

Mobile Banking as A Tool of Digital Transformation and Financial Inclusion in India

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Abstract

Mobile banking has become one of the most powerful drivers of digital transformation of banking sector and financial inclusion in India; it is reshaping millions of people access and use financial services. It represents a paradigm shift in India's financial ecosystem, moving away from traditional branch-based banking to mobile-first experiences. With the rise of smart phones, affordable internet, banks and financial technology firms have leveraged mobile platforms to deliver services such as immediate fund transfers, bill payments, deposits, micro investment and micro-lending. This transformation in Indian banking sector has been accelerated by innovations like Unified Payments Interface (UPI), which has enabled seamless, real-time transactions across banks and apps. This paper attempts to study the effects of mobile banking as a tool of digital transformation and financial inclusion in India. The study found very high CAGR of mobile subscriber, volume and value of mobile banking transaction respectively 103.70%, 108.90% and 122.25% for the period of 2010 to 2025. This reveals that mobile banking demonstrates strong positive effects on digital transformation of banking sector and achieving financial inclusion in India.

Keywords: Mobile Banking, Financial Inclusion, digital transformation, growth, bank

INTRODUCTION

Mobile banking has become one of the most powerful drivers of digital transformation of banking sector and financial inclusion in India; it is reshaping millions of people access and use financial services. It represents a paradigm shift in India's financial ecosystem, moving away from traditional branch-based banking to mobile-first experiences. With the rise of smart phones, affordable internet, banks and financial technology firms have leveraged mobile platforms to deliver services such as immediate fund transfers, bill payments, deposits, micro investment and micro-lending. This transformation in Indian banking sector has been accelerated by innovations like Unified Payments Interface (UPI), which has enabled seamless, real-time transactions across banks and apps. The Reserve Bank of India is also adopted mobile banking as a strategy to achieve inclusive growth through financial inclusion. As digital transformation continues, mobile banking will remain central to achieving universal financial inclusion and empowering citizens across diverse socio-economic backgrounds.

Meaning & Definitions of Mobile Banking:

Mobile banking is an online service offered by banks and financial institutions, enabling customers to

conduct financial transactions using mobile devices such as phones, tablets, and smart phones when computer access is unavailable.

Donner & Tellez, (2008) states that “the terms m-banking, m-transfers m-payments and m-finance refer collectively to asset of applications that enable people to use their mobile telephones to manipulate their bank accounts, store value in an account linked to their handsets, transfer funds or even access credit or insurance products.”

Wessels & Drennan, (2010); Laukkanen, (2007) states that “Mobile banking, the latest technological advancement embraced by the retail banking sector, has seen a remarkable growth due to the development of wireless communication technology and internet services”. They have given importance to development of wireless internet services.

Ivatury, Gautum (2008) states that “Mobile Banking has the great potential to extend the financial services to poor people who are not reached by traditional bank branch networks as it lowers the cost of delivery, including costs both to banks of building and maintaining a delivery channel and to customers of accessing services”.

History of Mobile Banking in India

The traces of development of Mobile banking in India has its roots in the early 2000s when the Reserve Bank of India started taking initiatives to introduce technology-driven banking services in India. The evolution of mobile banking has been started by introduction of SMS Banking (1990s), initially it allowing customers to receive alerts about their account activity. Then it is followed by introduction of WAP and Browser-Based Services in early 2000. It enables customers to access their accounts through mobile web browsers. Then development of Mobile Apps revolutionized mobile banking. Banks began to offer dedicated mobile apps, providing customers with a user-friendly interface for a wide collection of banking services. In 2002, ICICI Bank became the first private sector bank to launch mobile banking services. Later this innovation is adopted by the largest public sector bank of India State Bank of India in 2004, it introduced its mobile banking services, expanding the reach of digital banking to a wider customer base. Thereafter, various banks in India continued to roll out their mobile banking services, allowing customers to perform a range of transactions including fund transfers, bill payments, and checking account balances.

