

The Digital Banking Revolution in India: How Retail Customers and Banks Are Interacting in the Digital Era

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ABSTRACT

The digital banking revolution has driven a revolutionary transformation in India's banking sector. This change, which modifies the nature of interactions with financial institutions, is the consequence of several factors coming together, including growing smartphone usage, extensive coverage of mobile networks, incorporation of cutting-edge digital technologies, and proactive government initiatives.

The study employed a descriptive research design to examine the digital banking revolution in India and comprehend the interactions between retail customers and banks. The development of digital banking in India was covered by secondary data that was obtained from financial reports, industry publications, government publications, and scholarly journals. Potential biases in chosen data, differences in data collection techniques, and the intrinsic lack of control in secondary data analysis were among the limitations.

The paper traces the history of digital banking in India, starting with ATMs in the 1980s and ending with the revolutionary Unified Payments Interface (UPI) in 2016. Analysis is done on the variables influencing the growth of digital banking, including rising smartphone adoption, wider mobile network coverage, and government initiatives.

An in-depth analysis of two government initiatives, e-KYC and UPI, demonstrates their revolutionary potential to advance financial inclusion, streamline account opening procedures, cut expenses, and broaden financial accessibility. The integration of e-KYC and UPI has significantly altered the digital banking environment in India, promoting uptake, enhancing financial literacy, and quickening economic expansion. These initiatives have the potential to significantly influence how banking and financial services are shaped going forward, especially as India moves closer to becoming a digital economy.

KEYWORDS: Digital Banking, Retail Customers, Mobile Banking, Internet Banking.

INTRODUCTION

India has been completely engulfed in the digital banking revolution, which has changed how regular people communicate with banks. A number of factors have come together to drive this change, such as

the increasing use of smartphones, the coverage of mobile networks expanding, the introduction of cutting-edge digital technologies, and encouraging government initiatives.

Background

India's retail banking industry has historically been defined by a brick-and-mortar model, where clients come to physical branches for all of their banking needs. However, many people found this approach to be time-consuming, inconvenient, and unreachable, especially those who lived in rural areas.

This environment has completely changed with the introduction of digital banking, which gives users access to banking services around-the-clock, from any location. Mobile banking, online banking, and online payment platforms are just a few of the many services that fall under the umbrella of digital banking.

LITERATURE REVIEW

- **Cnaan, R. A., Scott, M. L., Heist, H. D., & Moodithaya, M. S. (2023)**, Social and financial inclusion remained entwined in the digital age. Ensuring marginalised groups weren't left out was critical as personal financial transactions transitioned from cash to digital platforms. One nation that has adopted cashless societies is India, which was used as a case study. When they surveyed 3,159 households in seven states and looked at rural villages that had been declared cashless, they discovered that both cashless and comparison villages had very little digital banking. There were notable differences between states, and the two main predictors were internet access and financial literacy. The study highlighted the risk of excluding marginalised populations in the pursuit of cashless societies and cautioned against making hasty moves towards digital banking.
- **Haralayya, B. (2021)**, In the past, banking required a lot of time. Clients had to use paper records to keep track of their banking history or transactions. But by then, digitalization had made paperless banking a reality for everybody. The development of technology has been a key factor in the expansion of the Indian banking industry. In response to rising customer demands, banks have created cutting-edge goods and services to guarantee client happiness. Products, services, and banking operations have all been redefined by digitalization. Consumers could transact more quickly, accurately, and conveniently while operating smoothly. It had changed how banks interacted with their clientele. 2020 made clear how urgently all industries must adjust to digital technologies as soon as possible.
- **Naskar, D. (2021)**, Every economy depends on the banking industry, which orchestrated economic reforms that had a significant impact on a number of sectors. Modest adjustments made in this area had an impact on the whole economy. Economic growth was greatly impacted by the adoption of technology and the digitalization of banking that followed. Recognising the change, banks looked for creative ways to provide a range of services in response to consumers' unwillingness to wait in queue for basic services, whether they were corporate or retail. Products like UPI, plastic money, electronic fund transfers, and mobile banking were introduced with the intention of increasing convenience and reducing the risks that come with cash transactions and corruption. The study examined trends, opportunities, and challenges in the field of digital banking as it emerged in the Indian economy.

RESEARCH QUESTION

1. What are the key milestones that have shaped the historical development of Digital Banking in India?
2. What are the major elements contributing to the rapid growth of digital banking adoption among retail customers in India?
3. How effectively do government programs, such as UPI and e-KYC, advance the use of digital banking and contribute to financial inclusion?

