

AWARENESS ON CENTRAL BANK DIGITAL CURRENCY (CBDC) (A CASE STUDY IN NIZAMABAD)

*Dr.G.LINGANNA

Assistant Professor of Commerce
Girraj Government College (A)
Nizamabad

Abstract:

The main function of Central bank or Reserve Bank is issuance and managing of currency. The Reserve Bank is responsible for the designing, production and overall management of the nation's currency, with the objective of ensuring an adequate supply of clean and authentic notes in the economy. Central Bank issued a digital form of currency notes i.e. Central Bank Digital Currency (CBDC) that is referred to as e₹ (e-Rupee or digital Rupee). While most central banks across the world are looking at the issuance of CBDC, the key motivations for its issuance are specific to each country's distinctive requirements. The e₹ will provide an alternative to the currently available forms of money. It is not different from banknotes, but being digital it is likely to be very easier, faster and cheaper. It also has all the transactional benefits of other forms of digital money. Reserve Bank of India (RBI) has identified nine banks including State Bank of India, Bank of Baroda, Union Bank of India, HDFC Bank, ICICI Bank, Kotak Mahindra Bank, YES Bank, IDFC First Bank and HSBC for the participation in the pilot launch of Digital Rupee in Wholesale segment. This paper explains the awareness levels of investors on digital Rupee and also explains the objectives, benefits and risks involved in issuing CBDC in India.

Key Words: RBI, CBDC, Crypto currency

1. INTRODUCTION

India is fastest growing economy throughout world. Many innovations took place in banking sector. The Currency used for trade is issued by the central bank of the country. Technology advancements are taking place day to day. India is now making innovations in the digital payment structure. So there is a turn down in the role of cash in payment systems. Digital cash idea was introduced by David Chaum in his research paper in 1983. He founded a company named 'Digicash' in 1989 which became the foundation for digital currency. Digicash uses a digital currency called cyber bucks. E-cash was launched by the company in the year 1990.

Recently there is growing importance for Crypto currency. Crypto currency is a private digital currency which uses cryptography to make the transactions make safe. Any person, anywhere in the world can make transactions in private crypto currencies. Now crypto currencies like block chain are very popular. A digital currency based on block chain technology was launched by Satoshi Nakamoto in 2008. Bit coin is a private

digital currency. Bit coin made a breakthrough in private digital currency trade. Many other crypto currencies were also developed. Government and the central banks are more concerned about the growth in Private Crypto. People started investing more in the form of Crypto. This has an effect on the monetary policy of a nation. Central bank will not be able to control the money supply. So many countries are against these private crypto currencies. They have introduced central bank digital currencies (CBDC) on their own. The problems with Private Crypto were thus solved. Reserve Bank of India introduced a CBDC named 'Digital Rupee' in the year 2022. 'Digital rupee' will become a legal tender like 'Indian rupee'.

Although CBDC is a digital currency, it cannot be compared to the private virtual currencies or crypto currencies that have exploded over the past ten years. Since there is no issuer, private virtual currencies do not represent any person's debt or liabilities.

The future of value transmission is likely to be shaped by CBDCs, as a financial service innovation. In contrast to the present mobile wallet system provided by private companies, the Reserve Bank's digital rupee would be able to pathway all transactions. CBDCs can help the central bank continue to fulfill its mandate of delivering money, preserving financial stability, and ensuring continuous access in a fully digital economy.

The desire for quicker payments, rapid digitalization, and greater risk mitigation for clearing and settlement are driving the need for CBDCs worldwide. Financial inclusions as well as more effective internal and international value transfers are also in demand. These changes made Central Banks and governments realize the need for making attempts to investigate a digital form of the fiat currency.