The introduction of 3G technology in India played a pivotal role in enhancing the capabilities of mobile banking. Faster internet speeds enabled more sophisticated mobile banking applications. It helps to start services like mobile wallets, payment apps, and even crypto currency platforms. In 2014 The RBI set up a Technical Committee to study the feasibility of using Unstructured Supplementary Service Data (USSD) as a channel for mobile banking. This further expanded the accessibility of mobile banking services in India. The demonetization drive in India in 2016 led to a pitch in digital payments and cashless economy it accelerated the adoption of mobile banking services. The introduction of Unified Payments Interface (UPI) in 2016 revolutionized digital payments in India. Many mobile banking apps integrated with UPI, making it even easier for customers to make payments and transfers. The COVID-19 pandemic further emphasized the importance of digital banking services.

Mobile banking saw a surge in usage as customers sought safer alternatives to physical banking. It is very advantages to both customers and banks. It reduces transaction cost by eliminating the need for couriers, paperwork, and extensive communication. It also saves costs of branch setup and manpower requirements for transaction processing. It establishes direct interaction between banks and customer

feedback. It promotes financial inclusion among unbanked population. Mobile banking helps operators attract new customers and create strategic marketing differentiators in a competitive landscape. It enhanced security by sending notification via SMS and email regarding payments and bill dues. It provides round-the-clock access to banking services, without any time constraints, meeting consumer needs whenever they arise. These benefits collectively highlight the significant impact of mobile banking on the banking industry, economy, and the overall customer experience. Overall mobile banking improves the access, availability and usage of financial services.

Objectives of the study

1. To study the growth of Mobile Banking in India.
2. To examine the impact of Mobile banking and on digital transformation of banking sector and financial inclusion in India.
3. To evaluate the challenges for Mobile banking in India.

Methodology of the study

The present study is descriptive and analytical in nature. The study is based on secondary data compiled from official reports, including the Handbook of Statistics on the Indian Economy and publications from the Reserve Bank of India (2025). MS - Excel is used to prepare tables and graphs for the analysis. Simple statistical tools namely growth rate, CAGR, and Percentage used to analyse the data.

Review of literature

Kopala, M. R. (2010) studies an overview of mobile banking in India. The researcher study is based on the secondary data. author found that the major issue faced by regulatory authorities for Indian mobile banking market was ensuring KYC and core banking systems by services providers, increase the trust through technology because it is carried out by a non-banking agent, one comprehensive application for all mobile handsets, and narrow range of agents as compared to successive models like Kenya, Philippines mobile banking models.

Muthu, S. S., & Kadarasane, T. (2013) analyses the progress of Mobile Banking in India and the customer's perception and driving forces of usage of Mobile banking in India. The study reveals that 82.93 percent of the mobile banking customers were in the age group of below 25 years. 95.93 percent of the customers are postgraduates in the study area. Garrett's ranking technique reveals that major reasons for using mobile banking service is to get instant and immediate information (mean score 68.75) followed by time saving (mean score 53.85), and effortless show (mean score 50.11). Explorative factor analysis showed that convenience, 24x7 flexible services, speed and quick financial decision were the major factors determining customer's perception to use mobile banking services.

Evans, D. S., & Pirchio, A. (2014) author explore the factors that contributes to success or failure of mobile money schemes in developing countries. The empirical study is based on secondary data of 22 developing countries. Author found that out of 22 developing countries mobile banking schemes ignited growth strongly in Bangladesh, Cote D'Ivoire, Kenya, Rwanda, Somaliland, Tanzania, Uganda, and Zimbabwe. In Ghana, Philippines and Pakistan it ignited but growth is slower, in Burkina Faso, Haiti, India, Madagascar, Mexico, Nigeria and in south Africa mobile banking is failed to ignite growth and in Congo and Srilanka it is too early to assess ignition. In India, active users as percent of mobile phone users is 1.2 percent, registered users as percent to adult population is 14.5 percent and agents per 10,000

