



## Entry of digital rupee enriches the cashless economy

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### Abstract

When the transactions in an economy are not heavily based on the money notes, coins or any other physical form of money but are aided by the use of credit cards, debit cards and prepaid payment instruments, such an economy is called cashless economy. The cashless Economy in India has been amplified with the Indian Government's initiative of Digital India. This is a flagship programme with a vision to transform India into a digitally empowered society and knowledge economy. The highlights of cashless economy include: Post Demonetization, the Centre is making a big push for online and card-based transactions in the country to achieve its target of becoming a largely cashless economy. The rapid growth of e-payment startups in the country. Launch of Unified Payments Interface (UPI) to facilitate cashless transactions. The Covid-19 pandemic fuelled a massive shift towards digital transactions in India aligning with the prime minister's vision of a Digital India. In fact, according to the National Payments Corporation of India (NPCI) data, payments on UPI in June 2020 hit an all-time high of 1.34 billion in terms of volume with transactions worth nearly Rs 2.62 lakh crore and The Digital Rupee (₹) or e INR or E-Rupee is a tokenised digital version of the Indian Rupee, issued by the Reserve Bank of India (RBI) as a central bank digital currency (CBDC). This paper especially enlightens about digital rupee enhances the cashless economy through government initiatives.

**Keywords:** Cashless economy, crypto currency, digital rupee, block chain technology

### Introduction

A cashless economy is an economy in which digital transactions, such as mobile payments, debit cards, credit cards, and online banking, replace cash transactions. In a cashless economy, individuals and businesses rely on digital payments for transactions, and physical cash is gradually phased out.

The scope of a cashless economy is immense, as it can lead to several benefits, such as increased transparency, reduced costs of printing and handling cash, reduced tax evasion, and increased financial inclusion. It can also lead to more efficient and faster transactions, which can boost economic growth. Additionally, a cashless economy can help combat corruption, as it becomes easier to track and trace financial transactions.

India has been making significant strides towards becoming a cashless economy in recent years. The government's demonetization drive in 2016 played a significant role in driving the adoption of digital payments in the country. Since then, there has been a surge in the use of mobile wallets, UPI payments, and other digital payment platforms in India. The government has also launched several initiatives, such as the Digital India campaign, to promote digital payments and improve financial inclusion in the country.

However, India is not yet a fully cashless economy, and there are still several challenges that need to be addressed, such as low digital literacy in some parts of the country, the lack of digital infrastructure in rural areas, and the high costs associated with digital payments for small merchants. Nevertheless, with the continued growth of digital payments in India, it is likely that the country will move closer to becoming a cashless economy in the future.

Cashless Economy can be defined as a situation in which the flow of cash within an economy is non-existent and all transactions must be through electronic channels such as

direct debit, credit cards, debit cards, electronic clearing, and payment systems such as Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT) and Real-Time Gross Settlement (RTGS) in India.

Digital currency refers to any currency that is available in electronic form. The Digital Rupee is virtual money, serving the same purpose as physical money. It is a form of digital currency issued by the Reserve Bank of India (RBI), the country's central bank. The Digital Rupee is a centralized digital currency directly regulated by the RBI, maintaining the stability and trust associated with traditional currencies.

The Digital Rupee is introduced in India to enhance cashless financial inclusion, providing greater access to formal financial services. It aims to promote efficiency in transactions through faster and more secure digital payment methods, align with the country's technological advancements, foster a digital-first economy, reduce dependence on physical currency, and enable better regulatory control over monetary transactions while countering potential illicit activities. It leads to cashless economy

### Research Methodology

This research was based on descriptive nature. The data were collected from secondary sources like web sites and journals

### Research Objectives

This research had following objectives

- Narrate the government initiatives for cashless economy
- Elucidate about Indian crypto currency, digital currency and its Blockchain technology

### Government Initiatives for Cashless Economy

The Digital India programme is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy. "Faceless, Paperless, Cashless" is one of professed role of Digital India.

As part of promoting cashless transactions and converting India into less-cash society, various modes of digital payments are available. The government is taking several steps to overcome the above challenges and establish a cashless economy. Let's understand more about these initiatives:

**1. Demonetization:** Demonetization is the process of removing a currency unit's legal tender status. It occurs when there is a change in the national currency, and the current form of money is retired from circulation. The retired currency is no longer legally considered an exchange and has no financial value.

