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Digital Payments and Financial Inclusion in India: Assessing the Role and Preparedness of Cooperative Banks in the UPI Era

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Abstract

The rise of digital payment has transformed the financial landscape of India over the past decade. Among these developments, the Unified Payments Interface (UPI) introduced in 2016 by the National Payments Corporation of India (NPCI), has popped up as a key driver of digital transactions and financial inclusion. At the same time, cooperative banks—particularly urban and rural cooperative banks—continue to play an important role in serving semi-urban and rural populations that remain partially integrated into the formal financial system. This paper aims to study the role and awareness of cooperative banks in India within the changing UPI ecosystem. The paper aims to study the structure of cooperative banks and their contribution to financial inclusion, and the technological, regulatory, and the difficulties they face in adapting to UPI-led digital transformation. This paper is entirely based on secondary data drawn from reports of the Reserve Bank of India, NABARD, Ministry of Finance, and the World Bank, the study gives a descriptive assessment of digital payment growth and institutional readiness. It draws that while cooperative banks possess strong local outreach and trust-based relationships, their readiness for full digital integration varies significantly. Issues relating to technologies, cyber security awareness, and compliance capacity remain a challenge. The paper concludes with policy suggestions aimed at strengthening cooperative banks' digital capabilities to ensure inclusive and sustainable participation in India's rapidly changing digital payment ecosystem.

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1. Introduction: The Indian financial system has undergone a remarkable transformation in the last decade, particularly with the rapid growth of the digital payment system. The increasing use of mobile technology, internet connectivity, and policy support for a less-cash economy has transformed the way individuals and business houses conduct financial transactions.

Digital payments are no longer limited to urban and corporate users; they are gradually becoming part of everyday financial activity across semi-urban and rural areas as well. A major turning point in this evolution was the launch of the Unified Payments Interface (UPI) by the National Payments Corporation of India. UPI enabled real-time, low-cost, and user-assessable fund transfers through mobile devices, thus simplifying cashless transactions for millions of users. As highlighted in various reports of the Reserve Bank of India, UPI has become one of the fastestgrowing digital payment systems in the country. Its interoperability and ease of use have contributed notably to expanding access to formal financial services.

At the same time, financial inclusion has remained a central policy objective in India. The government and the banking regulator have routinely underlined the need to ensure that banking services reach underserved sections of society, including low-income households, small farmers, micro-entrepreneurs, and informal workers. According to the World Bank, India has made remarkable progress in expanding access to bank accounts in recent years, particularly after the introduction of large-scale inclusion initiatives. However, access alone does not guarantee active usage, and digital platforms are increasingly seen as a means to deepen financial inclusion.

In this context, cooperative banks occupy a unique place within the Indian banking structure. These institutions, including urban cooperative banks and rural cooperative credit institutions, have historically served local communities and played an important role in extending credit and basic banking services to segments that may not be adequately covered by commercial banks. Their strong local presence and community-based model provide them with certain advantages in promoting inclusive banking. At the same time, the digitalization led by UPI brings both opportunities and challenges for these institutions.

The growing dominance of UPI in retail payments underlines important questions regarding the readiness of cooperative banks to integrate effectively into this digital ecosystem. Issues related to technical underpinnings, regulatory compliance, cyber security awareness, and operational capability become especially relevant. Therefore, this study wants to examine the role of cooperative banks in supporting digital financial inclusion and to assess their readiness in the UPI era, based on secondary data and institutional reports.

1.1. Objectives of the study: The Main objectives of the present research study are as follows:

1. To examine the growth and expansion of digital payment systems in India, particularly the rise of UPI as highlighted in reports of the Reserve Bank of India (RBI) and the National Payments Corporation of India (NPCI).
2. To analyse the role of cooperative banks in promoting financial inclusion, especially in rural and semi-urban areas, using insights from reports of NABARD and other published documents.
3. To examin the extent of integration of cooperative banks with the UPI framework, and to compliment with the opportunities created by digital payment systems for coorporatives.
4. To evaluate the consciousness of cooperative banks in terms of technological framework, regulatory compliance, cybersecurity awareness, and operational capability in adapting to the digital payment environment.

2. Growth of Digital Payments in India: The rise of digital payments in India has been one of the most important developments in the country's financial sector in the past decade. With increasing mobile penetration, expansion of internet connectivity, and strong policy support for a less-cash economy, digital payments have steadily replaced traditional cash-based payments in many segments of the economy. According to reports of the Reserve Bank of India, digital payment volumes have shown consistent growth year after year. The RBI's Digital Payments Index reflects sustained improvement in payment infrastructure, performance, and consumer adoption. This growth has been pushed by variations such as mobile banking, Immediate Payment Service (IMPS), Aadhaar Enabled Payment System (AePS), card networks, and prepaid payment instruments.

