CHAPTER 2

Advancing Financial Inclusion: A Study of Technological and Sustainable Practices in Modern Banking

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ABSTRACT

The quality of a financial inclusion in the country is excellent which pays to boost the economy in the middle. In the last four years, the revolution in the digital world and the various financial reforms have pushed financial inclusion significantly. Due to this, more people are getting the financial services. Over the past four years, Indian banks have made significant strides in providing functions and services to the financially excluded and the poor. The article addresses the needed improvements in the use of ICT and banking stability in India financial inclusion The primary sources for this article are Indian non-profit and academic institutions and government publications. Data study using banking research from the Department of Financial Services Annual Report 2024-25. Innovative financial strategies for India's banking industry must integrate digital infrastructure with Regional Rural Banks. This will boost bank account services, particularly in poor communities.

Keywords: Digital banking; Financial inclusion; Public sector banks; Rural regional banks; India.

1.0 Introduction

Financial inclusion is a priority to build a society where everyone may succeed financially. There have been lots of recent changes in technology, which have greatly impacted India's banking sector. We have mobile banking, net banking, digital banking, aadhaar-based account opening, and account opening with just your mobile number. We commend the high degree of financial inclusion in the country. It raises the economy. Over the last decade, digital innovation and financial reform have increased financial inclusion. Financial services are used more than ever. Indian banks have improved outreach to the poor and financially disadvantaged in the last decade. In addition, Banks are adopting the new dimension which is sustainable. There exist electronically digitized passport books which are paperless.

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These ATMs are environmentally sustainable as well. In addition to this, there are also 'green' banking system and branches. Bank financing is also extended to green commodities. Another option is social-responsibility lending and eco banking. Resource wrap and grow banks will be from this type. The study will show how the role of technology can help in bringing sustainable banking in the banking systems of India. The statement delves into the financial service offerings of the various farmer support sectors in the different regions. It assesses the level of awareness of the people to the digital and sustainable banking. The research will also assist financial institutions, government officials, and policymakers in improving their decision-making quality.

2.0 Literature Review

Kendall and Voorhies (2014) have highlighted that it results in the reduction of transaction cost. It further notes that it helps institutions better serve the poor and remote with these technologies at the cutting edge.

The stakeholders in rural areas and villages are increasingly opting for the interface for operational activities as it is simple, cheap and easy to operate. The study says that the recent advancements in the digital banking industry has eased the banking lot for the common man unlocking the scope for better financial inclusion and agency. It is essential to know the schemes developed by the Indian government, such as UPI, AEPS, e-KYC, etc. These efforts made the payments easier, faster, and more straightforward. Furthermore, e-KYC facilitated the speedy onboarding of consumers and expanded the accessibility and convenience of financial services nationwide.

The World Bank (2022) states that there is strong evidence supporting India's financial inclusion in the Global Findex Database of 2021. Better customer satisfaction and institutional development are direct results of investing in human resources.

Mishra and Bhattacharya (2020) reveal that sustainability-oriented reforms positively influence financial inclusion in public sector banks. Their findings highlight that responsible and sustainable banking practices strengthen inclusivity and promote long-term development.

The Annual Report of Regional Rural Banks (2024–25) shows that RRBs achieved strong rural outreach while maintaining profitability. Banking and finance are crucial for our lives. It is essential for a country's economy to initiate the process of growth and development. Additionally, Any firm must do the function frequently. Banks also greatly support the economy by offering and accepting loans. Banking has a two-fold function where they accept deposits and lend money to people. They also offer other special services like overdraft.

3.0 Objectives

- To evaluate the influence of technological advancements on banking business.
- To evaluate the functionality of PSBs and RRBs.
- Investigate Digital Payment Trends.

4.0 Hypotheses

4.1 To study the growth of financial inclusion

- (H_0): The financial inclusion index showed minimal development throughout the research.
- (H_1): There is a significant growth in financial inclusion over the study period.

4.2 To examine trends in digital payments

- (H_0): There is no significant change or trend in digital payment transactions over the study period.
- (H_1): There is a significant change or trend in digital payment transactions over the study period.

5.0 Scope of Study

This research evaluates financial inclusion in India via online banking and payment system growth. This study covers 20-21 to24-25. The period witnessed further enhancements to the banking system's technology and access to financial services. All the secondary data related to the research are derived from government publications, reputed global agencies, publications by the Reserve Bank of India and the Department of Financial Services.