The objectives of demonetization include:

- Stopping the circulation of black money
- Reducing interest rates
- Creating a cashless economy
- Formalizing the informal economy
- Removing counterfeit notes
- Preventing tax evasion

In India, the first demonetization took place on January 12, 1946, to curb black-market activities. In 1978, the High Denomination Bank Notes (Demonetization) Act demonetized high-denomination bank notes of ₹1000, ₹5000, and ₹10000. In 2016, the government demonetized all ₹500 and ₹1,000 banknotes of the Mahatma Gandhi Series, and issued new ₹500 and ₹2,000 banknotes in exchange.

**2. Pradhan Mantri Jan Dhan Yojana:** Pradhan Mantri Jan Dhan Yojana is a National Mission on Financial Inclusion which has an integrated approach to bring about comprehensive financial inclusion and provide banking services to all households in the country. The scheme ensures access to a range of financial services like availability of basic savings bank account, access to need based credit, remittances facility, insurance and pension.

**3. Direct Benefit Transfer (DBT):** Direct Benefit Transfer (DBT) is a program launched by the Government of India on January 1, 2013. The program's goal is to transfer subsidies directly to the people's linked bank accounts. The scheme aims to bring transparency and end pilferage from the distribution of funds sponsored by the Central Government of India.

The program transfers subsidies to the Aadhaar-linked bank accounts of the underprivileged. To check if your bank account is DBT, you can:

- Visit the UIDAI website
- Go to "Check Aadhaar & Bank Account Linking Status"
- Verify your Aadhaar credentials using OTP
- View bank name of account linked for DBT

If you don't have Aadhaar, you can visit the nearest Aadhaar enrolment centre to enroll for Aadhaar. Till the time Aadhaar is assigned to you, you may present your Aadhaar

enrolment ID (EID) and other alternate ID documents as per the scheme requirements for getting the benefits.

**4. Unified Payment Interface (UPI):** The Unified Payments Interface (UPI) is a mobile app that combines multiple banking services, including fund routing and merchant payments. It was developed in 2016 by the National Payments Corporation of India (NPCI).

UPI allows users to make mobile payments without the need for debit or credit cards. It also facilitates inter-bank peer-to-peer (P2P) and person-to-merchant (P2M) transactions.

- To activate UPI, you can:
- Download the UPI app
- Register online with your account details
- Create a virtual ID
- Set an MPIN

You can also create a virtual payment address (VPA) by:

- Downloading a UPI-enabled mobile banking app
- Registering your mobile number with the app
- Creating a new account or linking your existing bank account
- Selecting the option to create a UPI VPA in the app

Some examples of UPI-enabled mobile banking apps include: Paytm, Phonepe, Gpay.

**5. Aadhaar Enabled Payment System (AEPS):** The Aadhaar Enabled Payment System (AEPS) is a payment service that lets customers use their Aadhaar number to access their bank account and perform basic banking transactions. AEPS uses Aadhaar verification to enable online financial transactions at Micro ATMs or Point of Sale (PoS) terminals.

AEPS allows customers to:

- Transfer funds
- Make payments
- Deposit cash
- Make withdrawals
- Check bank balance
- Make remittances through a Business Correspondent

AEPS eliminates the need for OTPs, bank account details, and other financial details. All user transactions have to be of the amount equal to or above Rs. 10, and the maximum transaction limit value will be Rs. 10,000.

AEPS is available from 118 banks, including Axis Bank, Bandhan Bank Ltd, Bank of Baroda, and Bank of India.

**6. Financial Literacy Centres:** Financial Literacy Centres (FLCs) are basic units that help people understand the benefits of financial products and make choices that fit their needs. They can help people develop financial awareness and a habit of financial prudence. FLCs can help people with problems related to: Credit cards, Personal loans, Housing loans. FLCs can also create demand for financial products and services. They can help banks capture untapped business opportunities. FLCs can help people understand financial products such as: Deposits, Loans, Insurance, Digital products. The broad objective of the FLCs is to provide free financial literacy/education and credit counselling.

**7. Digital Currency:** Digital currency, also known as digital money or electronic currency, is any currency that is only available in electronic form. Digital currency is not physically tangible, like a coin or dollar bill. It is accounted for and transferred using online systems and electronic codes in computers. Digital currency generally represents fiat currencies, such as dollars or euros. Digital currency is different from electronic currency that is already in bank accounts because it never takes physical form.

The first cryptocurrency was created by Satoshi Nakamoto, the pseudonym for an anonymous computer programmer or group of programmers, on January 3, 2009, when Bitcoin software was made available to the public.