The most transformative development in recent years has been the rapid expansion of the Unified Payments Interface (UPI), introduced by the National Payments Corporation of India. Since its launch, UPI has grown from a relatively small payment platform into the dominant retail digital payment system in India. According to recent RBI and NPCI reports, UPI contributes a prominent share of total digital transaction volumes in the country. The system allows real-time fund transfers between bank accounts through mobile applications, making transactions quick, low-cost, and accessible to a wide range of users.

One of the major reasons for UPI's growth has been its interoperability and simplicity. One can link more than one bank account to a single mobile application and carry on transactions without sharing detailed bank information. The unification of UPI with popular mobile applications and QR code-based payment systems has made it popular among small merchants and micro-enterprises.

Its rise has further contributed in financial inclusion by uplifting active usage of bank accounts. Earlier, financial inclusion efforts focused mainly on opening accounts. With the expansion of digital payment gateways, account holders are increasingly able to use their accounts for daily transactions, remittances, bill payments, and small-value purchases. This shift from access to active participation marks an important stage in the financial inclusion process.

3. Cooperative Banks in India; Structure and Role in Financial Inclusion: Cooperative banks form an important component of India's banking system, particularly in extending financial services to rural, semi-urban, and lower-income segments. Unlike commercial banks, cooperative banks operate on the principle of mutual assistance and democratic management, where members are both customers and shareholders. Their structure is formed with the aim to promote community-based banking and local development.

The cooperative banking structure in India is broadly divided into two segments: urban cooperative banks (UCBs) and rural cooperative credit institutions. Rural cooperative institutions follow a three-tier structure in many states—State Cooperative Banks at the apex level, District Central Cooperative Banks at the intermediate level, and Primary Agricultural Credit Societies at the grassroots level. These institutions primarily focus on agricultural credit, small loans, and local financial needs. Urban cooperative banks, on the other hand, cater mainly to small traders, self-employed individuals, and middle-income households in urban and semi-urban areas.

As per the reports of the Reserve Bank of India, cooperative banks perform a crucial role in strengthening financial inclusion by offering savings accounts, credit facilities, and basic banking services to customers who may not be fully served by commercial banks. As they are familiar with community conditions which enables them to reach sections of society that are often untouched from mainstream banking channels. Over the years, government initiatives focus at expanding formal banking coverage have indirectly strengthened the importance of cooperative banks. Through participation in government-sponsored schemes and rural credit programs, these institutions have facilitated access to institutional finance for farmers, small businesses, and low-income households.

The structure of cooperative banks has certain limitations which can be like variations in governance quality, capital adequacy, and digital framework across states affect their performance. When we compare it to large commercial banks, cooperative banks most of the time operate with limited financial and technological resources. These structural characteristics become particularly crucial in the context of digital transformation and unification with modern payment systems such as UPI.

4. UPI Integration and Cooperative Banks; Opportunities and Challenges: The sudden growth of the Unified Payments Interface (UPI), developed by the National Payments Corporation of India, has drastically changed the structure of retail payments in India. As digital payments increasingly become the preferred mode of transaction, cooperative institutions must align themselves with this evolving framework to remain competitive and relevant. UPI ecosystem is both a strategic opportunity and a structural challenge for cooperative banks.

4.1. Opportunities:

- **Preparedness of Cooperative Banks in the UPI Ecosystem:** There are various factors which shapes the readiness of cooperative banks to operate effectively within the UPI ecosystem. To assess the readiness of cooperative banks needs to examine the technology stack, regulatory compliance, cyber security readiness, and financial as well as operational capability.
- **Regulatory Compliance:** Regulatory compliance is both a necessary condition for digital participation and a practical challenge for resource-constrained institutions.
  Cooperative banks must comply with prudential norms, reporting requirements, and digital transaction guidelines. Regulatory supervision has strengthened in recent years, particularly after amendments to banking regulation laws affecting cooperative institutions. The RBI has enhanced oversight mechanisms to ensure greater financial discipline and risk management within cooperative banks.
- **Technological Readiness:** In rural areas, issues such as inadequate internet connectivity and limited digital literacy among customers further affect effective utilization of UPI services. Technological infrastructure is the laying stone of participation in digital payment systems. It requires amalgamation with robust core banking solutions, real-time payment processing capabilities, secure APIs, and mobile banking interfaces. Many urban cooperative banks have adopted Core Banking Systems (CBS), the level of digital maturity differs significantly across institution. Recent policy emphasis by the Reserve Bank of India has encouraged cooperative banks to strengthen their IT systems. However, smaller banks often face constraints in upgrading legacy systems due to limited financial resources.
- **Cyber security Concerns:** Cooperative banks must implement strong encryption standards, fraud detection systems, and periodic security audits .The expansion of digital payments comes with the exposure to cyber risks. In comparison with large commercial banks corporative banks have less access to fraud detection and cybercrimes.
- **Financial and Operational Capacity:** Financial strength influences digital readiness. Upgrading IT infrastructure, training employees, and maintaining secure systems involve considerable expenditure.