OBJECTIVES

1. To trace the historical development of Digital Banking in India and pinpoint the key milestones that shaped its development.
2. To find out the major elements that has contributed to the rapid growth of Digital Banking adoption among Retail Customers in India.
3. To analyse how well Government Programs—like UPI and e-KYC—advance the use of Digital Banking and Financial Inclusion.

RESEARCH METHODOLOGY

- **Research Design:** To fully examine India's digital banking revolution and comprehend the interactions between banks and retail customers in the digital age, the study used a **Descriptive Research Design**. The design facilitated a methodical analysis of the secondary data sources that were already in place.
- **Data Collection:** Secondary data was gathered from a range of reliable sources, such as government publications, financial institution reports, industry reports, and academic journals. The data encompassed the timeframe from the inception of noteworthy advancements in digital banking in India to the latest information that is currently accessible.
- **Limitations:** Potential biases in the secondary data that were chosen, differences in data collection techniques between sources, and the inherent lack of control over the research design and data collection procedures in secondary data analysis were some possible limitations. Here only two Government Programmes were analysed that is UPI and E-KYC.

TRACKING INDIA'S REVOLUTION IN DIGITAL BANKING: A JOURNEY

India's experience with the digital banking revolution has been amazing, characterised by creativity, flexibility, and a never-ending quest for financial inclusion. Digital technologies have completely changed how Indian customers engage with their banks, starting with the introduction of automated teller machines (ATMs) in the 1980s and progressing to the widespread acceptance of mobile banking and e-payments in recent years.

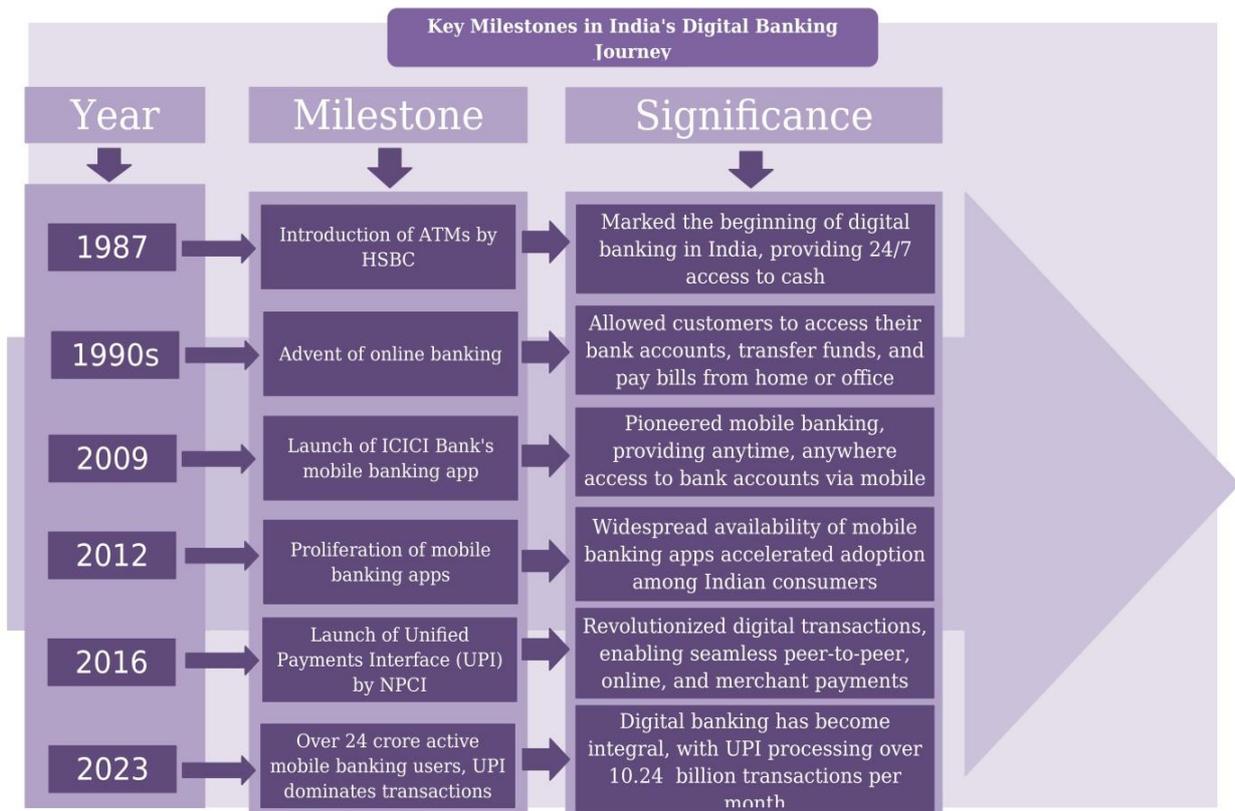


Figure 1: Key Milestones in India's Digital Banking Journey

Source: Created by Author & Co-Author

1. The First Moves: Creating the Conditions for Online Banking

When HSBC introduced ATMs in 1987, the roots for India's digital banking journey were laid in the 1980s. After being viewed as unique at first, these devices progressively acquired popularity and became commonplace in cities. The introduction of personal computers and the internet in the 1990s made it possible for online banking, which was first made available by a small number of private banks.