The paper focuses extensively on PSBs and RRBs to analyze the roles they play in broadening access to formal banking services, made possible through the initiatives of the government. Financial services offered by technology such as UPI, AEPS, BHIM, Rupay, PMJJBY, PMSBY, APY, and PMMY are increasing. It focuses on the thinly populated regions, particularly the rural and semi-urban areas, which are more affected by financial exclusion. The research examines the macro level patterns, probable pathways, and the present state of institutional outcomes related to electronic payment systems and financial inclusion. The merchants of consumer goods and financial services are not legally obliged to take all reasonable efforts to protect consumers' information. According to the research, services and goods targeting an ordinary consumer do not require the collection of personal information.

6.0 Research Methodology

The Research Paper Studies Impact of Sustainable Banking Innovations on Financial Inclusion in India With the Help of Secondary Data Rather than Personal Behaviour Studies. According to our study of the Annual Report 2024–25 and other reliable sources like academic papers, government data, and RBI reports, the performance of the institution and the related trends and policies is examined.

The research looks at the impact of technology on sustainability using qualitative and quantitative techniques. The methodology involved qualitative and quantitative approaches. It uses literature review from reputable sources for data collection. Study verifies affirmatives through data collected from interviews and questionnaires to experts. The period from FY 20-21 to FY 24-25 has seen the launch of many other financial inclusion schemes and digital innovations for enhancing banking.

The study will cover many parameters. One example of the financial inclusion initiative classes is about the use of bank through inclusive banking offerings and also the role played by the banking non-credit sector that digital means or device are offering the services.

The article try to make the researchers aware of the present & potential future of financial inclusion. The RBI and Indian government formulated many policies to achieve financial inclusion of people by 2024. This research uses unique data analysis.

7.0 Data Analysis and Calculations

Hypothesis 1: Growth of Financial Inclusion

H_0: There is no significant growth in financial inclusion over the study period.
H_1: There is a significant growth in financial inclusion over the study period.

Table 1: Performance of Rural Banking

Indicator	Value
Number of RRB Branches	22,069
Share of Rural & Semi-Urban Branches (%)	92%
Priority Sector Lending (%)	87%
Lending to Weaker Sections (%)	61%
Agriculture Lending (%)	67%
Rural Credit-Deposit Ratio (%)	71.4%

