes; only the digital rupee is expected to be transacted digitally and facilitate ease of use. The digital rupee is the RBI's accepted version of cryptocurrencies, which the central bank has dismissed repeatedly and called a serious challenge to the stability of the financial system of the country.

Digital Rupee will be issued in the same denominations as paper currency and coins. Digital Rupee (e₹) is in the pilot phase; only the invited set of customers and merchants will be able to register and transact using e₹. A digital currency is any currency that is available entirely in electronic form. Currencies' electronic types already predominate a large number of nations' financial systems. Digital currency, however, is exclusively exchanged through virtual means and does not leave a computer network. The three major varieties of digital currency are cryptocurrency, central bank digital currency (CBDCs) and stablecoins. The foundation of cryptocurrency is provided by blockchain technology which is the most usual form of distributed ledger used by digital currencies. According to CoinMarketCap, the availability of cryptocurrencies is more than 21,000.

The shape and purposes of money have changed over time as a result of how the economy and payment system have developed. The evolution of the concept of money from Commodity to Digital Currency is shown

India has made remarkable strides in digital payment innovation. Digital currency is not a new concept. We already make regular payments using digital methods such as Real Time Gross Settlement

(RTGS), National electronic fund transfer (NEFT), and Immediate Payment Service (IMPS). They are secure, effective, and accessible 24 × 7. Recently, UPI (Unified Payments Service), a revolutionary payment system, has had a significant impact on the nation's economic system and has become a model for other nations looking to develop a scalable, convenient, and real-time payment system. The objective of all digital payment methods is to offer consumers an alternative mode of paying physical cash.

Cryptocurrency is a type of digital currency where transactions are verified and records are kept by a decentralized system employing encryption. The showrunner of cryptocurrency is the blockchain or a distributed ledger that keeps track of transactions and distributes access to the authorized users. There are already thousands of different digital currencies, which are collectively referred to as cryptocurrencies. The most well-known example of a fully decentralized, peer-to-peer cryptocurrency is Bitcoin. The Bitcoin debut in 2009 is still a favorite among investors and miners. It sparked the "revolution" in cryptocurrencies that gave rise to many well-known coins including Ethereum, Litecoin, Tether, XRP, etc. India opposed the use of and other cryptocurrencies for many reasons. One reason is that the government is concerned about the potential for money laundering and financing of illegal activities using these digital assets. The Reserve Bank of India (RBI) does not have any control over the transactions of cryptocurrencies.

Another reason is that the use of cryptocurrencies could potentially lead to a decline in demand for traditional fiat currencies, such as the Indian rupee, which could in turn have negative impacts on the country's economy. In addition, there are concerns about the volatility of the prices of cryptocurrencies and the lack of regulatory oversight in the market. People were alerted in April 2018 that cryptocurrencies are not accepted as legal currency in India.

In 2019, the finance ministry drafted a bill prohibiting cryptocurrency mining, ownership, sales, issuance, transfers, and use in India. A person might face a hefty fine or up to 10 years in jail if proven guilty of violating the law. The Supreme Court of India, however, removed the restriction in March 2020.

### **Launch of Digital rupee:**

Digital Rupee is a form of digital token that represents the India Rupee. It offers similar features to physical cash such as trust, safety, and settlement finality. The digital rupee (also referred to as e-rupee) is India's version of a central bank digital currency (CBDC). The Reserve Bank of India (RBI) launched the digital rupee as a pilot project in the wholesale segment on November 1, 2022, for use in the settlement of secondary market transactions in government securities. A secondary market is one where financial instruments like bonds are traded. The pilot project in the retail segment was launched on December 1 the same year for use within a closed-user group comprising participating customers and merchants.

### **Volume of digital rupees in circulation:**

The total value of the digital rupee in circulation stood at Rs 16.4 crore as of March 31, 2023, of which Rs 5.7 crore was in the retail segment. Since it is a pilot project, it is not strictly comparable with the total value of banknotes in circulation, which stood at Rs 33.5 lakh crore, and coins at Rs 30,242 crore.

