



Importance of Central Bank Digital Currency: in present era

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Abstract:

Purpose- The purpose of this paper is to explore the importance of Central Bank Digital Currency (CBDCs). The main motive of CBDC is to complement rather than replace existing forms of currency and is hypothesis to given an additional payment method to users. CBDC is more secure, accessible, convenient and affordable. It will help to further boost India's digital economy and make payment system more efficient.

Finding- As we know that the pilot test is being done on CBDC, so the result given by it are not completely accurate. Yet according to the report given by RBI it is more stable compare to cryptocurrency and being a legal tender, it was easily adopted by the user.

Design/Methodology- This paper is based on conceptual and descriptive research design research design because the paper attempt to describe the important of CBDCs. It will help in obtaining the significance description of CBDCs and current situation to adopt the CBDCs for general purpose.

Originality/Value- According to the knowledge of the author, the Central Bank Digital Currency has not yet been fully launched in India and the phase-1 and phase-2 results of the CBDC have not yet been disclosed. This is the author's first attempt to theoretically understand the importance of CBDC.

Keyword- Cryptocurrency, Central Bank Digital Currency (CBDCs) and its Importance, Digital Rupee Wholesale (₹-W), Digital Rupee Retail (₹- R),

Introduction:

The Reserve Bank of India launched the pilot project of its central bank digital currency (CBDCs), which it categorizes as legal money as a digital form. Generally, its known as the "Digital Money" or e-₹ an electronic version of notes and coins. It is exchangeable at par with the current currency and readily acceptable to pay and its value can be safely stored for the future.

The purpose of CBDCs issued by RBI is not only to make the use of money easier but also to explore additional options, which provides more security to digital transactions. e-₹ is not much different from the current banknotes because, e-₹ is also recognized by RBI hence it will act as legal currency.

Reserve Bank of India (RBI) approved form of cryptocurrency (virtual digital assets) is called the digital currency. In past, Central bank did not give any recognition to cryptocurrency and called it is a challenge to the stability of the country's financial system. To counter this problem, Central bank digital currency was issued by the Central bank, which will be alternative option of cryptocurrency in the country.

What is Cryptocurrency (Virtual Digital Currency)?

Cryptocurrency is decentralised money that is not regulated by any central bank or authority.

Every specific transaction that is made with cryptocurrency is digitally recorded and stored on online database. Cryptocurrency got its name from the reality that all cryptocurrency trading is verified using encryption. It means transfers between private and public ledgers require a secure programme. The first best cryptocurrency is known as Bitcoin (BTC) which was launched in 2009 and second largest cryptocurrency in the world is Ethereum (ETH). To safeguard user transactions, it makes use of cryptography and blockchain technology. The Bitcoin was created with a vision to aid people in sending money through internet. It is a form of digital currency which is free from any control and it has the same functioning as that of any traditional currency.

To have a better understanding of cryptocurrency, one must have awareness about three terms viz. blockchain, cryptography and decentralisation which are explained below-

- **Blockchain-** A network of computer or similar device used for storing data. All systems are in a line attached each other and can't be hacked. Blockchain are mostly used in cryptocurrency for their crucial role such as Bitcoin.
- **Cryptography-** It is a process of securing sensitive information through encoding module by which only the trusted persons can access the

information and process it. It paves path for secure communication system.

- **Decentralisation-** in cryptocurrency decentralization means that the assets are free from any legal authority like RBI, that's why cryptocurrency is free for any type of trading.

Background of cryptocurrency:

The history of crypto currency is very exhilarating and has quickly change the world. Today, the need of hour is an electronic payment system based on cryptographic proof to secure and verify transactions rather than on trust. For this purpose of crypto currencies came into existence. Crypto currency is a type of digital currency which is decentralised and is not controlled by any government. The history of crypto currency dates back to 1980s when it was called as cyber currencies. However, it became famous with introduction of bitcoin in 2008. In 2008, Satoshi Nakamoto published the white paper known as Bitcoin: A Peer-to-Peer electronic cash system, describing the functionality of the bitcoin Blockchain network. Bitcoin runs on Blockchain technology which is also known by the name 'triple entry' bookkeeping system. Under this system whenever there is a transaction the three parties viz. the sender, receiver and a third party must confirm and agree on the transaction. In 2010, bitcoin became available to buy, sale and trade on online exchanges.