Broadly speaking, digital currency can be classified into four categories:

- Payment Cryptocurrencies
- Tokens
- Stablecoins
- Central Bank Digital Currencies

**Indian Crypto-Currency**

As of August 2023, some of the top Indian cryptocurrency projects include:

Trillioner Coin (TLC), Bybit India, Polygon (MATIC), CoinDCX, CoinSwitch, Sharedum (SHM), Huddle01, OnRamp Money, Xinfin (XDC), Chingari (GARI). According to CoinLedger, CoinDCX is one of India's largest cryptocurrency exchanges. It has a user base of over 14 million and charges 0.2% fees on all spot trades

**India’s Central Bank Digital Currency (CBDC) - Digital Rupee**

1. Digital Rupee is the electronic version of our currency which can be used for all your digital transactions. You can load the CBDC wallet and redeem the wallet balance to your linked bank account in seconds. Going ahead, multiple new functionalities and use cases shall continue to be explored. Currently, the pilot is ongoing with 13 banks providing this facility for their customers. With roll out of interoperability with UPI, the CBDC users are now enabled to make transactions at any UPI QR (merchants or individuals) across the country.
2. In this regard, please find the following easy steps for getting on-boarded:
  1. Please check if you are a customer of any of the 13 pilot banks (list mentioned below)
  2. If you are a customer of any of these banks, download the Digital Rupee App of the respective bank from Play store or Appstore on your mobile. The app names and download links are as below:

Pilot Banks	Name of the App
SBI	eRupee SBI
ICICI Bank	Digital Rupee ICICI Bank
IDFC First Bank	IDFC First Bank Digital Rupee
YES BANK	Yes Bank Digital Rupee
HDFC Bank	HDFC Bank Digital Rupee
Union Bank of India	Digital Rupee By UBI
Bank of Baroda	Bank of Baroda Digital Rupee
Kotak Mahindra Bank	Digital Rupee by Kotak Bank
Canara Bank	Canara Digital Rupee
Axis Bank	Axis Mobile Digital Rupee
IndusInd Bank	Digital Rupee by IndusInd Bank
PNB	PNB Digital Rupee
Federal Bank	Federal Bank Digital Rupee

3. Carry out a basic registration process.
3. For those already having a CBDC wallet, it is requested to update your CBDC apps so that you have the latest version which can provide you a seamless experience.

**Digital Rupee**

A digital rupee is a digital form of currency, also known as "e₹" or "Central Bank Digital Currency" (CBDC). It's issued by the Reserve Bank of India (RBI) as a legal tender, similar to sovereign paper currency.

Digital rupees are virtual money that offers similar features to physical cash, such as trust, safety, and settlement finality. They can be exchangeable one-to-one at par (1:1) with existing currency.

Digital rupees can be held in a CBDC wallet, which is issued by banks. For example, SBI Bank customers can link their wallets to their SBI bank accounts to load eRupees.

Benefits of digital rupees include:

- Contactless: Beneficiaries don't need to carry a print out of the voucher
- Easy redemption: Beneficiaries can redeem in two steps without sharing personal details
- Safe and secure: Beneficiaries don't need to share personal details while redemption

**Block Chain Technology**

Blockchain technology is used in the Digital Rupee to improve efficiency, transparency, and ledger maintenance. It also enables fast cross-border transactions, real-time settlements, and real-time tracking.

Blockchain technology is a decentralized ledger that records all transactions over a network of computers. When a user begins a digital currency transaction, the transaction is confirmed and added to a blockchain block. Blockchain technology also establishes a system of networks in which all the asset transactions are monitored, and the information privacy at both ends is maintained.

The Reserve Bank of India (RBI) launched a pilot project on central bank digital currency (CBDC) on November 1, 2022, named NDS-OM CBDC. The pilot in retail segment, known as digital Rupee-Retail (e₹-R), was launched on December 01, 2022. The pilot in wholesale segment, known as the Digital Rupee -Wholesale (e₹-W), was launched on November 1, 2022.

The existing digital platforms, while doing digital transaction, still transact physical rupees at a fundamental level. This means that the RBI has to print all those currencies and make it available to all the banks which are connected to these digital platforms. The Digital Rupee on the other hand is a virtual currency which runs on a powerful blockchain based cryptographic algorithm which secures the transactions. This implies that this virtual currency can be legitimately transacted on a peer-to-peer basis, while the government will have the complete visibility on the entire transaction end to end. This shall give the Government a greater leverage to legislate and bring laws that can bring additional revenues on areas that otherwise escape the tax net.

