



AN INVESTIGATION INTO THE PROGRESS OF CENTRAL BANK DIGITAL CURRENCY (CBDC) IN INDIA, WITH A SPECIAL FOCUS ON THE DIGITAL RUPEE(e₹) APP BY THE STATE BANK OF INDIA (SBI).

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ABSTRACT

The primary objective of this study is to investigate the progress of Central Bank Digital Currency (CBDC) in India, with a particular emphasis on the Digital Rupee App developed by the State Bank of India (SBI). This study explores the evolution, characteristics, and practical applications of the Digital Rupee (e₹). The research is grounded in an analysis of reports from the Government of India and pertinent institutional insights, with the goal of understanding the role of CBDC in enhancing the digital financial landscape. CBDC, or e₹, is a sovereign digital currency issued by the central bank, functioning as legal tender with a value that is equivalent to that of physical currency. It is stored in a digital wallet provided by a bank, facilitating secure, immediate, and cost-effective transactions. In contrast to cryptocurrencies, it is regulated and supported by monetary policy, which guarantees stability and trust. The SBI e₹ app is a crucial platform for accessing and utilizing this digital currency, featuring capabilities such as wallet-based storage, UPI interoperability, and round-the-clock transaction services. The research underscored the system's accessibility through both full-KYC and Aadhaar-based wallets, thereby fostering financial inclusion. In summary, the findings suggested that SBI Digital Rupee App enhances existing payment systems while propelling India's shift towards a secure, efficient, and digitally empowered economy.

KEYWORDS

Central Bank Digital Currency (CBDC), e₹-eRupee, Digital Rupee, e₹ App, SBI, RBI, India, Economy, Digital India.

INTRODUCTION

The State Bank of India (SBI) Digital Rupee App signifies a significant milestone in India's advancement towards digital financial innovation with the introduction of Central Bank Digital Currency (CBDC), commonly known as the Digital Rupee (e₹). The e₹ acts as a digital equivalent of the physical currency issued by the Reserve Bank of India, functioning similarly to cash but in an electronic format. It is securely stored in a digital wallet provided by banks like SBI, which can be easily linked to a user's bank account for the purpose of loading and managing funds.



Figure 1: SBI CBDC eRupee
Sources: SBI

Unlike traditional digital payment systems such as UPI, NEFT, RTGS, or IMPS that rely on the transfer of bank balances, the e₹ operates as a direct digital equivalent of currency notes. The Digital Rupee is a sovereign currency regulated by the central bank and holds intrinsic value. It is recorded as a liability on the central bank's balance sheet and must be acknowledged as legal tender by individuals, businesses, and government entities.

It can be freely exchanged for cash or bank deposits and maintains a one-to-one value with physical currency. Aimed at enhancing rather than replacing existing payment systems, CBDC provides a faster, safer, and more efficient method of transaction. It also ensures immediate payment settlement, offering characteristics such as trust, safety, and finality similar to physical cash.

REVIEW OF LITERATURE

Ghosh, D et al (2025) emphasized the importance of enhancing the interoperability of Central Bank Digital Currencies (CBDCs) to foster greater financial integration. Ogunmola GA, Das U (2024) presented empirical evidence concerning the factors that affect users' attitudes and intentions towards adopting the digital rupee. Bhatnagar P (2025) suggested that app developers and policymakers collaborate to improve eRupee applications in order to boost user satisfaction.

Attarde, K et al (2025) highlighted challenges such as the necessity for comprehensive training, infrastructure development, and issues

related to user acceptance.

Razi-ur-Rahim, M et al (2026) discussed individuals' intentions regarding the adoption of CBDCs in detail. Desai R (2025) found that financial constructs also influence the intention to use CBDCs. Shroff, S. J et al (2026) offered insights for central banks and fintech stakeholders engaged in the design of CBDC roll-outs. Camacho, T. S et al (2025) pointed out the necessity for rapid payment instruments to respond to the rapid growth of unregulated global digital asset markets.