In early 2010, bitcoin was the only crypto currency flourishing in the market. It became one of the most successful crypto up to this date. However, due to presence of immature technology in early 2010, bitcoin exchange suffered a jolt as major security breach when hackers entered into the bitcoin chain. As bitcoin was gaining popularity many rival crypto currencies also emerged. Among them, first to emerge were Name coin and Litecoin. In 2015, another event marked the history which was the launch of Ethereum. It emerged as the second largest crypto currency in the world. Many decentralised applications were built using the Ethereum protocol which was not proved to be successful. Now, Ethereum is not supposed to be an influential crypto currency. Again, during the Covid-19 pandemic, bitcoin got major boom in its popularity. Despite this popularity, the future of crypto currencies remained uncertain. Various other crypto currencies which came into existence from time to time include Tether, USD Coin, BNB, Solana etc.

By the time, along with the attention of many major investment banks, the crypto currency also attracted many disadvantages. Some of the major disadvantages are:

1. Crypto exchanges prone to hacking
2. Crypto prices can crash rapidly
3. Lack of proper regulation

4. Crypto currency behaves differently in environment of changing technology. And many more.

Keeping these disadvantages in view, a strong regulatory framework is needed to deal with the crypto currencies in India. Now, government of India is on the road to currency digitisation. The digital rupee was proposed in January 2017 and will be launched in financial year 2022-23. RBI introduced a concept note on central bank digital currency on October 7, 2022. RBIs upcoming digital currency concept is very important and different from bitcoin, Ethereum and other crypto currencies. These crypto currencies or not authorised means of payment and do not have legal framework to follow which is not the case with the central bank digital currency. The digital rupee plan introduced by government of India will be a big step towards digital transformation. This will assist the way business is done and will also provide security to the entire payment infrastructure. RBI has announced first pilot project in digital rupee at various locations. CBDC is the hope of new future. It is a new digital form of money which is issued by central banks. It will be completely legal and acceptable at every platform. Every transaction done through central bank digital currency can be identified and traced back easily. Central bank digital currency has the potential to conduct the cross-border financial transactions. The entry of Digital Currency will cater the problem of fraud, real time account settlements, trac-ability, ledger maintenance etc and will likely to save operational costs of printing. Digital currency will be the boon for the society as it will reduce dependency on physical cash.

Slow but steady, India appears to be moving towards a Digital Currency Future.

Evolution of Central bank digital currency (CBDCs) or E-rupee (types of digital currency):

Central bank digital currency (CBDCs) is a digital representation of currency in electronic form and it is also called digital money, e-rupee and electronic currency. Central bank digital currency has not any physical form of currency and it is available only in digital form, which are only use with electronic wallet and computer. Generally central bank digital currency has not needed any intermediate and it works using blockchain. It is most economical form of currency. It is a form of cryptocurrency it means that, all central bank digital currencies are cryptocurrencies but not all cryptocurrencies are central bank digital currency. Central bank digital currency has the same utility as paper currency. Any type of trading can be done through central bank digital currency and it can also be used to pay for services.

Reserve bank of India (RBI) has launched pilot project of CBDCs in two category, which one

is for wholesale and other one is for retail. The Indian government launched its first pilot project to use CBDCs in Wholesale segment on 1 November 2022, which known as the digital rupee wholesale (e₹-W). The first phase of wholesale included four banks (State Bank of India, ICICI, Yes Bank and IDFC First Bank) in the four cities of Mumbai, New Delhi, Bengaluru, and Bhubaneswar. Wholesale CBDCs is intended for the settlement of interbank transfers carry reserve deposits with a central bank. It provides improving the payment system and securities settlement and it is also help overcast the counterparty credit and liquidity risk. The RBI bank act as the central counterparty in a cross-border setting up in country payment system in wholesale CBDCs. The Indian government launched its second project to use CBDCs in Retail segment on 1 December 2022, which known as the digital rupee retail (e₹- R). the second phase of retail extended to nine more cities and eight banks out of which four banks of from the first phase and four other banks are The Bank of Baroda, The Union Bank of India, The HDFC Bank and The Kotak Mahindra Bank. Retail CBDCs is available to general for day to day purposes in current denomination in customer and merchant. It helps to remove intermediary risk. The e₹-R is act as legal tender and being issued in the same value as the paper currency and coins. It is distributed through banks. Users will be able to

transact with e₹- R by a digital wallet provide by the participating banks. Transactions can be done through Person to Person and Person to Merchant. The e₹-R provides features of physical money like faith, security settlement. We cannot earn any interest by using CBDCs and if we want convert our money to any other form of deposits so we can do easily through CBDCs.