In a study conducted in 2021 by the Bank of International Settlements (BIS), it was found that 86 percent were actively investigating the potential of CBDCs, 60 percent were experimenting with the technology, and 14 percent were implementing trial programmes. This research will focus on the differences that will be made after the formation of Digital Rupee. (Livemint, 2022), (Economic Times, 2022)

RBI introduced the composite Digital Payments Index (RBI-DPI) on January 1, 2021 with March 2018 as the base, to capture digitisation of payments. As per the Economic Survey 2022-23 released, India has the highest fintech adoption rate of 87 per cent among the public compared to the global average of 64 per cent. Further, India has gained the third place in digital payments, coming only after US and China.

The Reserve Bank of India (RBI) has been publishing a composite Reserve Bank of India – Digital Payments Index (RBI-DPI) since January 1, 2021 with March 2018 as base to capture the extent of digitisation of payments across the country. The index for September 2022 stands at 377.46 as against 349.30 for March 2022 (RBI-DPI, Source: RBI)

The Reserve Bank Digital Payment index (RBI-DPI) demonstrates significant growth in taking up and deepening of digital payments across the country since its inception.

| Period | RBI - DPI Index |
|-------------------|-----------------|
| March 2018 (Base) | 100 |
| March 2019 | 153.47 |
| September 2019 | 173.49 |
| March 2020 | 207.84 |
| September 2020 | 217.74 |
| March 2021 | 270.59 |
| September 2021 | 304.06 |
| March 2022 | 349.30 |
| September 2022 | 377.46 |

(Figure : RBI-DPI, Source: RBI)

This increase indicates that the digital payments are further deepening and expanding in the country and is an indication that, Indian citizens have an enthusiasm for digital payments. Therefore, the digital currency issued by the central bank shall provide yet another option for furthering the cause of digital payment, apart from the range of other digital payment instruments available, given its ease of usage coupled with sovereign guarantee.

The features of CBDC include:

- CBDC is superior currency issued by Central Banks in alignment with their monetary policy
- It shows as a liability on the central bank’s balance sheet
- Must be accepted as a medium of payment, legal tender, and a safe store of value by all citizens, enterprises, and government agencies.
- Freely convertible against commercial bank money and cash
- Fungible legal tender for which holders need not have a bank account
- Expected to lower the cost of issuance of money and transactions

Differences between CBDC and Crypto Currency:

- **Regulatory organisation:** Crypto currencies are stored on a decentralised block chain network. CBDC is totally controlled by the central bank of that nation.
- **Form of money:** Crypto currency is a store of value. CBDC is the digital form of Fiat currency.
- **Value of underlying asset:** Crypto currency has no intrinsic value. There is no value for underlying asset. CBDC’s are digital assets.
- **Information shared:** In crypto currency, the transactions are available on a decentralised ledger. But in CBDC, transactions are known only to the sender, receiver and the banking institution.
- **Security:** Crypto currencies are secured by encryption method whereas CBDC’s are protected by strong passwords.

2. LITERATURE REVIEW

O Ward, S Rochemont (2019), this research paper gives a deep understanding of Central Bank Digital Currencies (CBDC). Now many central banks are issuing digital currencies. Introduction of CBDC's will have an impact on financial intermediation. Central banks cannot control a private digital currency. In order to investigate the possibility for issuing central bank digital currencies, central banks have started exploratory projects. The impact of a CBDC on interest rates, financial stability, and security needs to be carefully considered. Financial intermediation changes would affect bank funding and liquidity. Crypto currencies were made possible by technological advancement. Block chain permits transactions without the need for a central authority and offers benefits that have been touted as the key to the future expansion of international trade. Central Banks are not sure that the technology is advanced enough to replace present systems to combat with the issues related to performance, interoperability, scalability, and security.

M Davoodalhosseini, F Rivadeneyra, Y Zhu (2020), this article discusses the CBDC's impact on the monetary policy. After introducing CBDC there may be positive and negative impacts on monetary policy. These facts are discussed in detail. Central banks and many academics are still discussing about the possibility of issuing CBDC. There are numerous justifications towards and against for issuing a CBDC. Here arguments and talks about the limitations and ramifications of CBDC form are discussed. CBDC has an impact on the market deposits.