Figure 1: Performance of Rural Banking

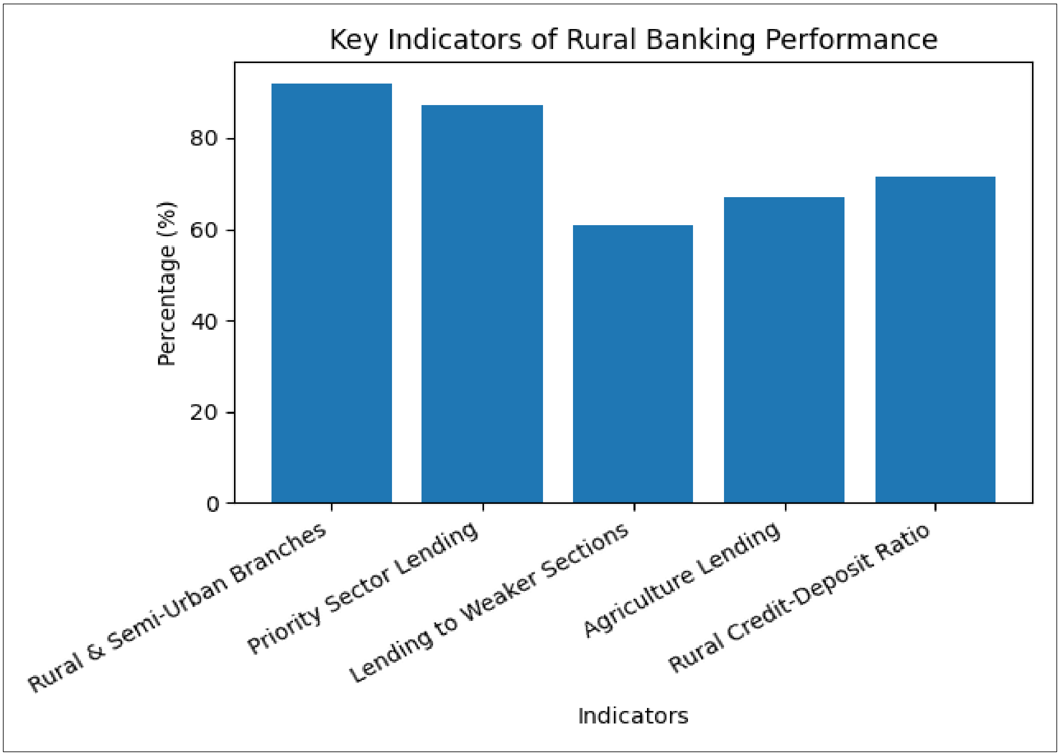


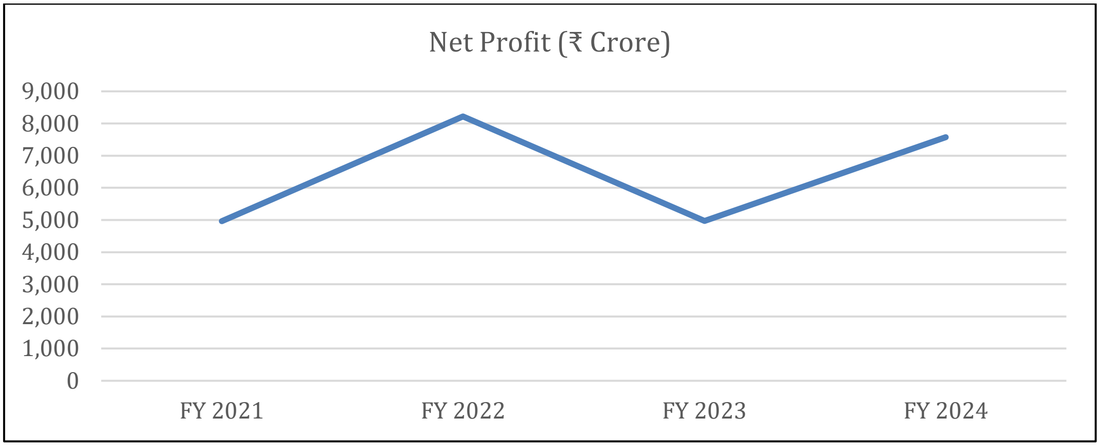
Table 2: Net Profit of Regional Rural Banks (₹ Crore)

Year	Net Profit (₹ Crore)
FY 2021	4,963
FY 2022	8,219
FY 2023	4,972
FY 2024	7,571

Table 3: Growth Calculation (FY 2021–FY 2024)

Period	Net Profit (₹ Crore)	Growth Calculation	Growth Rate (%)
FY 2021 → FY 2022	4,963 → 8,219	(8,219 − 4,963) / 4,963 × 100	65.6%
FY 2022 → FY 2023	8,219 → 4,972	(4,972 − 8,219) / 8,219 × 100	–39.5%
FY 2023 → FY 2024	4,972 → 7,571	(7,571 − 4,972) / 4,972 × 100	52.5%

Figure 2: Trend of Performance of Rural Banking



Interpretation: The findings demonstrate the critical role that Regional Rural Banks (RRBs) play in fostering financial inclusion in rural areas. RRBs guarantee widespread banking access, with 22,069 branches and 92% of them situated in rural and semi-urban areas. Their 87% priority sector lending, 67% agricultural advances, and 61% lending to weaker sections—directly assisting farmers and vulnerable groups—all demonstrate their strong inclusive emphasis. The majority of rural deposits are reinvested locally, boosting rural economies, as indicated by the 71.4% rural credit–deposit ratio.

Trends in profitability show long-term durability but short-term volatility. Net profit increased by 65.6% in FY 2022, fell by 39.5% in FY 2023, and then recovered significantly in FY 2024 (52.5%), for a total growth of 52.5% between FY 2021 and FY 2024. This demonstrates that financial inclusion has grown without impairing productivity. As a result, H_0 is refused and H_1 is accepted, demonstrating a notable increase in financial inclusion during the course of the study.