### **The work of digital rupee:**

In the retail segment, the digital rupee is being distributed through banks as a pilot project. RBI has created tokens that have been issued to banks selected for the pilot programme. Starting with four banks and four locations, the retail pilot is now operationalized by 13 banks across 26 locations. The banks have distributed the tokens to some customers, who need to store them in a digital wallet using an app, and use them in transactions. Transactions can be both person-to-person and person-to-merchant, by scanning a QR code.

**It different from cryptocurrencies:**

Unlike cryptocurrencies, which do not have an underlying guarantee, the value of a CBDC is fixed by a country's central bank and is equivalent to the currency of that country.

**The present status of the digital rupee:**

As the next step, the RBI is planning to introduce the wholesale version of the digital rupee in the interbank borrowing or the call money market by October. The interbank call money market is a short-term money market that allows for large financial institutions to borrow and lend money at interbank rates (the rate of interest that banks charge when they borrow funds from each other). In the retail segment, the RBI is slowly and steadily expanding the digital rupee pilots to more banks, cities, people and use cases.

**Digital rupee transactions different from UPI:**

The UPI is a simple and fast way of transacting with another person or a merchant, where money is directly debited from one's account linked to the UPI. This is a reason for its huge success as a payment method. In FY23, the UPI platform processed a total of 83.8 billion transactions aggregating to Rs 139 lakh crore. At present, transactions are carried out in the e-rupee just as they are done through UPI, by scanning a QR code using a smartphone, but RBI says the CBDC will also have an offline feature ideal in remote locations when electrical power or mobile network is not available.

RBI is exploring the use of an offline feature for the digital rupee. As part of (RBI's Hackathon), it is seeking solutions from across the globe for the offline feature. Multiple technologies will be tested before arriving at the final architecture that can address the concerns of those living in areas with limited or no internet connectivity. Solutions that are workable for feature phones will also be explored.

**Cities in India has digital currency:**

The e-R pilot currently covers the five cities of Mumbai, New Delhi, Bengaluru, Bhubaneswar and Chandigarh. The e-R is in the form of a digital token that represents legal tender. It is being issued in the same denominations that paper currency and coins are currently issued.

**The Countries use of digital currencies:**

As of June 2023, 11 countries have already launched CBDCs, while pilot testing in China reached 260 million people. Brazil has plans to launch a digital currency next year.

**The Digital rupees used:**

Customers can transfer the tokens to each other through Mobile No. and QR Code. Customers can pay merchants through the Digital Rupee QR Code.

**Saving account mandatory to use the digital rupee app:**

Need to link ICICI Bank Savings Account and authenticate using your Debit Card details to register for the Digital Rupee app.

**The load and unload features in a digital rupee app:**

- Load - You will be able to purchase tokens by debiting your Bank Accounts (Both ICICI Bank as well as non-ICICI Bank Accounts can be used)
- Unload - You will be able to redeem tokens by crediting your Bank Accounts (Only ICICI Bank Account).

**Central Bank Digital Currency:**

A central bank digital currency (CBDC) is a digital currency that is issued and supervised by a nation's central bank. Hundred plus countries are exploring CBDCs at one point or another according to

the International Monetary Fund (IMF). But as of the year 2022, only a few countries have CBDC or have solid plans to issue them.

#### **The types of digital currency:**

1. Stablecoins,
2. Central bank digital currency (CBDCs) and
3. Cryptocurrency.

#### **Users use in the central bank currency:**

The only way to invest in a central bank digital currency is to hold the currency in your account. In simple terms, holding the nation's hard cash in your hand today. Users need to have a verified username and a bank account to hold a CBDC from any country today. This means citizens of different nations can't have an overseas nation's CBDC distributed to them. But it is believed that this scenario will change once more CBDCs are implemented globally.

#### **Importance of digital currency:**

The most important reason for launching a digital rupee by the RBI is to push India forward in the virtual currency race. And, of course, due to the growing importance of cryptocurrency. With block chain technology, the digital rupee will increase efficiency and transparency.

#### **Objectives of the study:**

1. To understand the Scope & usefulness of digital currency.
2. To know the challenges of the digital currency
3. To find the remedial measures for the challenges of digital currency

#### **Limitations of the study:**

1. Time for the study is limited.
2. Cost of the study is limited.
3. Period of the study is only 15 days.
4. Only used secondary data that to online information

#### **Scope of the studies:**

A digital mode of currency that does not require a fully functional bank account and can work offline will provide a major boost to inclusion. Precautionary cash holding during COVID-19 and the anonymous nature of cash transactions led to a rapid increase in cash usage during 2021-22.

