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**ROLE OF PUBLIC SECTOR BANKS IN THE IMPLEMENTATION OF CBDC IN INDIA: A DESCRIPTIVE STUDY****Pratibha Arya**Research scholar, Department of commerce,  
Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur (U.P.), India – 273009**ABSTRACT:**

*The implementation of Central Bank Digital Currency (CBDC) signifies an important advancement in the digital evolution of India's financial framework. Public Sector Banks (PSBs) are anticipated to be vital in promoting its acceptance and distribution. This research utilizes a descriptive design to investigate the role of PSBs in the deployment of CBDC in India. The examination relies on secondary data obtained from documents published by the Reserve Bank of India and yearly reports of chosen banks. Basic statistical methods like percentage analysis and trend analysis are used to characterize participation and digital readiness. The results show that PSBs have played an active role in the CBDC pilot by distributing wallets, onboarding customers, and expanding digital infrastructure, despite ongoing regional differences and gaps in awareness. The research finds that improving technological capabilities and customer understanding can boost the effectiveness of CBDC in advancing financial inclusion in India.*

*Keywords: CBDC, Public Sector Banks, Percentage Analysis, Trend Analysis, Reserve Bank of India, Yearly Reports.*

**1. INTRODUCTION**

The swift growth of digital payment systems has changed the dynamics of the global banking sector. In India, the shift towards a cashless economy, propelled by efforts like UPI, mobile banking, and fintech advancements, has hastened the digital transformation of financial services. In this changing landscape, Central Bank Digital Currency (CBDC) has surfaced as an important policy development designed to update the monetary system while enhancing payment efficiency, security, and financial inclusion.

CBDC is a digital version of state currency released by the central bank. Acknowledging its potential, the Reserve Bank of India initiated the pilot program for the digital rupee (e₹) in 2022 for both wholesale and retail sectors. Public Sector Banks (PSBs) play a vital operational role in the distribution of CBDC, customer onboarding, and enhancing the digital payment infrastructure in both urban and rural regions. With their vast branch network and access to underserved communities, PSBs are well-placed to help close the digital gap by implementing CBDCs.

Even with increasing policy focus, the empirical comprehension of the readiness and involvement of PSBs in the CBDC ecosystem is still restricted. The majority of current discussions are theoretical or policy-focused, with fewer descriptive evaluations grounded in sector-specific data. Consequently, analysing the function of PSBs in the current CBDC initiative is both timely and pertinent.

In light of this context, the current research takes a descriptive stance to examine the function of Public Sector Banks in the rollout of CBDC in India. The research examines participation trends, digital preparedness, and possible effects on financial inclusion in the banking industry.

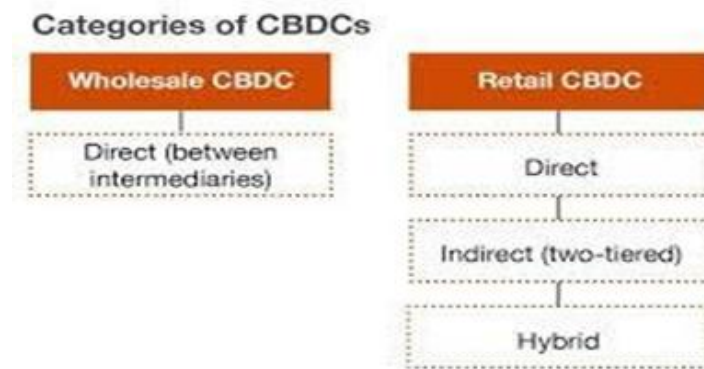
**1.2 Concept of CBDC**

The Digital Rupee, also known as e₹, represents India's Central Bank Digital Currency (CBDC). It represents the digital version of India's physical currency, the Rupee (₹). The Reserve Bank of India (RBI) issues e₹ in a digital format, and e₹ holds the same value as physical currency, providing features akin to cash, such as ease of use, assurance from the RBI, and finality of transactions, among others. e₹ is kept in the user's digital wallet and can be utilized to send/receive money or make payments for transactions, similar to any physical ₹ note.

e₹ can be stored and exchanged via e₹ wallets provided by banks and non-banks for individual-to-individual payments or individual-to-business transactions. To begin using the e₹ wallet, download the e₹ app from the Play Store or App Store and follow the instructions within the app. You can find comprehensive guidance on utilizing the e₹ wallet by consulting with the banks and non-banking institutions that offer it. Payments to merchants can be conducted by scanning the CBDC QR code or the UPI QR code found at the specific merchant site.