Singh, R. (2025) identified that CBDC facilitates oil trade settlements in INR. Thapliyal, K et al (2025) discovered the adoption of CBDC and its role in achieving the nation's sustainable development goals. Kaur, H et al (2025) provided insights into customer-specific factors influencing adoption. Ghosh K, Das PK (2025) indicated that research on CBDC remains in its nascent phase. Shah, M. A., & Raj, N. (2025) explored the opportunities and collaborative strategies associated with blockchain-enabled CBDCs. Subhadarsini A et al (2025) underscored the importance of collaborative strategies for blockchain-enabled CBDC. Kim, J. J et al (2024) stressed the need for active cooperation between the public and private sectors.

Xia, Y et al. (2025) discovered an influence on the intention to adopt CBDC. Nyffenegger, R. (2024) identified several factors that facilitate the exploration of a CBDC. Nayak, D. V et al. (2025) found insights regarding usage and the factors that determine its usability. Gaisina, A et al. (2025) provided insights into which design features of CBDC can effectively address regulatory challenges. This study aims to examine the advancements of Central Bank Digital Currency (CBDC) in India, focusing specifically on the Digital Rupee App developed by the State Bank of India (SBI).

RESULTS AND DISCUSSION

This study's findings indicated that as part of the Reserve Bank of India's pilot initiative for retail Central Bank Digital Currency (CBDC), the State Bank of India (SBI) has been selected as one of the key banks to facilitate and encourage the adoption of the Digital Rupee among customers and merchants.



Sources: SBI

The e is available in denominations that correspond to those of physical currency and is stored in a user-friendly digital wallet accessible on both Android and iOS devices. Users can register through a detailed KYC process linked to their SBI accounts or choose an Aadhaar-based method for limited usage, especially for government benefits. The table I sows that Limit on Maintaining SBI e wallet

Table – 1 : Limit on Maintaining SBI e wallet

Particulars	Limit
Per Transaction Limit	Rs.10,000
Holding Capacity for Wallet	Rs.1,00,000
Per Day Load and Inward Transfer	Rs.25,000
Per day outward Transfer	Rs.50,000
Per day upload	Rs.1,00,000
Number of P2P transactions (within 30 days)	100
Number of Load, Unload, inward and outward transfers	20

Source: SBI

The SBI Digital Rupee App enables users to perform instant transactions at any time, including loading funds, sending or receiving money via QR codes or mobile numbers, and converting e back into their bank accounts. It also offers interoperability with UPI QR codes, enhancing convenience for both customers and merchants. With established transaction limits, no interest on wallet balances, and no minimum balance requirement, the app is designed to be highly accessible and user-friendly. Merchants can easily accept payments and receive settlements directly into their bank accounts. In conclusion, the Digital Rupee offers a secure, efficient, and modern alternative to physical cash, thereby strengthening India's digital payment infrastructure.

CONCLUSION

In conclusion, the investigation into the advancement of Central Bank Digital Currency (CBDC) in India, with a special focus on the Digital Rupee (e) app by the State Bank of India (SBI), highlights a transformative step in the country's financial ecosystem. The Digital Rupee, issued and regulated by the central bank, functions as legal tender with the same value as physical currency, ensuring reliability, stability, and trust. Unlike cryptocurrencies, it is sovereign-backed and aligned with monetary policy, making it a secure and efficient medium of exchange. The SBI e app demonstrates how CBDC can be practically implemented, offering users a simple, safe, and accessible platform for digital transactions. With features such as wallet-based storage, UPI interoperability, instant payments, and easy conversion to bank accounts, it enhances convenience for both individuals and merchants. The availability of both full-KYC and Aadhaar-based wallets further promotes financial inclusion by catering to diverse user groups. Although certain transaction limits and operational guidelines exist, the system operates without charges or minimum balance requirements. Overall conclusion, CBDC complements existing payment systems while paving the way for a more transparent, efficient, and digitally driven economy in India.

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