CBDCs could provide a means for those without access to traditional banking services to store, transfer, and access money, even offline or without power supply, using simple and affordable devices. This is because digital currencies do not require intermediaries such as banks, which can charge high fees for services like currency exchange and wire transfers. Additionally, digital currencies can also eliminate the need for physical currency, which can be costly to produce and distribute. With the launch of the digital rupee, the instant cross-border money transfer is set to make bank cash management and operations more seamless. In India, cash placement and tracking the same is a challenge. CBDC can address anonymity and resolve it in a non-intimidator way and reduce the demand for cash.

#### **Methodology of the study:**

The study is purely based on secondary data. The data for the study is collected through the different website and studies in depth and analyzed.

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## Advantages of Digital Rupee:

### 1. Faster Mode of Payment

Digital currency can make your payments much faster than current means like automated clearing houses or wire transfers that take days for financial institutions to confirm a transaction.

### 2. Cheaper Global Transfers

At times global transactions can get very expensive. Individuals are charged high fees to move funds from one nation to another, especially when it includes currency conversions. Digital assets could interrupt this market by making the transaction cost-effective and quick.

### 3. 24/7 Availability

Digital currency transactions work at the same speed i.e. 24 hours a day and seven days a week. On the other hand, existing money transfers frequently take more time during weekends and outside normal working hours because banks are shut and cannot confirm transactions.

### 4. No Manufacturing Required

Physical currencies have many requirements such as the establishment of physical manufacturing facilities. Whereas, in digital currencies, no such expense is involved. Also, digital currencies are immune to soiling or physical defects that are present in physical currency.

### 5. Well-organized Government Payments

If the government developed a central bank of digital currency, it could send payments like child benefits and food stamps, and tax refunds to people instantly, rather than trying to figure out prepaid debit cards or mail them a check.

## Disadvantages of Digital Rupee:

### 1. Options

The crypto popularity is a downside. According to the head of Sidley's FinTech and Blockchain group LilyaTessler, across different blockchains, there are several digital currencies being created with their own limitations. It will take a certain amount of time to decide which digital currencies in certain cases might be appropriate to use. It also includes whether a few are designed to scale for mass adoption.

### 2. Costly Transaction

Crypto uses blockchain technology where computers must resolve complex equations to validate and record transactions. This in turn takes a significant amount of electricity, the more the transaction the more the expense. However, this would probably not exist for the central bank of digital currencies as complex consensus processes are not required and CBDC would likely oversee it.

### 3. Steep Learning Curve

On the part of the user, digital currencies require work to learn fundamental tasks like how to open a digital wallet and securely store digital assets. For the wide adoption of digital currencies, the system needs to be simplified.

### 4. Issues of Cybersecurity

The digital currency has made people constantly worry about cybersecurity and facing many threats due to less secure methods to store this money. Cyberattacks are probably increasing and can also threaten digital currency users with virtual theft.

### Cryptocurrency Vs Digital Rupee:

According to the RBI, “a CBDC is a legal tender issued by a central bank in a digital form. It is the same as a fiat currency and is exchangeable one-to-one with the fiat currency. Only its form is different. “But a CBDC can’t be exactly compared to cryptocurrencies. “Unlike cryptocurrencies, a CBDC isn’t a commodity or claims on commodities or digital assets. Cryptocurrencies have no issuer. They are not money (certainly not currency) as the word has come to be understood historically,” as said in the announcement made by RBI.

The CBDC is the digital avatar of paper currency issued by central banks like RBI and should be exchangeable with cash. The commonly-known digital rupee is a currency that the RBI issues and the digital rupee will have the same function, but it won’t be a decentralised asset like cryptocurrencies. Digital rupee will be a currency issued by central banks responsible for governing and managing the asset. The digital rupee will be a legal tender, which means you can use it to buy what you want. For example, digital wallets, NEFT and IMPS are examples of digital rupees. So, when the RBI starts circulating the digital rupee, all citizens of India can use it.