Alonso, S. L. N., Jorge-Vazquez, J., & Forradellas, R. F. R. (2021), this research paper mainly focuses on the current status of CBDC and how many countries are implementing them after conducting many pilot studies. CBDC is having many advantages and disadvantages. It can be understood only after implementing these currencies for a long period. CBDC became popular just recently. Central bank would create and support CBDC which would be an electronic form of money that could be used by individuals and organisations to make payments and store value. The 10, 50, or 100 monetary units of a CBDC would always be equivalent to the 10, 50, or 100 monetary units of banknotes or conventional physical coins. A CBDC would be denominated in Dollars, Euros, Yen, or any other currency, just like banknotes or physical coins. While in theory a CBDC may be comparable to a digital banknote, its actual features will depend on its final design and it may differ

Abimanyu sasi pavor and N.Ajith Kumar (2022), this research paper focuses on introduction of digital rupee will help to expand the digital economy and also will strengthen the banking system. There can be positive or negative Impacts on introducing digital rupee. Usage of Cash should be managed. People would probably look for CBDC alternatives precisely when central banks are seeking negative interest rates. Alternatives might come in the form of foreign money or personal crypto currencies, raising the risk of broad adoption. Because these alternatives are not expressed in terms of the domestic unit of account, this would ultimately decrease the effectiveness of monetary policy. So policymakers must carefully assess the potential of the Digital Rupee in India while taking into account its effects on the macro economy and liquidity, banking systems, and money markets.

Aditya Kulakarni (2022), this research paper says India has the youngest workforce in Asia, combined with cheap internet access people and want to get their things done faster and efficiently. This is a significant innovation in the sphere of financial technology; it can be major stroke by the government especially after the success of UPI (United Payments Interface in India). It intends to overcome the cash issues and make payments cheaper and faster. The research observes that a lot of people support the “Digital Rupee” but some of them are still not aware of the “Digital Rupee” and sceptical about the features of the “Digital Rupee”. People of India were sceptical of UPI (United Payments Interface) when it was rolled out but it turned out be a phenomenal success, from small villages to urban towns, from farmersto consultancies everyone is using UPI for payments.

Peter son K.Ozili 2022, this paper explored CBDC adoption and issues in India. It was found that Indian people who were interested in ‘crypto currency’ information were also interested in ‘central bank digital currency’ information. The study also showed that the introduction of CBDC has potential benefits such as reduced dependency on cash, higher seignior age due to lower transaction costs and reduced settlement risk. However, CBDC has associated risks that need to be carefully evaluated against the potential benefits. The India CBDC will be a powerful tool in the RBI’s monetary policy tools but the introduction of CBDC in India will require legal and regulatory changes. For this reason, the transition to a CBDC-led digital economy in India will not be easy. But it is a necessary step to support the evolution of society and the monetary system in India. Future studies can examine how CBDC can be used to support growth in specific sectors of the Indian economy. Other studiescan explore pertinent issues surrounding the best design and use-case for India CBDC.

3. OBJECTIVES OF THE STUDY

- To know about CBDC and Crypto Currency
- To Analyse the awareness between CBDC and Crypto currency in India

4. RESEARCH METHODOLOGY

- **Methodology:** Primary and secondary data is collected. Primary data is collected through Questionnaires and Secondary is from various books and Journals.
- **Sample Design:** Convenient sampling method is used for sampling design.
- **Statistical Tools Used:** The data is collected, analyzed and interpreted by using Simple Percentages.
- **Limitations of the Study:**

Due to time constraints the data is collected from 100 samples from Nizamabad City only.

5. DATA ANALYSIS

Table 1: Age group wise awareness on CBDC

| Awareness about the CBDC | | | | | |
|--------------------------|--------------|------------|-----------|-----------|------------|
| Factors | Categories | Total | Yes | No | Percentage |
| Age Group | 20-30 | 28 | 17 | 11 | 61 |
| | 30-40 | 42 | 32 | 10 | 76 |
| | 40-50 | 23 | 11 | 12 | 48 |
| | > 50 | 7 | 1 | 6 | 14 |
| | Total | 100 | 61 | 39 | 61 |

(Source: Primary Data)

From the above table 1, total 61 percentages of respondents are aware about CBDC and remaining is not. The highest awareness is in between 30-40 age group followed by 20-30 age groups.