2. The Dawn of a New Era: The Rise of Electronic Banking

There has been a notable change in India's digital banking scene since the year 2000. With the establishment of the National Informatics Centre (NIC) in 1987 and the introduction of programmes like Electronic Fund Transfer (EFT) and Electronic Clearing Service (ECS), the Reserve Bank of India (RBI) was instrumental in advancing electronic banking. These actions established the framework for a banking system that is more integrated and effective.

3. The Revolution of Mobile Banking: Easy Access to Banking

In India, the widespread use of smartphones has created new opportunities for digital banking. An important turning point in the adoption of mobile banking occurred in 2009 with the launch of ICICI Bank's mobile banking app. The majority of big banks had created their mobile banking apps by 2012, giving users easy access to their accounts whenever and wherever they choose

4. The Game-Changer: The Unified Payments Interface (UPI)

The Unified Payments Interface (UPI), an instantaneous real-time payment system that transformed digital transactions in India, was introduced by the National Payments Corporation of India (NPCI) in 2016. Peer-to-peer payments, online payments, and merchant transactions were all made easy with UPI's ease of use, interoperability, and security.

5. The Digital Banking Landscape Today: A Force for Financial Inclusion

These days, digital banking is a crucial component of India's financial system. With over 24 crore active users nationwide, mobile banking has surpassed internet banking in terms of usage. UPI, which processes more than 10.24 billion transactions monthly, has emerged as the go-to payment method for digital transactions.

Millions of previously unbanked and underbanked people now have access to banking services thanks to digital banking, which has been instrumental in advancing financial inclusion. For underprivileged communities, the advent of Aadhaar-linked banking has made opening an account and obtaining financial services even easier.

FACTORS DRIVING THE RAPID GROWTH OF DIGITAL BANKING ADOPTION AMONG RETAIL CUSTOMERS IN INDIA

A number of factors have come together to explain the explosive rise in digital banking adoption among Indian retail customers, including:

1. **Increased Smartphone Penetration:** The adoption of digital banking has been greatly aided by the widespread availability and affordable cost of smartphones. Customers can now conveniently manage their finances from anywhere at any time thanks to smartphones, which have become the primary means of internet access.

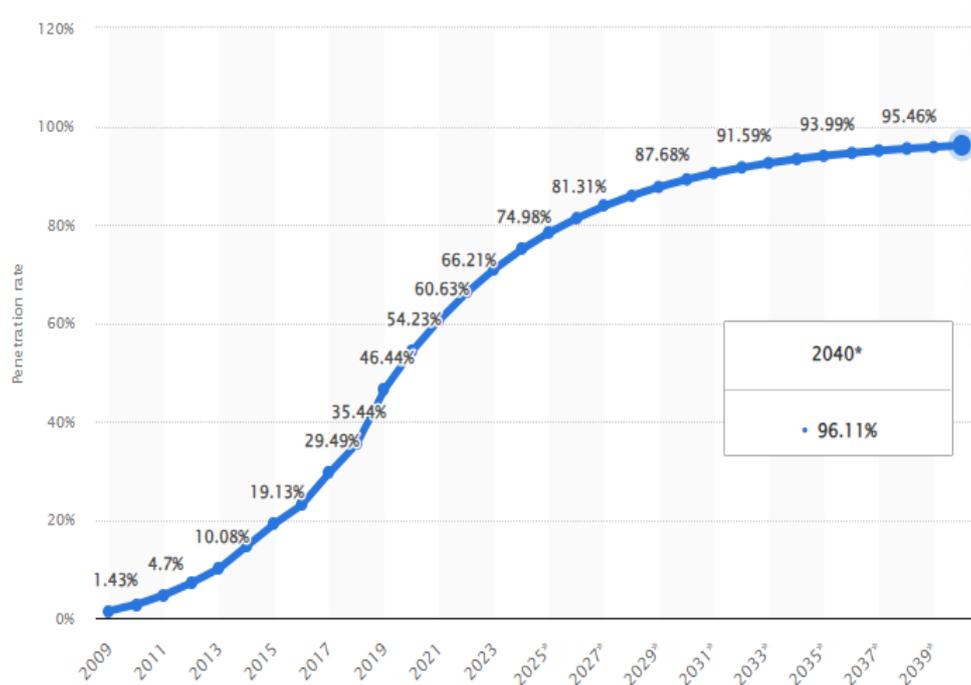


Chart 1: Smartphone Penetration Rate in India from 2009 to 2023 (with estimates until 2040)