### Countries that are Considering CBDC:

With the recent popularity of a cashless or digital financial framework, world governments and central banks are exploring (some of them have also implemented) the possibilities of digital currency. The Bahamas, Nigeria, Dominica, Montserrat, Antigua and Barbuda, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines have already launched their digital currency. Russia – the Digital Ruble has completed the initial trials–full cycle of transactions as announced by the central bank of Russia. China – plans to launch the eCNY or digital Yuan by 2022.

### Need of the Digital Rupee:

The most important reason for launching a digital rupee by the RBI is to push India forward in the virtual currency race. And, of course, due to the growing importance of cryptocurrency. With blockchain technology, the digital rupee will increase efficiency and transparency. Blockchain will also enable real-time tracking and ledger maintenance.

### FINDINGS OF THE STUDY:

1. The use of digital currency can help increase the efficiency of transactions
2. The goal of national digital currencies is to provide financial inclusivity, some people or private businesses might resist this new form of currency as every transaction leaves a record, potentially leading to conversations about privacy and surveillance.
3. The next challenge is mass adoption at scale.
4. The digital rupee is the RBI’s accepted version of cryptocurrencies, which the central bank has dismissed repeatedly and called a serious challenge to the stability of the financial system of the country.
5. Digital India Mission is mainly focused on three areas: Providing digital infrastructure as a source of utility to every citizen. Governance and services on demand. To look after the digital empowerment of every citizen.
6. In India, cash placement and tracking the same is a challenge.
7. The RBI is slowly and steadily expanding the digital rupee pilots to more banks, cities, people and use cases.
8. The RBI is exploring the use of an offline feature for the digital rupee.
9. The Customers can transfer the tokens to each other through Mobile No. and QR Code. Customers can pay merchants through the Digital Rupee QR Code.
10. As of June 2023, **11 countries** have already launched CBDCs, while pilot testing in China reached 260 million people. Brazil has plans to launch a digital currency next year.
11. Digital currency transactions work at the same speed i.e. 24 hours a day and seven days a week.



12. Currently covers the five cities of **Mumbai, New Delhi, Bengaluru, Bhubaneswar and Chandigarh**

### SUGGESTIONS:

1. The use of CBDCs has been suggested as a means of enhancing the speed and security of centralized payment systems, lowering the costs and dangers of handling cash, and promoting greater financial inclusion for people and companies without access to conventional banking services.
2. DCS for the banking industry. Digital Currency Solution (DCS) is a new way for banks to handle, manage, and distribute their funds in the form of digital money, designed to beneficially replace fiat currencies through blockchain and process automation.
3. The CBDC can address anonymity and resolve it in a non-intimidator way and reduce the demand for cash. The government will save operational, printing, distributing and storing costs—empowering the government's vision toward a cashless economy.
4. If the government developed a central bank of digital currency, it could send payments like child benefits and food stamps, and tax refunds to people instantly, rather than trying to figure out prepaid debit cards or mail them a check.
5. The government should give **training** and distribute mobile to all those people and educate them about the transaction of digital currency because, the use of digital currency may cause difficult to those who are illiterate, who are living in remote area, who are not having mobile and operating knowledge of the mobile.
6. The main aim of digital currency is to use transaction purpose therefore; the study is suggesting that instead of launching digital currency the existing system of online transaction should develop for fulfilling the work of digital currency.

### CONCLUSION:

This paper summarizes a large number of pieces of literature and finds that the development of digital currency and blockchain technology can make up for cash drawbacks, realize automation, improve compatibility and reduce release costs.

Some of the advantages of digital currencies are that they enable seamless transfer of value and can make transaction costs cheaper. Some of the disadvantages of digital currencies are that they can volatile to trade and are susceptible to hacks and cybercrime may increase. For removing the hacking system, the government should enhance anti hacking system and make the confidence to users.

The existing money transfers frequently take more time during weekends and outside normal working hours because banks are shut and cannot confirm transactions. The RBI is exploring the use of an offline feature for the digital rupee. As part of (RBI's Hackathon), it is seeking solutions from across the globe for the offline feature. Multiple technologies will be tested before arriving at the final architecture that can address the concerns of those living in areas with limited or no internet connectivity. Solutions that are workable for feature phones will also be explored.

Anyway, the system of digital currency is good therefore, slowly and steadily increase the use of digital currency should implement as early as possible throughout the country with a strong cyber security.

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