4.2. Key Issues and Constraints: While cooperative banks have significant potential to contribute to digital financial inclusion, their transition into the UPI-driven payment ecosystem is not without limitations. Several structural, operational, and institutional constraints continue to affect their performance and long-term sustainability in the digital environment.

1. **Structural Weaknesses in Governance:** Cooperative banks are member-driven institutions and are often influenced by local leadership and state-level policies it is one of the consistent issues in the cooperative banking sector. Regulatory oversight has strengthened under the supervision of the Reserve Bank of India, governance reforms at the institutional level remain uneven across states in some cases, and governance challenges such as political interference, weak board oversight, and limited professional management affect decision-making efficiency.

2. **Limited Capital Base:** Compared to commercial banks, cooperative banks typically operate with a smaller capital base and lower profitability margins. Digital integration requires investment in IT infrastructure, cyber security systems, staff training, and compliance mechanisms. For financially constrained banks, allocating resources toward digital expansion may compete with core lending activities. Limited access to external capital markets further restricts their ability to raise funds for modernization. As a result, digital upgrades often proceed gradually rather than through large-scale transformation.
3. **Technological Gaps and Digital Literacy:** Not all cooperative banks have fully integrated Core Banking Systems or advanced mobile banking platforms. System downtime, transaction delays, and interoperability issues can affect customer confidence.
4. **Cyber security and Fraud Risks:** The increasing use of digital platforms has led to rising concerns about fraud and cybercrime. Cooperative banks may lack dedicated cyber security departments or advanced monitoring tools. This exposes them to operational risks and potential reputational damage.
5. **Dual Regulatory Structure:** Rural cooperative institutions operate under a dual regulatory framework involving both state authorities and central regulators, with supervisory support from NABARD. Coordination between regulatory bodies is essential to ensure smooth digital integration. Delays in approvals, compliance clarifications, or policy implementation can affect the pace of modernization.
6. **Competition from Commercial Banks and Fintech Firms:** The digital payments ecosystem is highly competitive. Large commercial banks and fintech companies offer seamless mobile applications, customer support, and innovative payment features. Cooperative banks must compete with these institutions despite having relatively limited resources. If cooperative banks are unable to provide comparable digital services, customers—especially younger and urban users—may shift toward alternative platforms. This could gradually reduce the relevance of cooperative institutions in certain segments.

5. Government & RBI Initiatives Supporting Digital Inclusion: The expansion of digital payments in India has been supported by coordinated efforts from the Government of India and financial regulators. These initiatives aim to strengthen digital infrastructure, improve access to formal banking services, and promote secure electronic transactions. Cooperative banks, as part of the formal financial system, are direct beneficiaries of these policy measures.

1. **Policy Push towards Digital Payments:** Government of India has actively promoted digital transaction platforms, including the Unified Payments Interface (UPI), developed by the National Payments Corporation of India. 2016 was a major turning point in India’s digital payment journey was the policy emphasis on a less-cash economy .Digital payment campaigns, incentives for merchants, and awareness programs have expanded the use of QR-based payments and mobile banking services.
2. **Financial Inclusion Initiatives:** The foundation for digital inclusion was laid through large-scale financial inclusion programs. The Pradhan Mantri Jan Dhan Yojana (PMJDY) significantly increased the number of basic savings bank accounts, especially among rural

and low-income populations. Although PMJDY accounts are primarily associated with commercial banks, cooperative banks have also contributed to expanding account coverage in certain regions. In addition, the expansion of Aadhaar-based identification and mobile connectivity has strengthened the JAM (Jan Dhan–Aadhaar–Mobile) framework. This integration has facilitated direct benefit transfers and digital payments, thereby increasing transaction activity in newly opened accounts.

3. **Regulatory Strengthening of Cooperative Banks:** The Reserve Bank of India has undertaken several measures to enhance the stability and governance of cooperative banks. Amendments to banking regulation laws have increased RBI's supervisory powers over urban cooperative banks. Strengthened oversight improves confidence in the sector and encourages modernization, including digital integration.RBI has also issued guidelines on cyber security frameworks, digital transaction security, grievance redress mechanisms, and IT governance. These guidelines aim to ensure that cooperative banks adopting UPI services maintain adequate operational and security standards.
4. **Capacity Building and Technological Support:** Institutional support from NABARD has been particularly important for rural cooperative institutions. NABARD provides supervisory assistance, capacity-building programs, and technological guidance. Training programs focused on digital banking operations, risk management, and financial inclusion help strengthen institutional readiness. Government initiatives promoting digital literacy, such as awareness campaigns in rural areas, indirectly support cooperative banks by encouraging customers to adopt electronic payment modes.