Decentralised Crypto currencies are often generated by a process called mining. However, in case of Digital Rupee, the RBI shall decide the quantum of currencies that are to be generated. The value of the rupee then, shall be equal to the fiat system value of all the money printed physically by the

mint and generated by the digital ecosystem. It is therefore clear that the Digital Rupee shall facilitate ease of transaction while enhancing the security of transactions and reducing the cost of various overheads involved in printing, handling, maintaining and securing the physical rupee. The ownership of Digital Rupee is therefore not akin to owning a Bitcoin or Ethereum like currency whose market values are very volatile and therefore tempt greedy investors with a preposition of making quick money. It is to be borne in mind that the intrinsic value of these currencies is zero.

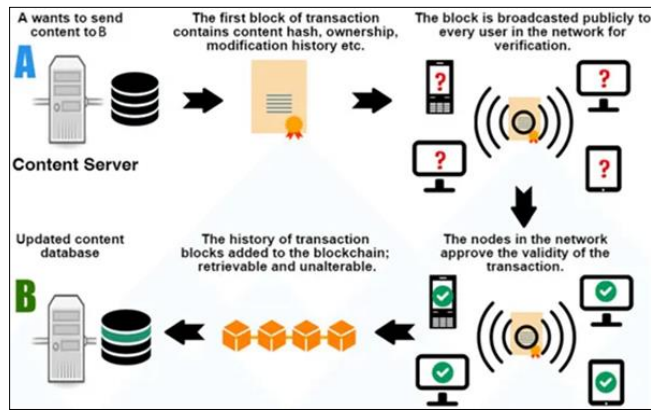


Fig 1: Block Chain technology Base Transaction

Currencies like the Bitcoin and Ethereum offer anonymity of ownership which is the main reason why people choose such assets. While the Indian Government has taken all possible legal measures to ensure that every transaction can be tracked when a physical rupee is used to buy a crypto currency, it still has some serious gaps in tracing crypto transactions. For example, if an investor invests Rs 1000 and buys a crypto currency, the government can easily track the process through a mandatory KYC requirement imposed on exchanges that operate inside the ambit of Indian laws and its jurisdiction. However, if a person receives crypto coins through the process of mining or as a consequence of a peer-to-peer transaction from a third party, such transactions cannot be traced by the Indian Government. It is therefore important to note that for some people, Crypto currencies shall still be seen as a better digital asset than a Digital Rupee due to the singular reason of anonymity that it offers.

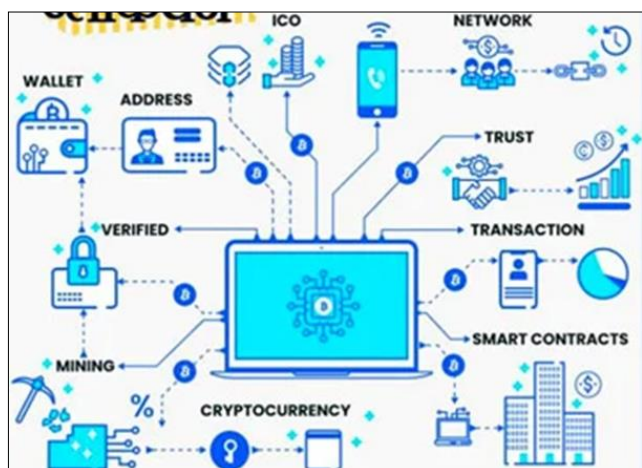


Fig 2: Block Chain Technology

Table 2: Digital Currency Vs Cryptocurrency

Digital Currency -e rupee	Cryptocurrency
1. A Digital currency is a centralized form of money issued and regulated by the RBI.	1. cryptocurrency is a decentralized form of money with no intermediaries in the transaction process.
2. The digital currency uses a private blockchain	2. cryptos operate on a public blockchain in a decentralized infrastructure.
3. However, it is not the same case with the digital rupee.	3. Users making payments via cryptos remain anonymous.
4. Regarding use cases, the digital rupee is just used for payments and other monetary transactions.	4. But cryptocurrencies are categorically both assets and currencies
5. The digital currency responds to inflationary pressure.	5. However, crypto is a currency that acts as a hedge against inflation.
6. When it comes to scalability, the digital rupee is efficient as they operate on permissioned networks similar to databases	6. --

**Conclusion**

As most businesses in the post-pandemic era now prefer online transactions over cash, introducing the digital rupee would be one step toward a cashless economy. Risks such as money laundering or theft would easily be negated this way. Since cash moves from one person to another easily, the government can now keep track of it. With the usage of the digital rupee, corruption, and human errors would also decrease drastically.

