

A Study on the Growth and Development of Digital Banking Services in India: An Analysis of Secondary Data

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Abstract: Digital banking is the lifeline of India's banking sector because it has led to its improvement through the introduction of digital payments and technology developments. The growth of the internet penetration, smartphones' usage, UPI, and mobile and internet banking as well as other digital services has led to this process of growth in the banking sector. The aim of this paper is to analyze the growth of this form of banking in the country based on secondary data. The study will focus on how far digital banking has improved the financial systems and the challenges brought about by the new technology. The research will utilize secondary data from Reserve Bank, NPCI, government publications, reports, and secondary data. The study will utilize descriptive statistics, and percentages to come up with the findings. The project will highlight the opportunities brought about by digital payments that include cost minimization, convenience and time-saving, and financial inclusion. However, the research will also outline the shortcomings of the system, which include high risks, privacy and security issues, and digital illiteracy among Indians. The paper will end by emphasizing the need for enhanced knowledge and knowledge to encourage digital banking in the country.

Keywords: Digital Banking, Financial Inclusion, UPI, Mobile Banking, Digital Payments, Economic Development.

Introduction

The banking sector is the lifeline of activating savings, investments, and economic growth. The Indian banking sector has observed a paradigm shift due to advanced technological interventions, resulting in the emergence of digital banking services. The availability of smartphones, internet banking services, electronic modes of payments, etc., have enabled customers to be at the comfort of their home without needing to visit the nearest branch. Mobile banking, internet banking, UPI, debit cards, digital payments, and fund transfer facilities have made life easy and fast for customers by reducing the time taken to process customer requests. The initiatives taken by the government of India, Reserve Bank of India, and National Payments Corporation of India have also accelerated the digital banking scenario in the country. They have played a crucial role in developing alternate policy frameworks that have been instrumental for individuals, businesses, and organizations to embrace electronic modes of payment for seamless financial transactions. Additionally, the digital banking services have ensured financial inclusion by bridging the gap between masses and remote locations by bringing more customers into the formal banking system.

Nevertheless, online frauds and privacy concerns, inadequate digital literacy, technological limitations are some of the major challenges for the growth of digital banking services. Against this backdrop, this paper tries to focus on the growth and development path of digital banking services in India. The paper uses secondary information to highlight the current trends and economic impact of digital services on the Indian economy. It also focuses on challenges and opportunities for digital banking services as banking ecosystems make a push towards a fully digital environment.

Digital Banking Services in India – Overview

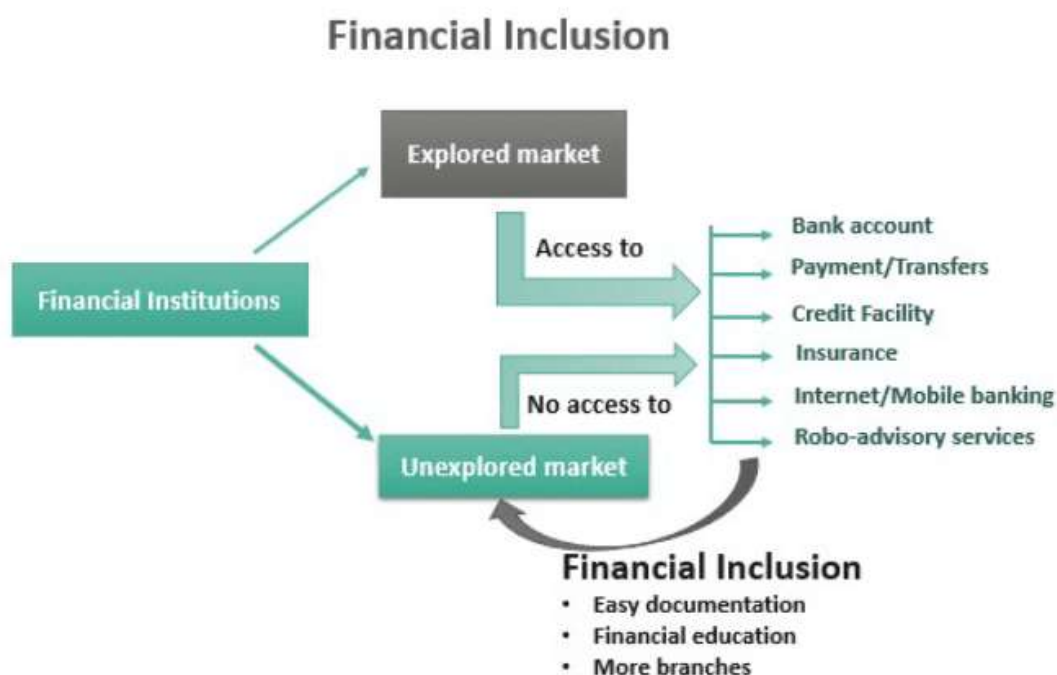
Digital banking services have been a complete disruption in the financial services industry. They have penetrative power that has influenced the lifestyle and living standards of millions of Indians. Mobile and internet banking services, UPI, IMPS, NEFT, and various other electronic modes of payments have made transactions seamless and convenient. The progressive initiatives on the policies on digital payments and alternate products taken by the Reserve Bank of India and National Payments Corporation of India have further given a much-needed fillip to the digital banking services ecosystem in the country. These services have resulted in reduced transaction costs apart from benefiting individuals, businesses, and organizations at large.