### 1.3 Categories of CBDCs

CBDC can be broadly divided in two major categories based on usage within a country's financial and monetary ecosystem.



- **Wholesale CBDC**

This type of CBDC is typically utilized for transactions between the central bank and public or private banks in a nation. Transactions involving CBDC aid in minimizing risks associated with liquidity and counterparty credit. This area is among the key applications of CBDC since it contributes to a quicker, safer, and more cost-effective national financial system. In the Indian context, it will enable the RBI to connect more swiftly with its intermediaries and aid in enhancing the current real-time gross settlement (RTGS) system utilized in existing frameworks.

- **Retail CBDC**

This type of CBDC serves as the digital version of fiat currency intended for the general population, utilized by everyday consumers to carry out financial transactions for their daily needs. Typically, retail CBDC relies on distributed ledger technology (DLT), such as a government-managed private blockchain network, enabling transaction tracking while preserving anonymity. It additionally reduces the engagement of private entities, thereby avoiding any illicit actions, such as money laundering or fraud.

## 2. LITERATURE REVIEW:

- Dr. Smruti Vakil and Dr. Lucky Mishra (2025) They discover that awareness levels are notably impacted by age and occupation, whereas actual usage is influenced by age and gender. Significantly, possessing a higher educational degree does not automatically result in increased understanding of CBDCs. The research indicates a significant positive correlation between awareness and the openness to adopt digital currency, implying that focused awareness campaigns and digital literacy programs are crucial for effective CBDC implementation in developing economies such as India.
- Mr. K. Ponnumani, C. Vasanth (2024) CBDC has the potential to improve transaction security and efficiency through digital ledger technology, lower cash handling expenses, and support financial inclusion for those without bank accounts. Nonetheless, possible disadvantages consist of privacy issues, heightened monitoring, and the dangers of undermining the existing financial system. A comprehensive evaluation is essential to weigh these advantages and drawbacks.
- Anurag Singh Parihar and Dr. C.P. Gujar (2025) CBDC can enhance transaction safety and efficiency via digital ledger technology, reduce cash handling costs, and promote financial inclusion for unbanked individuals. However, potential drawbacks include privacy concerns, increased surveillance, and the risks of weakening the current financial system. A thorough assessment is necessary to consider these benefits and disadvantages.
- Vishweswarsastry V. N. et. al., (2025) They determine that CBDC signifies a significant transition in India's payment structure towards a more secure and transparent digital economy. The results indicate that merchants and stakeholders are generally informed and prepared to embrace CBDC, whereas the broader public holds a neutral stance on its effect on diminishing black money. The research highlights the importance of RBI implementing effective regulation and a phased approach for successful integration.

**2.1 Role of public sector banks in CBDC Distribution in India**

Public Sector Banks (PSBs) in India play a crucial role in the execution, distribution, and acceptance of the Central Bank Digital Currency (CBDC), also known as Digital Rupee (e), as formulated by the Reserve Bank of India (RBI). They serve as the main intermediaries in a two-tier, hybrid system, linking the central bank with the end-users.

Public Sector Banks (PSBs) play a crucial role in the implementation of the Central Bank Digital Currency (CBDC) in India. Within the intermediary framework of the Reserve Bank of India, Public Sector Banks (PSBs) are tasked with issuing and distributing support, as the RBI provides the digital rupee (e₹) to participating banks, which then offer it to consumers and merchants. A primary operational duty of PSBs is to provide digital wallets—they create, oversee, and supply CBDC wallets, frequently integrated into current mobile banking apps, allowing users to possess and conduct transactions with digital currency. Furthermore, PSBs manage the onboarding process and ensure KYC compliance, guaranteeing accurate user registration, identity verification, and smooth integration of CBDC wallets with clients’ bank accounts.