Central bank digital currency v/s Cryptocurrency:

Central bank digital currency (CBDCs) is a legal tender issued in a digital form by RBI, which works similar to fiat currency (fiat currency is the printed currency issued by the central bank which is not backed by trading) but the form of CBDCs is different from fiat currency. On the contrary, cryptocurrency is not any legal tender which is issued in digital form by RBI. It is a digital form of physical currency, so definitely it can be said that cryptocurrency is not currency because currency is issued by RBI, it is only used in digital form like virtual assets. That's the reasons cryptocurrency has been given the title of virtual digital assets by the government. Unlike cryptocurrencies, a CBDCs is not a commodity or digital assets. CBDCs is a legal tender this means that you can use digital currency to buy any kind of goods, it can be used not only to pay for goods but also like cryptocurrency in the stock market and every Indian can use to CBDCs.

Below are some of the major difference between CBDCs and Cryptocurrency-

Parameters	Central Bank Digital Currency	Cryptocurrency
Regulations	CBDCs is regulated by RBI.	Cryptocurrency cannot be regulated by any Central bank.
Availability of transaction directories	Transaction directories is keeps secret in CBDCs.	Transaction directories is open to all in cryptocurrency.
Tax rate	As yet no tax slab has been announced by the Government on the use of CBDCs.	The Government imposed a 30% tax to the use of cryptocurrency.
Encryption	Securely storing CBDCs requires a strong password, which is makes by user.	Cryptocurrency are secured by a high level of encryption.
Centralized/Decentralized	CBDCs is fully centralized because its regulated by RBI.	Cryptocurrency is fully decentralized because it is not launched by any central bank.
Serial number	It has serial number just like paper currency.	It has not serial number because it's not currency.
Framework	It is surrounded by legal framework.	It is not surrounded by legal framework.

How can we create Central bank digital currency account:

As the Central bank digital currency (CBDCs) has just been launched as a pilot project, the same bank which are part of the pilot project have created an application for doing transactions in digital rupee and user can use the digital currency only through the respective bank application. At first user have to install the respective bank application for CBDCs by play store. Then read all the given term and condition carefully and you have

to accept them. After this the user has to fill some of his personal details, as soon as the bank details are successfully verified, the option of bank linked successfully comes and your account is created. Now you are free to send e-rupee to anyone or accept e-rupee. You can redeem your voucher. You can also load e-rupee through your bank account. Whatever type of notes and coins you want, you can choose them and as soon as you enter your pin, money will come in your bank wallet in a few

second. Now you can do any type of payment through QR codes and direct.

How can we use Central bank digital currency in day to day life:

The CBDCs (General purpose) is used by the general public to carry out their everyday transaction. It functions similarity to physical cash. This means that it should be legally accepted for any kind of economic activity. With this you can also pay your taxes, electricity bill and day to day expenses like vegetables, milk, fruits and any other kind of goods. Thus, it can be easily used for C2C, C2B and B2B transaction, Payment can be made by customers using the QR code at merchant location.

CBDCs is alike to currently use digital payment methods in that they permit for the transfer of money between accounts digitally. whereas CBDCs do not need to go through multiple banks like traditional digital payments, which can take some business days. opposite of this, transactions could be completed immediately on a single digital ledger and You are not charged any application fees for using CBDCs.