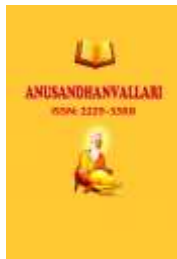
Theatrical Background

Financial inclusion was an essential practice in economic development, particularly during the twentieth century. Microfinance lending, rural banks, and cooperative institutions were an essential approach towards financial inclusion. Development schemes like Pradhan Mantri Jan Dhan Yojana and digital payment systems have improved the banking system.

The Financial Inclusion Theory is concerned with the importance of providing accessible and affordable financial services to all members of society. The theory is concerned with low-income households, rural populations, and small businesses. Financial services such as savings, credit, insurance, payments, and money transfers that are appropriate and promote financial inclusion and economic development are the center of this theory.

Financial inclusion refers to the convenience and use of affordable and accessible financial services and products to personalities and firms. It ensures the accessibility of a range of monetary services such as payments, savings, credit, and insurance and meets their needs. Its obtainability in digital banking includes electronic money and virtual payments using mobile phones





Financial Inclusion Theory presumes that the availability of formal financial services is a catalyst for economic growth and family well-being. The theory further presumes that accessible banks promote investment, entrepreneurship, and family saving schemes. In addition, the theory imagines that the use of technology in the financial system reduces transaction costs and geographic barriers. Financial literacy, consumer protection, and regulation also contribute to financial inclusion.

I would apply the Financial Inclusion Theory to assess the growth of digital banking in India. There is a significant rise in transaction volumes and values in the former. There is also a growing popularity of digital payment systems and a surge in PMJDY accounts. I will use this theory to demonstrate how technological innovations in the banking system can increase access to financial services, promote formal savings, and contribute to economic development.

Statement Of The Problem

Digital banking has become a crucial component of India's financial system, providing convenience and speed in monetary transactions. Mobile and internet banking have revolutionized the Indian banking system, offering many benefits to financial institutions, businesses, and consumers. Kumar and Sharma (2025). However, some issues hinder the adoption of digital banking and hinder India's ability to achieve a cashless economy. These issues include cybersecurity threats, online fraud, and the lack of digital literacy and internet penetration, and consumer resistance to technology, especially among older generations. It is vital to carry out a study to analyze the trends of digital transactions in India and how they contribute to financial inclusion and economic growth. Sivasubramaniyan et al. (2025) This is crucial for policymakers and managers to understand the overall impact of digital banking and promote its effective usage in the financial system.

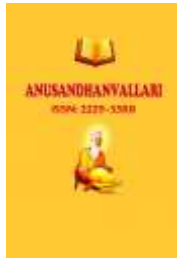
Objectives Of The Study

1. To discuss the growth, development, trends, and patterns of digital banking services and transactions in India using secondary data, with a focus on technological developments.
2. To identify the impact of digital banking on financial inclusion and economic growth and identify factors hindering the adoption of electronic payments and banking.

Review Of Literature

The exponential growth of digital banking in India has fascinated the consideration of many academics, policymakers, and banks. Preceding studies have focused on technological originations, digital payment systems, financial inclusion, and encounters in electronic banking.