There is no direct comparison between the digital rupee and cryptocurrency, as both serve different purposes. The digital rupee is a step ahead of taking India towards the digital revolution. There are many interesting benefits of digital forms of currency.

The main purpose of launching the country’s own digital currency, apart from going cashless, is to reduce the operational cost involved in physical cash management.

Another reason for launching a national digital currency is to put an end to concerns like money laundering, terror financing, tax evasion, etc., that are associated with private cryptocurrencies like Bitcoin, Ether, etc.

Lastly, the government also aims to foster financial inclusion, encouraging resilience, efficiency and innovation in the payments system through CBDC.

**References**

1. [linkedin.com/pulse/let-us-understand-what-cashless-economy-its-scope-ca-swati-panchal/](https://www.linkedin.com/pulse/let-us-understand-what-cashless-economy-its-scope-ca-swati-panchal/)
2. <https://www.bankofbaroda.in/banking-mantra/digital/articles/what-is-digital-rupee#:~:text=Digital%20currency%20refers%20to%20any,%20the%20country's%20central%20bank.>
3. <http://cashlessindia.gov.in/upi.html>
4. [https://en.wikipedia.org/wiki/Unified\\_Payments\\_Interface#:~:text=Unified%20Payments%20Interface%2C%20commonly%20referred,%2Dmerchant%20\(P2M\)%20ransactions.](https://en.wikipedia.org/wiki/Unified_Payments_Interface#:~:text=Unified%20Payments%20Interface%2C%20commonly%20referred,%2Dmerchant%20(P2M)%20ransactions.)
5. [https://www.investopedia.com/terms/u/unified-payment-interface-upi.asp#:~:text=The%20Unified%20Payments%20Interface%20\(UPI\)%20in%20India%20is%20a%20regulated,Payments%20Interface%20\(UPI\).%22](https://www.investopedia.com/terms/u/unified-payment-interface-upi.asp#:~:text=The%20Unified%20Payments%20Interface%20(UPI)%20in%20India%20is%20a%20regulated,Payments%20Interface%20(UPI).%22)

6. [https://www.dbs.com/digibank/in/banking/account/dbt-faqs.page#:~:text=Please%20follow%20these%20simple%20steps:%20\\*%20Visit,bank%20name%20of%20account%20linked%20for%20DBT.](https://www.dbs.com/digibank/in/banking/account/dbt-faqs.page#:~:text=Please%20follow%20these%20simple%20steps:%20*%20Visit,bank%20name%20of%20account%20linked%20for%20DBT.)
7. <https://www.dbs.com/digibank/in/articles/pay/what-is-dbt#:~:text=DBT%20full%20form%20is%20Direct,the%20Aadhaar%20linked%20bank%20account.>
8. <http://foodsuppb.gov.in/?q=node/138#:~:text=The%20primary%20aim%20of%20this,citizens%20living%20below%20poverty%20line.>
9. [https://www.bankbazaar.com/ifsc/aadhaar-enabled-payment-system-aeps.html#:~:text=AEPS%20is%20nothing%20but%20an,enquiry%20about%20bank%20balance%2C%20etc.&text=AEPS%20allows%20customers%20to%20make,\(PoS\)%20or%20micro%20ATMs%20.](https://www.bankbazaar.com/ifsc/aadhaar-enabled-payment-system-aeps.html#:~:text=AEPS%20is%20nothing%20but%20an,enquiry%20about%20bank%20balance%2C%20etc.&text=AEPS%20allows%20customers%20to%20make,(PoS)%20or%20micro%20ATMs%20.)
10. <https://ippbonline.com/web/ippb/aeps-faqs#:~:text=A.,remittances%20through%20a%20Business%20Correspondent.>
11. <https://punjabandsindbank.co.in/content/flc1#:~:text=Financial%20Literacy%20Centres%20are%20basic,represent%20good%20value%20for%20money.&text=I.>
12. <https://sbi.co.in/web/agri-rural/rural/flc#:~:text=FLCs%20create%20financial%20awareness%20on,the%20habit%20of%20financial%20prudence.>
13. <https://corporatefinanceinstitute.com/resources/cryptocurrency/types-of-cryptocurrency/#:~:text=Broadly%20speaking%2C%20we%20will%20classify,and%20Central%20Bank%20Digital%20Currencies.>
14. <https://www.forbes.com/advisor/in/investing/cryptocurrency/digital-currency/#:~:text=Digital%20currency%20is%20any%20currency,currency%20never%20takes%20physical%20form.>
15. <https://indiafoundation.in/articles-and-commentaries/digital-rupee-the-big-bang-boom-to-reach-5-trillion-gdp/>