Table 2: Age group wise Supports CBDC

| Support to the Decision | | | | |
|-------------------------|--------------|-----------|----------|-----------|
| Factors | Categories | Yes | May Be | No |
| Age Group | 20-30 | 14 | 0 | 3 |
| | 30-40 | 16 | 7 | 9 |
| | 40-50 | 5 | 2 | 4 |
| | > 50 | 1 | 0 | 0 |
| | Total | 36 | 9 | 16 |

(Source: Primary Data)

From the above table 2, out of total awareness about CBDC respondents who supports highest to the decision of CBDC are come under the group of 30-40 and followed by the age group 20-30.

Table 3: Gender wise awareness on CBDC

| Awareness about the CBDC | | | | | |
|--------------------------|--------------|------------|-----------|-----------|------------|
| Factors | Categories | Total | Yes | No | Percentage |
| Gender | Female | 15 | 7 | 8 | 47 |
| | Male | 85 | 54 | 31 | 64 |
| | Total | 100 | 61 | 39 | 61 |

(Source: Primary Data)

From the table 3, out of 100 respondents 85 percent are male and 15 percent are female. Out of that 64 percent of male and 47 percent of female are aware about CBDC.

Table 4: Gender wise supports CBDC

| Support to the Decision | | | | |
|-------------------------|--------------|-----------|----------|-----------|
| Factors | Categories | Yes | May Be | No |
| Gender | Female | 3 | 2 | 2 |
| | Male | 33 | 7 | 14 |
| | Total | 36 | 9 | 16 |

(Source: Primary Data)

From the above table 4, out of total awareness about CBDC respondents who supports highest to the decision of CBDC are male 33 respondents and followed by female 3 respondents.

Table 5: Qualification wise awareness on CBDC

| Awareness about the CBDC | | | | | |
|--------------------------|--------------|------------|-----------|-----------|------------|
| Factors | Categories | Total | Yes | No | Percentage |
| Education Qualifications | 10th | 14 | 2 | 12 | 14 |
| | 12th | 18 | 2 | 16 | 11 |
| | Bachelors | 46 | 37 | 9 | 80 |
| | Masters | 21 | 19 | 2 | 90 |
| | Doctorates | 1 | 1 | 0 | 100 |
| | Total | 100 | 61 | 39 | 61 |

(Source: Primary Data)

From the above table 5, the awareness on CBDC as per educational qualifications from bachelor degree to higher degrees the awareness level is more than 80 percent compares to 10th & 12th standard.

Table 6: Qualification wise supports CBDC

| Support to the Decision | | | | |
|--------------------------|--------------|-----------|----------|-----------|
| Factors | Categories | Yes | May Be | No |
| Education Qualifications | 10th | 1 | 0 | 1 |
| | 12th | 1 | 1 | 0 |
| | Bachelors | 23 | 4 | 10 |
| | Masters | 10 | 4 | 5 |
| | Doctorates | 1 | 0 | 0 |
| | Total | 36 | 9 | 16 |

(Source: Primary Data)

From the above table 6 shows that, out of 61 respondents 36 respondents are supporting on CBDC decisions.