Sathye (1999) studied the adoption of internet banking and identified factors that promote customers' usage of electronic financial services, including awareness, convenience, and technology. RBI publications have revealed the progress of India's payment system, including electronic channels, digital banking, and innovations that improved transaction efficiency and financial inclusion. Other researchers have investigated mobile banking implementation and determined such factors as supposed practicality, ease of use, security, and trust the growth of mobile banking. Amin et al. (2025) Educations on UPI have shown that it plays a significant role in encouraging financial transactions, supporting small-scale enterprises and accomplishing a cashless economy. However, issues such as cyber-security, digital literacy, and accessibility hinder the extensive adoption of microelectronic expenditures and investment. Despite the extensive body of research on various aspects of digital banking, there is a need to conduct a study on the overall growth and development of digital banking in India using secondary data. This will enable the researchers to generate a complete picture of the level of transactions, financial inclusion, economic growth, and challenges.



Methodology

The present study will use a descriptive and analytical research design to observe the growth and growth of digital banking services in India. The education will utilize secondary data sourced from RBI, Ministry of Finance, Government of India, Department of Financial Services, and PMJDY Progress reports. The scope will cover the period among 2016-17 to 2025-26 depending on the availability and veracity of digital operation data. The study will focus on analyzing India's digital banking transaction value and volume, technological innovations, and financial inclusion. The study will rely on secondary data, which depend on the availability of published reports, research journals, and unpublished data from the government and RBI, including annual reports, statistics, and financial data. Moreover, the researcher will use a percentage, growth rate analysis, trend analysis, and comparison to reveal the patterns and trends of digital transactions and their impact on financial inclusion and economic growth.

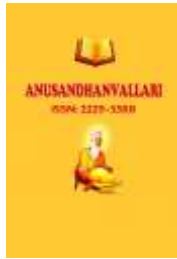
Result And Discussion

Table: 1 Growth Rate of UPI Transactions in India, 2016–17 to 2025–26

Financial year	Transaction volume (crore)	Volume growth rate (%)	Transaction value (₹ lakh crore)
2016–17	1.78	—	0.07
2017–18	91.52	50.42	1.10
2018–19	535.34	4.85	8.77
2019–20	1,251.86	1.34	21.32
2020–21	2,233.07	0.78	41.04
2021–22	4,596.76	1.06	84.18
2022–23	8,375.10	0.82	139.21
2023–24	13,116.47	0.57	199.87
2024–25	18,586.60	0.42	260.56
2025–26	24,162.00	0.30	314.23

Source: NPCI data as presented in the preceding table.

A table given below provides total number of digital banking transactions in India from 2016-17 to 2025-26. It can be seen from the table that the number of transactions increased drastically from 1.78 crore in 2016-17 to 24,162 crore in 2025-26. It is evident from the table that there is a growing trend of digital banking. It may also be noted that the value of transactions has also increased from ₹0.07 lakh crore in 2016-17 to ₹314.23 lakh crore in 2025-16. The number of transactions peaked at 535.34 crore in 2018-19 and touched 4,596.76 crore in 2021-22 and further climbed up to 18,586.60 crore in 2024-25 and finally reached 24,162 crore in 2025-26. Similarly, the value of transactions also rose consistently and peaked at ₹260.56 lakh crore in 2024-25. Thus, it can be concluded that the growth of digital banking in India is because of technological innovations like mobile apps, UPI, etc. and increased awareness about digital payments and has facilitated the evolution of India's payment system. However, it is surprising to see that the number of digital banking transactions has increased so much



and one would like to seek clarification on this because there is some inconsistency in numbers provided in the table.

Table 2: Trends in Digital Banking Transactions in India

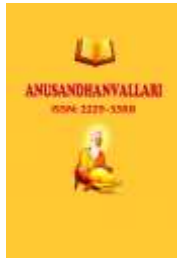
Financial year	Transaction volume (crore)	Transaction value (₹ lakh crore)	Volume growth (%)
2020–21	4,370.68	1,414.58	—
2021–22	7,197.68	1,744.01	64.68
2022–23	11,393.82	2,086.85	58.29
2023–24	16,443.02	2,428.24	44.31
2024–25*	18,120.82	2,330.72	10.20

Source: Ministry of Finance, Government of India. The 2024–25 figures are provisional data through January 2025.