Importance of Central bank digital currency:

The important reason for the launch of digital currency by RBI in India is to reduce the increasing importance of cryptocurrency. The use of CBDCs will help in boosting and making the economy efficient as it will reduce the cost of printing. CBDCs is in digital nature, so there is no way to damage, burn or tear it. There is no fear of losing them, that's why they will have long life compare to physical currency. Being regulated by RBI, it has more stability in nature, for this there will be no need for interbank settlement and will be able to do transaction freely without any intermediaries. Transaction in digital rupee can be easily traced, which will make tax collection easier and corruption can also be reduced. According to RBI, CBDCs will also be shown as a liability on the balance sheet of the central bank just as normal currency is shown. This quality increases the importance of CBDCs even more.

Advantage of Central bank digital currency:

- **Fast mode of payment-** Digital currency is free from interbank settlement so it can make your payment much fast compare to current payment system. For financial institutions that take several days to verify a transaction, a CBDCs can complete it in just a few second.
- **Cheaper global transfers-** Some time global transactions get very expensive. users are paid high fees to the government for transfer money from one country to another, especially when it includes currency conversions. Digital currency can play an important role in reducing and simplifying transaction costs.
- **Availability in 24/7-** Through digital currency, work can be done twenty-four hours a day and

seven days a week, even if the bank is closed and on holiday, there is no effect on its work and it confirm its transaction on time.

- **No printing required-** Physical currency needs to be printed, as well as carrying it from one place to another and having to bear more cost in security, on the other hand digital currency does not involve any such cost and it is free from all the defects of physical currency.
- **Support for the unbanked and underbanked people-** individuals who do not have their own bank account and pay others to transfer money. They can access their money without a bank through CBDCs and can also transfer money easily without additional fees.
- **More efficient and effective Government payment-** Government payments can be made more efficiently and effectively by CBDCs, it will help in reducing corruption and public interest facilities can be delivered easily.
- **Financial inclusion and safety-** Safe money account in the Central bank can become a powerful instrument of financial inclusion by proving a low-cost basic bank account to any citizen. A CBDCs will provide an alternative to fractional reserve banking for everyday use by those who want to avoid all bank risk of running a bank.

Disadvantage or Limitation of Central bank digital currency

- **Steep learning curve-** User need to learn, how to perform basic function of digital currency such as how to create an account in a digital wallet and how to securely store digital assets, for this, the system needs to be more simplified.
- **Issues of cyber security-** CBDCs is a digital currency that works through the internet. As the user increasing towards digital similarly cyber threats are also increasing continuously. The virtual theft of digital currency has put a question mark on users to use CBDCs.
- **Too many options are available-** There are already many options for using currency in digital form, so of course it will take time for user to decide which medium is more suitable for using digital currency and which one is completely safe to use.
- **Expensive transaction-** CBDCs require significance amounts of electricity to verify and record transaction, which makes their use more expensive. Although efforts are being made by the Government to reduced power consumption in the use of CBDCs.
- **Slow progress-** Pilot projects are currently being done to know the usefulness of CBDCs in India. If the positive results of these test come, then the Government will decide to implement CBDCs in the country. It will take a long time to fully adopt.

Scope of Central bank digital currency in future:

The RBI expects, that the CBDCs will bring greater efficiency to the monetary and payment systems as well as financial inclusion and powering the country's economy. However, the CBDCs is not seen as a replacement for the existing currency system. It is an expected to complement the system with digital option. Assistance will be provided by the CBDCs for investigation of complaints, making regulation and support of the MSMEs and Retail sectors. If implemented correctly, CBDCs have the capability to become the next strategic change running the banking and payments industry in the world. With these thoughts, RBI is expected to carry on with the initial trials (pilot project) of CBDC at wholesale and retail levels in the coming days.

Conclusion:

The launch of CBDCs will give a big boost to the digital economy, which is a new step in more efficient and affordable currency management system. The value of CBDCs is influenced by the country monetary policy, trade surplus and the market but being legal tender, it should be readily accepted. But the Government will have to make more effort to make the general public use it, and at the same time special attention will have to be paid to the cyber security, which puts a question mark on its use.

The Government should choose a medium, that can be able to use by anyone and not just those who have the latest smartphone. Also, an alternative way of handling offline transactions would need to be developed. Which does not depend only on smartphone or WiFi network for the use of CBDCs. Although the pilot test being done on CBDCs is still going on, till now no decision has been taken by the Government on this, I have fully faith that CBDCs will be launched only after through investigation and will play an important role in the development of the country.

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