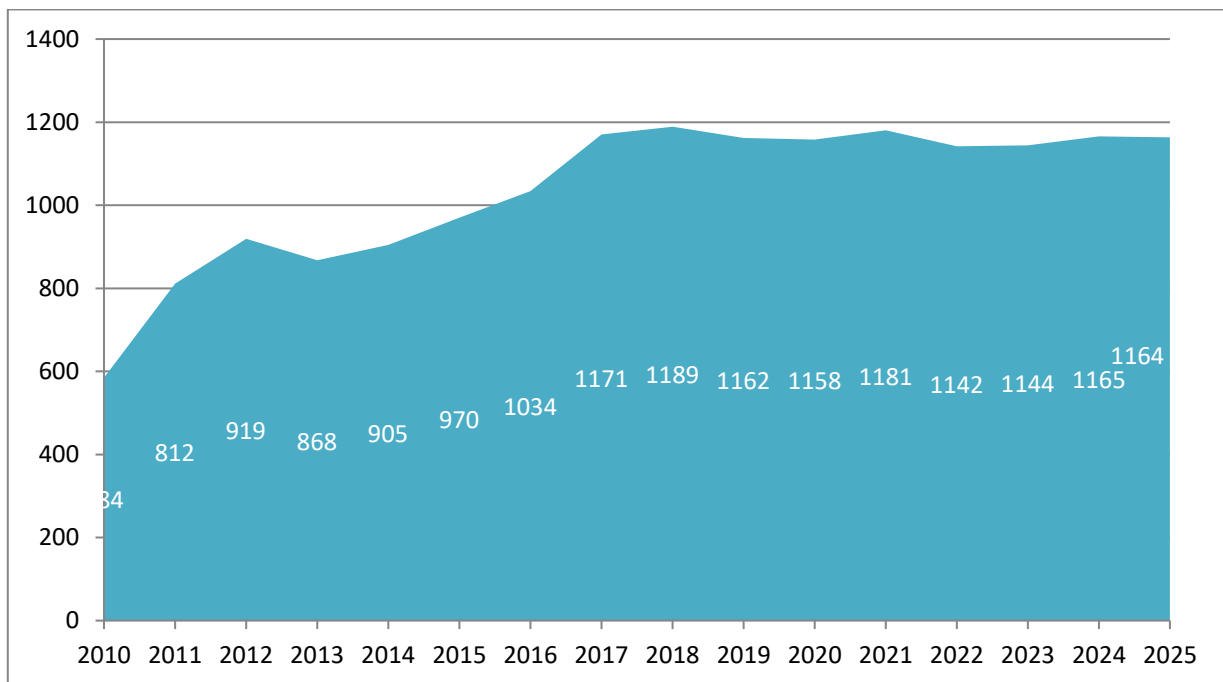
adults is 1.86 percent in 2014.

Digital transformation in India’s financial sector is anchored in the spread of mobile banking, internet banking, and interoperable payment systems such as the Unified Payments Interface (UPI). Evidence from macro- and micro-level studies indicates that mobile and app-based channels significantly enhance access and convenience, especially for rural and low-income users who face geographic and informational barriers (Gupta, 2021; Tikku, 2023; Ingale, 2024).

Empirical work has shown that mobile banking adoption is positively associated with financial inclusion outcomes in India and other emerging economies, by enabling low-cost transactions, on-demand account access and flexible savings mechanisms (Khatun, 2024; Tikku, 2023). Studies focusing on UPI document that the growth in UPI transaction volume and value is strongly correlated with improvements in the FI-Index, suggesting that interoperable, real-time payment infrastructure can accelerate inclusive financial deepening (Bhavsar, 2022; Data-Driven FinTech and Inclusion Study, 2025).

Progress of Mobile subscribers in India

Number of Mobile subscribers in India



Source: TRAI various annual report 2010-2025

The above table shows the number of mobile subscribers in India. In 2010 number of mobile subscribers is 584.32 million. This is increased to 1163.76 million in 2025. Compound Annual Growth Rate (CAGR) for the above period is 103.70%, which is very high for the above said period. The growth of mobile subscriber is very high between the years 2010 to 2017 but, the growth rate of mobile subscribers is almost stagnating after the year 2017 to 2025. This is due to the fact of variation in the active mobile subscribers.

Rapid growth in Mobile phone users in India created the huge opportunities for banking sector to develop an alternate channel of delivery of banking services which can help to extend financial inclusion in India. Indian telecom industry is the second largest in the world in terms of number of subscribers (TRAI annual report 2016). Introduction of low cost internet services mobile network providers will

open a door for many new online platforms, online services in India. Banking sector also with the help of internet banking facility and UPI system through many Mobile applications introduced many banking service to youths, small customers especially the underprivileged sections of the society of India.