The table 2 below depicts the trends in the digital banking transactions in India during 2020-21 to 2024-25. The transaction volume was grown from 4370.68 crore in 2020-21 to 7197.68 crore in 2021-22, which registered an increase of 64.68 per cent. Furthermore, the volume climbed up to 11393.82 crore and 16443.02 crore during 2022-23 and 2023-24, and the growth rates stood at 58.29 per cent and 44.31 per cent respectively. Finally, in 2024-25, the volume of transactions stood at 18120.82 crore, which recorded a rise of 10.20 per cent as on provisional basis. Similarly, the value of transactions too climbed up from ₹1414.58 lakh crore in 2020-21 to ₹2428.24 lakh crore in 2023-24, but dipped to ₹2330.72 lakh crore during 2024-25. Thus, it may be concluded that the digital banking transactions have immensely grown in India, wherein the growth rates however, declined in the study period. Besides, the rise in digital awareness, mobile banking platforms and easy payment facilities have complemented the increase. However, the figures for 2024-25 are on provisional basis and should be verified.

Table 3: Growth and development of Financial Inclusion complete Banking Services in India

S. No.	Financial Year / Reference Date	PMJDY Bank Accounts (Crore)	Deposits (₹ Crore)	Major Financial Inclusion Contribution
1	2016–17 (March 2017)	28.17	62,972	Enhanced access to basic bank accounts
2	2017–18 (March 2018)	31.44	78,494	Increased formal banking access
3	2018–19 (March 2019)	35.27	96,107	Greater participation in formal savings
4	2019–20 (March 2020)	38.33	1,18,434	Improved access to banking and transfers
5	2020–21	42.20	1,45,551	Supported access to digital benefit



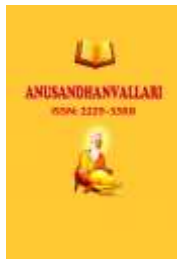
	(March 2021)			transfers
6	2021–22 (March 2022)	45.06	1,66,459	Expanded account ownership and savings
7	2022–23 (March 2023)	48.65	1,98,844	Strengthened formal financial participation
8	2023–24 (March 2024)	51.95	2,32,502	Broadened access to banking services
9	2024–25 (8 January 2025)	54.50	2,44,381	Expanded access to digital and government payment services
10.	2025–26 (1 July 2026)	58.63	3,08,333	Further expansion of formal banking access

Source: *Department of Financial Services, Government of India, PMJDY progress reports and Annual Report 2024–25.*

Table 3 presents the financial inclusion concerning Pradhan Mantri Jan Dhan Yojana for the period 2016–17 to 2025–26. By looking at the table, it can be observed that the number of bank accounts under PMJDY increased from 28.17 crore as of March 2017 to 58.63 crore as of 1st July 2026. On the other hand, the value of deposits rose to ₹3,08,333 crore as of July 2026 from ₹62,972 crore as of March 2017. Hence, it suffices to say that the inclusion approach accounted for the number of individuals who accessed formal banking services to increase significantly between 2016–17 and 2023–24. The number of accounts recorded 42.20 crore as of 2020–21 as compared to 51.95 crore accounts as of 2023–24. Therefore, a financial inclusion strategy is bound to play a crucial role in providing access to savings accounts as well as receiving government benefits through a formal banking channel. It is essential to make use of digital banking as well as mobile platforms and applications and electronic payment systems to boost access to financial services. Thus, the table implies that PMJDY has benefited the nation by increasing the number of bank account holders and contributing to their savings in a formal banking framework. However, it is recommended that the values pertaining to the year 2025–26 ought to be re-verified in the concerned official document prior to publishing the final version since it has a later reference date than all the other annual observations.

Role of Technological Progressions in Expanding Digital Banking Services

- ❖ **Internet Banking:** It mentions to a service provided by banks that allows clientele to conduct financial communications and manage money online without going to any bank branch.
- ❖ **Mobile Banking Applications:** These are apps that enable clients to perform all financial services operations such as checking their account balances, transferring money, and paying their bills.
- ❖ **Unified Payment Interface:** This is a real-time payment initiation service that enhances digital transactions.
- ❖ **Artificial Intelligence:** This technology can be used to offer intelligent virtual assistance to customers through chatbots and to provide personal finance services.
- ❖ **Machine Learning:** This is a unique way of detecting fraudulent activities such as fake account openings and risky transactions.