Table 7: Occupation wise awareness on CBDC

| Awareness about the CBDC | | | | | |
|--------------------------|-------------------------------------|-------|------------|-----------|------------|
| Factors | Categories | Total | Yes | No | Percentage |
| Occupation | Accountancy, banking or finance | 4 | 4 | 0 | 100 |
| | Business, consultancy or management | 18 | 10 | 8 | 56 |
| | Charity and voluntary work | 2 | 1 | 1 | 50 |
| | Computing or IT | 6 | 5 | 1 | 83 |
| | Engineering or manufacturing | 4 | 4 | 0 | 100 |
| | Healthcare | 4 | 2 | 2 | 50 |
| | Leisure, sport or tourism | 2 | 1 | 1 | 50 |
| | Marketing, advertising or PR | 8 | 7 | 1 | 88 |
| | Media or digital | 3 | 3 | 0 | 100 |
| | Property or construction | 13 | 6 | 7 | 46 |
| | Public services or administration | 3 | 2 | 1 | 67 |
| | Recruitment or HR | 6 | 3 | 3 | 50 |
| | Retail & Sales | 12 | 7 | 5 | 58 |
| | Social care | 2 | 1 | 1 | 50 |
| | Student | 1 | 0 | 1 | 0 |
| | Teacher training or education | 1 | 1 | 0 | 100 |
| | Transport or logistics | 2 | 1 | 1 | 50 |
| | Unemployed | 9 | 3 | 6 | 33 |
| | Total | | 100 | 61 | 39 |

(Source: Primary Data)

From the above table 7, the awareness levels of CBDC as per occupation category Accountancy, banking or finance, Engineering or manufacturing, Media or digital, Teacher training or education are highest followed by Computing or IT, Marketing, advertising or PR.

Table 8: Occupation wise supports CBDC

| Support to the Decision | | | | |
|-------------------------|-------------------------------------|-----|--------|----|
| Factors | Categories | Yes | May Be | No |
| Occupation | Accountancy, banking or finance | 3 | 0 | 1 |
| | Business, consultancy or management | 6 | 1 | 2 |
| | Charity and voluntary work | 1 | 0 | 0 |
| | Computing or IT | 3 | 1 | 1 |
| | Engineering or manufacturing | 2 | 1 | 1 |
| | Healthcare | 1 | 1 | 0 |
| | Leisure, sport or tourism | 1 | 0 | 0 |
| | Marketing, advertising or PR | 4 | 1 | 2 |
| | Media or digital | 1 | 1 | 1 |
| | Property or construction | 3 | 1 | 2 |
| | Public services or administration | 2 | 0 | 0 |
| | Recruitment or HR | 1 | 1 | 1 |
| | Retail & Sales | 4 | 1 | 2 |
| | Social care | 1 | 0 | 0 |
| | Student | 1 | 0 | 0 |
| | Teacher training or education | 1 | 0 | 0 |
| | Transport or logistics | 0 | 0 | 1 |
| | Unemployed | 1 | 0 | 2 |
| Total | | 36 | 9 | 16 |

(Source: Primary Data)

From the above table 8, the respondents support to the CBDC decision as per occupation wise 36 respondents are favour and 16 respondents are not in favour to the above decisions.

6. CONCLUSION

Introduction of CBDC will help to increase the digital financial system and also will strengthen the banking system and there can be positive or negative impacts on introducing CBDC. This paper concludes that, the highest awareness is in between 30-40 age group followed by 20-30 age groups. Male respondents are more aware than female respondents. Awareness levels increases as per the educational qualification. As per occupation category Accountancy, banking or finance, Engineering or manufacturing, Media or digital, Teacher training or education is highest.

7. REFERENCES

- (i) Ward, O., & Rochemont, S.(2019), Understanding central bank digital currencies (CBDC), Institute and Faculty of Actuaries.
- (ii) Davoodalhosseini, M., Rivadeneyra, F., & Zhu, Y. (2020), CBDC and monetary policy (No. 2020-4), Bank of Canada.
- (iii)Nanez Alonso, S. L., Jorge-Vazquez, J., & Reier Forradellas, R. F. (2021), Central banks digital currency: Detection of optimal countries for the implementation of a CBDC and the implication for payment industry open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), 72.
- (iv)Abimanyu sasi pavoov and N.Ajith Kumar (2022), Digital rupee- A rival for cryptos? *Journal of Pharmaceutical negative results*, Volume 13, special issue 1, 2022.
- (v) Aditya Kulakarni (2022), Public perception of the “Digital Rupee” in India, *National college of Ireland*,2022