Progress of Mobile Banking in India

Table No. 1 Volume of Mobile Banking Transactions

Year	Volume (in Rs million)	Growth rate
2010	0.27	-
2011	1.05	285.13
2012	3.12	198.22
2013	6.40	104.96
2014	10.74	67.79
2015	19.76	83.96
2016	49.48	150.42
2017	113.65	129.70
2018	239.90	111.09
2019	872.93	263.87
2020	1383.03	58.44
2021	3297.15	138.40
2022	5163.63	56.61
2023	8164.87	58.12
2024	12862.56	57.54
2025	17117.42	33.08
CAGR		108.90%

Source: compiled from various RBI reports (2011-2025)

The above table depicts the volume of mobile banking transactions during March 2010 to march 2025. The volume of mobile transactions is very less which is 0.27 million in 2010. In 2025 the volume of mobile banking transactions increases to 17117.42 million, which is a drastic change in mobile banking transactions. Especially during 2019 to 2025 the number of mobile transactions increases tremendously. The volume growth rate of mobile transactions during these years is very high, each year registering triple and double digit growth rate. CAGR for the period is 108.90% which shows that the volume of mobile transactions is tremendous in these years and driving the way for digitalization of banking sector. Increasing volume of mobile banking transactions shows that mobile banking is securing important place in banking transactions. Customers prefer mobile banking rather than visiting bank branches.

Table No. 02 Value of Mobile Banking Transactions

Year	Value (in Rs billion)	Growth rate
2010	0.24	-
2011	0.85	258.22
2012	2.33	174.77

2013	9.92	326.58
2014	34.07	243.48
2015	169.14	396.43
2016	572.80	238.66
2017	1730.88	202.18
2018	1415.03	-18.25
2019	4401.53	211.05
2020	5201.99	18.19
2021	12462.20	139.57
2022	15739.95	26.30
2023	22500.94	42.95
2024	31319.61	39.19
2025	37696.71	20.36
CAGR		122.26%

Source: compiled from various RBI reports (2010-2025)

The above table shows the value of mobile banking transactions during the period of 2010 to 2025. The value of mobile banking transaction is very small in that is 0.24 billion in 2010. This is increased to 37696.71 billion in the year 2025. It shows that there is rapid growth of value of mobile banking in these years. Especially after 2018 it shows very high growth in value of mobile banking transactions. During this period value of mobile banking transaction CAGR is 122.25%, which is higher than its growth in volume. The high rate of CAGR confirms that the customers having mobile phones with internet facility preferring banking transactions through mobile phones. Mobile banking made banking transactions easy, safe and time saving. Therefore, the new generation young customers are doing cashless transactions through mobile phones. It may be transferring money, checking account balance, keeping an eye on bank transactions, bill payments, purchasing insurance etc.

Findings of the study

The major findings of the study are as follows;

- The number of mobile subscribers in India is increased from 584.32 million to 1163.76 million during the study period 2010 to 2025.
- Compound Annual Growth Rate (CAGR) for the study period 2010 to 2025 is 103.70%.
- The volume of mobile transactions is very less which is 0.27 million in 2010. In 2025 the volume of mobile banking transactions increases to 17117.42 million.
- During 2019 to 2025 the number of mobile transactions increases tremendously. CAGR for the period is 108.90%.
- The value of mobile banking transaction is very small in that is 0.24 billion in 2010. This is increased to 37696.71 billion in the year 2025.
- After the year 2018 the growth rate of value of mobile banking transactions is very high.
- The CAGR for the period 2010 to 2025 is 122.25%, which is higher than its growth in volume of mobile banking transactions.

Conclusion

This study reveals that mobile banking demonstrates strong positive effects on digital transformation of banking sector and achieving financial inclusion in India. The high rate of CAGR of mobile subscribers and volume and value of mobile banking transaction is clear evidence for the same. There is a need of strong policy relevance by identifying digital pathways capable of accelerating inclusive finance aligned with national priorities and global development goals.

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