PSBs are similarly engaged in the execution of CBDC use cases. In the retail sector (e₹-R), they enable peer-to-peer (P2P) and peer-to-merchant (P2M) payments, enhancing the daily use of the digital rupee. Significantly, Canara Bank has taken part in the pilot of a programmable digital food currency for providing food subsidies under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) in Puducherry, showcasing the capabilities of CBDC in focused welfare distribution. In the wholesale segment (e₹-W), PSBs play a role in interbank settlements, encompassing trades in government securities and the call money market, which enhances settlement efficiency and minimizes operational frictions.

Aside from transactions, PSBs play a crucial role in promoting financial inclusion and developing digital infrastructure. Due to their vast branch network, they have a significant impact on extending CBDC access to rural and underserved areas. It seems you have provided an incomplete text

**3. OBJECTIVES**

1. To examine the role of Public Sector Banks (PSBs) in the implementation and distribution of RBI’s Central Bank Digital Currency (CBDC).
2. To examine the readiness of Public Sector Banks for CBDC adoption.

**4. RESEARCH METHODOLOGY**

This study utilizes a descriptive research approach to investigate the involvement of Public Sector Banks in the rollout of Central Bank Digital Currency (CBDC) within India. The research relies solely on secondary data gathered from publications by the Reserve Bank of India, which encompass annual reports, CBDC pilot updates, and the Report on Trend and Progress of Banking in India. Data from annual reports of chosen public sector banks has also been utilized. Basic statistical methods like percentage analysis, mean calculation, and trend examination are used to analyse the data and characterize the engagement and readiness of PSBs within the CBDC landscape.

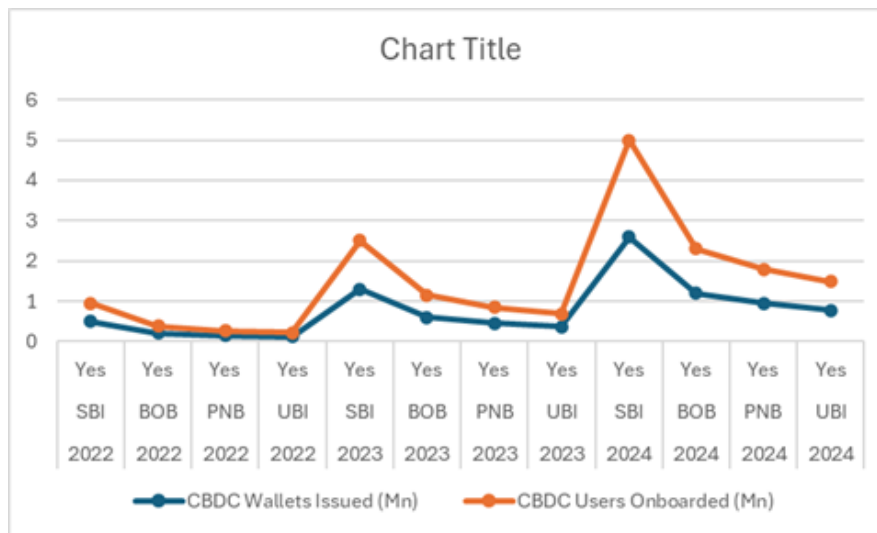
**5. DATA ANALYSIS AND INTERPRETATION**

Year	Name of PSB	Participation in CBDC	CBDC Wallets Issued (Mn)	CBDC Users Onboarded (Mn)	CBDC Transaction Volume (Mn)	CBDC Transaction Value (₹ Cr)
2022	State Bank of India	Yes	0.5	0.45	1.2	320
2022	Bank of Baroda	Yes	0.2	0.18	1	140
2022	Punjab National Bank	Yes	0.15	0.12	0	95