- ❖ Biometrics: This technology uses a person's fingerprint to offer better security features in a digital platform.
- ❖ Aadhaar Enabled Payment System: This is a method used by banks to promote financial inclusion, and it allows people to carry out basic banking operations.
- ❖ Cloud Computing: This process helps the banks to offer digital services to their customers.
- ❖ Digital Wallets: This is a digital wallet where customers can make cashless transactions to merchants.
- ❖ Real-Time Gross Settlement and National Electronic Clearing System: These are electronic fund transfer systems that enable banks to clear funds.
- ❖ Contactless Payment: These are payments made using Near Field Communication technology enabled wallets, phones, and cards.
- ❖ Cyber Security Technologies: These protect customers' data and finances from being vulnerable to external attackers.
- ❖ Application Programming Interface: This provides secure access to the customer's financial service providers through their digital application.
- ❖ Digital Infrastructure: This reduces the need for physical bank branches while at the same time increasing the percentage of digital customers.
- ❖ Financial Inclusion: The technology has the potential of increasing financial inclusion in remote areas.

Finding Of The Study

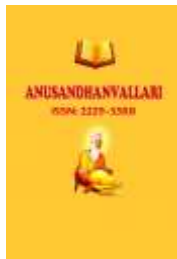
As per the instruction, the number of digital banking communications has grown from 1.78 crore in 2016-17 to 24,162 crore in 2025-26, whereas their value has increased from ₹0.07 lakh crore to ₹314.23 lakh crore, suggesting a big leap in digital banking transactions as well as the significant role of digitization creativities in India's digital economy.

As per the study, the number of digital banking communications has increased in absolute terms from 4,370.68 crore in 2020-21 to 18,120.82 crore in 2024-25, but their YoY growth rate has come down from 64.68 per cent in 2021-22 to 10.20 per cent in 2024-25, indicating that while the business volumes are current to rise steadily, their development rate is coming down.

As per the study, PMJDY accounts have augmented from 28.17 crore as of March 2017 to 58.63 crore as of 1 July 2026, while payments have risen from ₹62,972 crore to ₹3,08,333 crore, which indicates the outreach of proper banking services as well as the important role of financial enclosure schemes in mobilizing deposits as well as increasing convenience to digital banking services in India.

Suggestions And Recommendations

- ❖ There is a need to bolster digital banking or at least improve existing digital banking infrastructure in order to promote easy accessibility to banking services across India.
- ❖ Banks should improve their digital security system to avoid online frauds and hacking of banking systems.
- ❖ There is a need to organise digital literacy campaigns on digital banking services.
- ❖ The government must take initiatives to provide internet services and mobile network connections in rural and remote areas so that they can have access to banking services.
- ❖ Banks should come up with mobile apps that have a good interface and are user-friendly. They should also be available in other languages.
- ❖ There is a need for banks to adopt new technologies like artificial intelligence, machine learning etc. to improve and boost their digital banking services.
- ❖ Banks should put in place a proper and efficient system that protects the personal data of their customers.



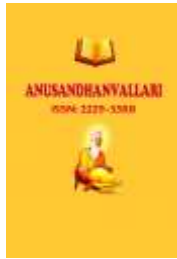
- ❖ The government should promote the use of UPI and other digital platforms to help increase the rate of cashless payments.
- ❖ Banks must put in place a responsive complaint handling system or grievance redressal system that handles complaints from customers and resolves transaction errors promptly.
- ❖ The Reserve Bank of India and the banks should promote cost-effective and inclusive digital banking services that are sustainable in order to promote economic growth.

Conclusion

Digital banking has become a crucial phenomenon for the financial inclusion, technological advancement, and economic growth of the country. The study demonstrates the significant increase in the number of digital banking transactions in terms of value and volume with the help of technologies, such as mobile banks, UPI, internet banking, and electronic payment methods. Besides, there is also observed significant growth in jan dhan accounts and deposits under PMJDY. It means that banking activities are increasingly being digitized in India. On the one hand, this tendency minimizes the need for visiting bank branches and provides more convenience and accessibility for customers in terms of money and time spent on transactions. On the other hand, there are still security issues, such as online fraud and hacking, which need to be addressed for ensuring the sustainable growth of banking activities in India. It is also essential to promote financial literacy, especially among the low-educated population, so that people can safely use the Internet and digital tools for making financial transactions. Moreover, the issue of digital literacy and access should also be addressed to ensure that all social groups have equal opportunities in using digital banking services. To sum up, the study demonstrated that India has great potential in terms of technology-enabled banking transactions, such as UPI and mobile payments. Nevertheless, the sustainable development of this field requires significant improvements in terms of financial inclusion and security.

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