6. Findings: The analysis of secondary data from reports of the Reserve Bank of India, National Payments Corporation of India, NABARD, and other institutional sources indicates several important findings regarding digital payments and the role of cooperative banks in the UPI era.

1) **Rapid Growth of UPI and Digital Transactions:** The expansion of smart phones, internet connectivity, and digital literacy has contributed in the rapid growth of UPI and digital transactions. As per the reports published by RBI and various other institutions UPI has emerged as the dominant retail digital payment system in India. Transaction volumes and values have increased consistently over the past few years, reflecting growing public trust and widespread adoption.
2) **Uneven Participation of Cooperative Banks:** There is a disparity in participation of cooperative banks in the UPI ecosystem. Many smaller rural cooperative institutions face infrastructural and financial constraints that slow down their digital transition whereas, larger urban cooperative banks appear to be relatively better integrated into digital platforms.
3) **Regulatory Reforms Strengthening Stability:** Recent regulatory reforms have strengthened supervisory oversight over cooperative banks. Enhanced powers granted to the RBI and improved compliance requirements have increased institutional accountability. This regulatory strengthening creates a more stable environment for digital expansion. However, compliance costs and operational adjustments required to meet digital security standards remain challenging for smaller institutions.

7. Suggestions & Policy Recommendations: On analyzing the secondary sources of institutional reports and policy documents, several measures can be suggested to strengthen the role and preparedness of cooperative banks in the UPI-driven digital payment ecosystem.

1. **Strengthening Technological Infrastructure:** In order to contribute more to strengthen the Indian financial system whereas smaller rural institutions require continued support and modernization. Cooperatives have limited capital base which restrict them to modernize their structure in order to tackle this a shared technology model may be more feasible.
2. **Enhancing Capacity Building and Training:** Digital transformation requires skilled human resources it is not just confined to technology. To utilize the human resource provisions for regular training programs for managerial staff and operational employees to improve their understanding of digital banking operations, cybersecurity protocols, and grievance redress mechanisms.
3. **Improving Governance and Professional Management:** In order to get long-term digital sustainability strengthening governance structures is essential for cooperative banks. Cooperative banks should adopt more professional management practices, transparent decision-making processes, and clear accountability mechanisms
4. **Strengthening Cyber security Frameworks:** As digital transactions increasing comes higher exposure to cyber risks are also increasing proportionately. Cooperative banks must implement strong cyber security frameworks, including multi-factor authentication, transaction monitoring systems, and regular security audits.
5. **Promoting Inclusive Digital Outreach:** Cooperative banks should leverage their strong local presence to promote digital inclusion among farmers, self-help groups, and small traders. Introducing simplified mobile interfaces, multilingual support, and assisted digital services at branch levels can make UPI adoption more accessible. Special focus should be placed on bridging the digital divide in rural and semi-urban areas by integrating digital literacy initiatives with banking outreach programs.

Conclusion: Unified Payments Interface (UPI), has drastically changed the country's financial landscape. Digital transactions have extentd their roots to rural areas not just confined to urban areas.Their reach to rural areas have transformed the meaning of financial inclustion is not just confined to opening bank accouts but also covers their active usage.

Cooperative banks occupy an important but transitional role in this evolving framework. Cooperatives have already played an important role in promoting inclusive banking by serving small borrowers, farmers, micro-entrepreneurs, and low-income households. Their community based approach, localized structure and rural outreach have significantly contributed to expand access to formal financial services.

The shift towards digital payment systems comes with both opportunities and challenges. On one hand integration of the UPI ecosystem provides cooperative banks the possibility of improving service efficiency, enhancing customer convenience, and strengthening their relevance in a competitive banking environment. On the other hand concerns like structural constraints such as limited capital, governance variations, technological gaps, and cyber security affect their pace of digital adaptation.

According the reports from reports of the Reserve Bank of India, National Payments Corporation of India, and NABARD indicates that while progress has been made, readiness across cooperative institutions remains uneven. Smaller rural institutions require continued support and modernization, whereas larger urban cooperative banks show relatively stronger integration. To conclude this cooperative banks are not peripheral to India's digital transformation; rather, they are integral to achieving inclusive digital growth.

References

1. Reserve Bank of India. (2023). Annual report 2022–23. https://www.rbi.org.in
2. Reserve Bank of India. (2023). Report on trend and progress of banking in India 2022–23. https://www.rbi.org.in
3. National Payments Corporation of India. (2023). UPI product statistics. https://www.npci.org.in
4. NABARD. (2023). Annual report 2022–23. https://www.nabard.org
5. Ministry of Finance. (2023). Economic survey 2022–23. Government of India. https://www.indiabudget.gov.in
6. World Bank. (2022). Global Findex Database 2021. https://www.worldbank.org

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