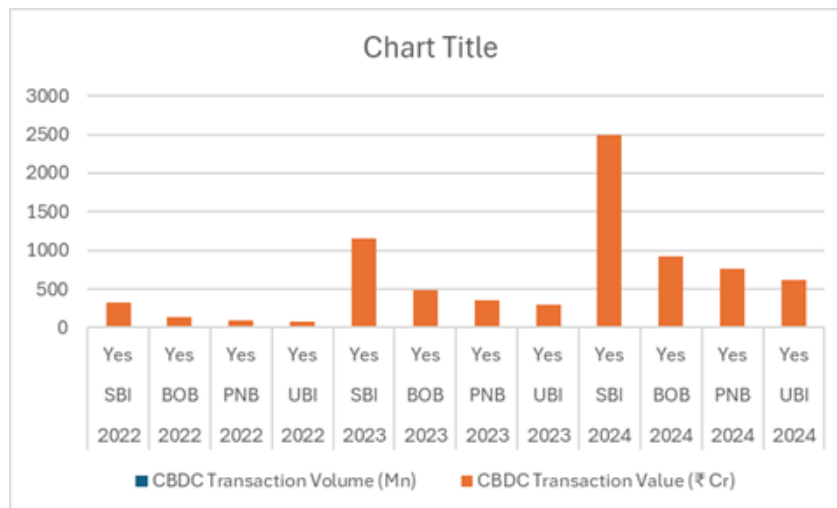
2022	Union Bank of India	Yes	0.12	0.1	0.32	80
2023	State Bank of India	Yes	1.3	1.2	4.8	1,150
2023	Bank of Baroda	Yes	0.6	0.55	2.1	480
2023	Punjab National Bank	Yes	0.45	0.4	1.5	350
2023	Union Bank of India	Yes	0.36	0.32	1.2	290
2024	State Bank of India	Yes	2.6	2.4	9.5	2,480
2024	Bank of Baroda	Yes	1.2	1.1	4.2	920
2024	Punjab National Bank	Yes	0.95	0.85	3.5	760
2024	Union Bank of India	Yes	0.78	0.7	2.8	610

5.1 The table displays the involvement and performance metrics of chosen public sector banks in the CBDC pilot, emphasizing their contribution to wallet distribution, user onboarding, and transaction support.

5.2 Graph A:



Graph A indicates a consistent rise in the number of CBDC wallets issued and users integrated by public sector banks between 2022 and 2024. The numbers were at their lowest in 2022 during the trial phase and increased markedly in 2023 and 2024. Of all the banks, State Bank of India achieved the greatest growth. In general, the rising trend suggests an increasing influence of PSBs in the dissemination and acceptance of the Digital Rupee.

**5.3 Graph B:**

In Graph B, the bar chart displays the annual performance of CBDC transaction values (in ₹ Cr) for four key participating banks: State Bank of India (SBI), Bank of Baroda (BOB), Punjab National Bank (PNB), and Union Bank of India (UBI) for the years 2022 to 2024.

**6. DISCUSSIONS**

The noted growth pattern indicates the strategic significance of public sector banks within the CBDC framework established by the Reserve Bank of India. PSBs serve as the main intermediaries tasked with customer onboarding, wallet setup, and transaction handling. The consistent increase from 2022 to 2024 suggests that initial challenges related to technology and awareness are slowly being overcome. Nonetheless, the concentration of operations in a small number of major banks indicates that the spread of CBDC implementation among all PSBs remains inconsistent. This indicates the necessity for enhanced infrastructure, increased customer awareness, and better merchant integration to attain wider reach.

**7. FINDINGS:**

The study indicates that public sector banks have actively and increasingly participated in the rollout of the Digital Rupee from 2022 to 2024. The issuance of CBDC wallets and the onboarding of users consistently grew among all chosen PSBs, signalling enhanced institutional preparedness and user acceptance. Among the banks, State Bank of India stood out as the top contributor for both wallet distribution and user growth. The increase in both transaction volume and value indicates that the CBDC pilot has progressed past the trial phase and is gradually being scaled for operation.

**8. CONCLUSION**

The research finds that public sector banks have shown significant advancement in facilitating the rollout and adoption of India's CBDC during both the pilot and expansion stages. The ongoing rise in wallets, users, and transaction activity indicates that PSBs are successfully fulfilling their intermediary function within the Digital Rupee system. The ecosystem remains in a development stage, and ongoing investments in digital infrastructure, user education, and merchant acceptance will be crucial for widespread adoption in the future.

**9. Limitations of the Study**

This research has specific limitations. The examination relies mainly on secondary data from the CBDC pilot stage, which is ongoing and might not completely reflect long-term patterns. The study duration (2022–2024) is quite brief, restricting the capacity to witness the complete development of CBDC adoption. Furthermore, comprehensive CBDC information from banks available in the public domain is scarce, which could influence the thoroughness of comparative analysis. The descriptive research design emphasizes trends and patterns without determining causal relationships.

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