Hypothesis 2: Trends in Digital Payments

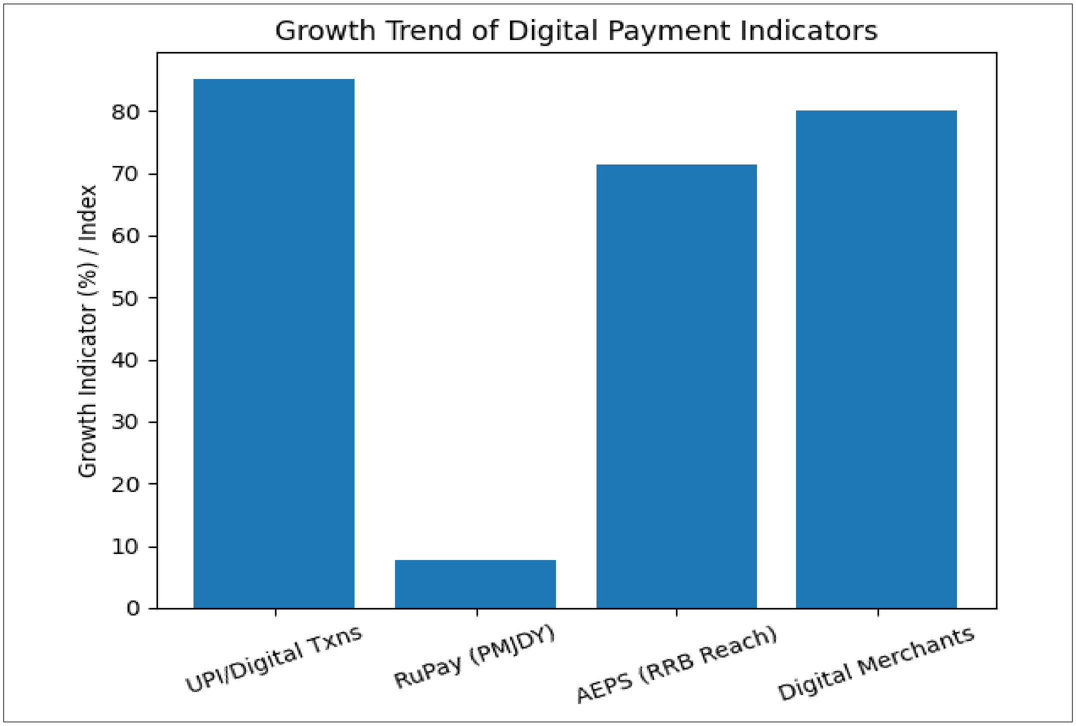
H_0: When it comes to online payments, nothing has changed.

H_1: The way money is transferred online is changing drastically.

Table 4: Digital Payment Trends in India

Indicator	Base Value	Latest Value	Calculated Trend
UPI/Digital Transactions	220 crore (FY 2013–14)	18,737 crore (FY 2023–24)	≈55.6% CAGR
RuPay Card Usage	PMJDY-linked	9.84 crore accounts	7.7% YoY growth
AEPS Usage	Limited pre-2015	22,069 RRB branches	Expanded rural access
Digital Merchants	Low base	Nationwide onboarding	Rapid growth trend

Figure 3: Trend in Digital Payment



Interpretation: According to the data, digital payments in India have clearly and steadily increased. From 220 crore in FY 2013–14 to 18,737 crore in FY 2023–24, UPI transactions increased at a robust 55.6% annual growth rate, demonstrating widespread adoption of digital technology. RuPay card usage increased gradually as well, reaching 9.84 crore PMJDY-linked accounts with an annual growth rate of 7.7%, indicating less reliance on cash. By growing to 22,069 RRB branches, AEPS greatly enhanced rural access, and quick digital merchant onboarding bolstered the entire payment ecosystem. As a result, H_0 is rejected and H_1 is accepted, indicating a significant upward trend in digital payment systems over the course of the study.

8.0 Results of the Study

Thanks to institutional changes and technology-driven banking, more people in India, particularly in rural regions, have access to formal financial services, leading to a dramatic increase in financial inclusion. Regional rural banks' specialized lending and outreach efforts have helped rural and semi-urban residents. A research discovered that reverse rural banks (RRBs) greatly help low-income communities to help themselves and improve their living conditions. By incorporating inclusiveness into their lending practices, RRBs' profit increase over the last four years has exceeded 52%. Coexistence through inclusion heartens profitable banking through cooperation. Allowed the digital payments system.

9.0 Conclusion

The report states that RBI along with other Institutional and Regulatory Policy Reforms will enable better availability of financial services through Payment Banks. A basic savings account is offered by the bank. The financial inclusion fund mainly derives from the regional rural banks located in backward/deprived areas of rural and urban centres. Presently, efficient inexpensive and universally accessible infrastructure of digital payments exists. The research findings indicate that measures encouraging sustainable and inclusive banking will not be a detriment to profitability as they tend to be better performing , resilient Statos and stable over the long-run.

10.0 Recommendations

The realism and person centered inclusion approach is critical for successful financial inclusion programs. Digital banking services need to be accessible to all rural government employees. Joining online learning is getting to be a compulsion. Improvement of internet facilities in weaker areas, especially rural will be the first task to do so that financial services are available round the clock. The authors demand from the banking sector continuity of lending and green banking to ensure a balanced and equitable pattern of development and to avert the impact of climate change. E-commerce has witnessed huge growth. There is an urgent need for true and sophisticated cyber defense to safeguard the customer's data and foster a safer and trusted online shopping environment. It is imperative that more innovative initiatives reach disadvantaged rural and poorer people. Financial services should be available and inexpensive.

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