Source: Statista 2023

- 2. Increasing Mobile Network Coverage:** The rise of digital banking has been further stimulated by the increase in mobile network coverage, especially in rural areas. Customers can now more easily access digital banking services, even in remote areas, thanks to dependable and reasonably priced internet connectivity.
- 3. Government Initiatives:** The Unified Payments Interface (UPI) and the Aadhaar-linked e-KYC (electronic know-your-customer) process are just two examples of the numerous initiatives the Indian government has launched to promote digital banking. Banking is now more easily accessible and convenient thanks to these initiatives, which have also streamlined account opening, improved the security of digital transactions, and unified the payments ecosystem.

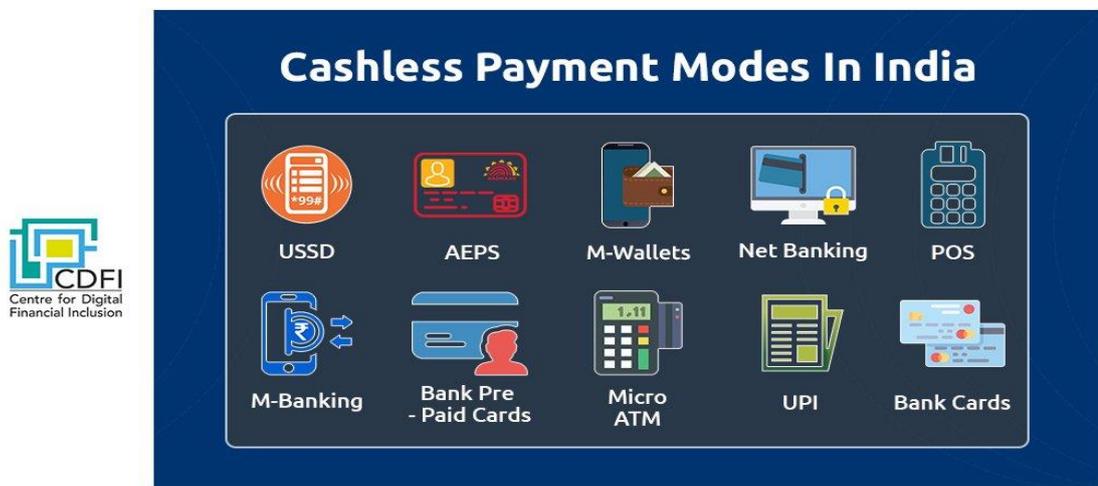


Figure 2: Cashless Payments Modes in India

Source: Google Image

- 4. Expanding Acceptance of Digital Payments:** The uptake of digital banking has been greatly aided by the advent of digital payments. A growing number of consumers are using digital banking platforms to pay bills, transfer money, and make payments due to their preference for cashless transactions.
- 5. Improved User Experience:** Banks have made significant investments to improve the security, usability, and intuitiveness of their mobile banking apps. Customers are now more inclined to use digital banking and handle their money more skillfully as a result.
- 6. Financial Inclusion:** By reaching underbanked and unbanked people, especially in rural areas, digital banking has been instrumental in advancing financial inclusion. Millions of people who were previously shut out of traditional banking channels can now access financial services thanks to the ease of use and accessibility of digital banking.

Report	Financial Inclusion Index
The annual FI-Index for the period ending March 2022	56.4
The annual FI-Index for the period ending March 2023	60.1

Table 1: Financial Inclusion Index

Source: Reserve Bank of India Press Release

7. **Technological Developments:** Banks are now able to provide more individualised, safe, and creative digital banking services thanks to developments in artificial intelligence (AI), machine learning (ML), and blockchain technology. Adoption has increased and customer satisfaction has increased as a result.
8. **Marketing and Awareness Campaigns:** To inform consumers about the advantages and security of digital banking, banks and other financial organisations have launched significant marketing and awareness campaigns. These advertisements have aided in debunking myths and promoting adoption among a larger pool of clients.



Figure 3: Digital Banking Marketing and Awareness Campaigns Posters

Source: Google Image

Here, the Driving Forces of Digital Adoption have been classified within the different major factors to better understand it. Like whatever area is in light blue colour, it tells the Technological Infrastructure, while the light green colour area tells Policy and Regulatory Environment. Whereas dark blue colour indicates the Socio-Economic and Demographic Factors, purple colour shoes Banking Industry Response and Innovation and tan colour indicates Customer Experience and Demand Factors.

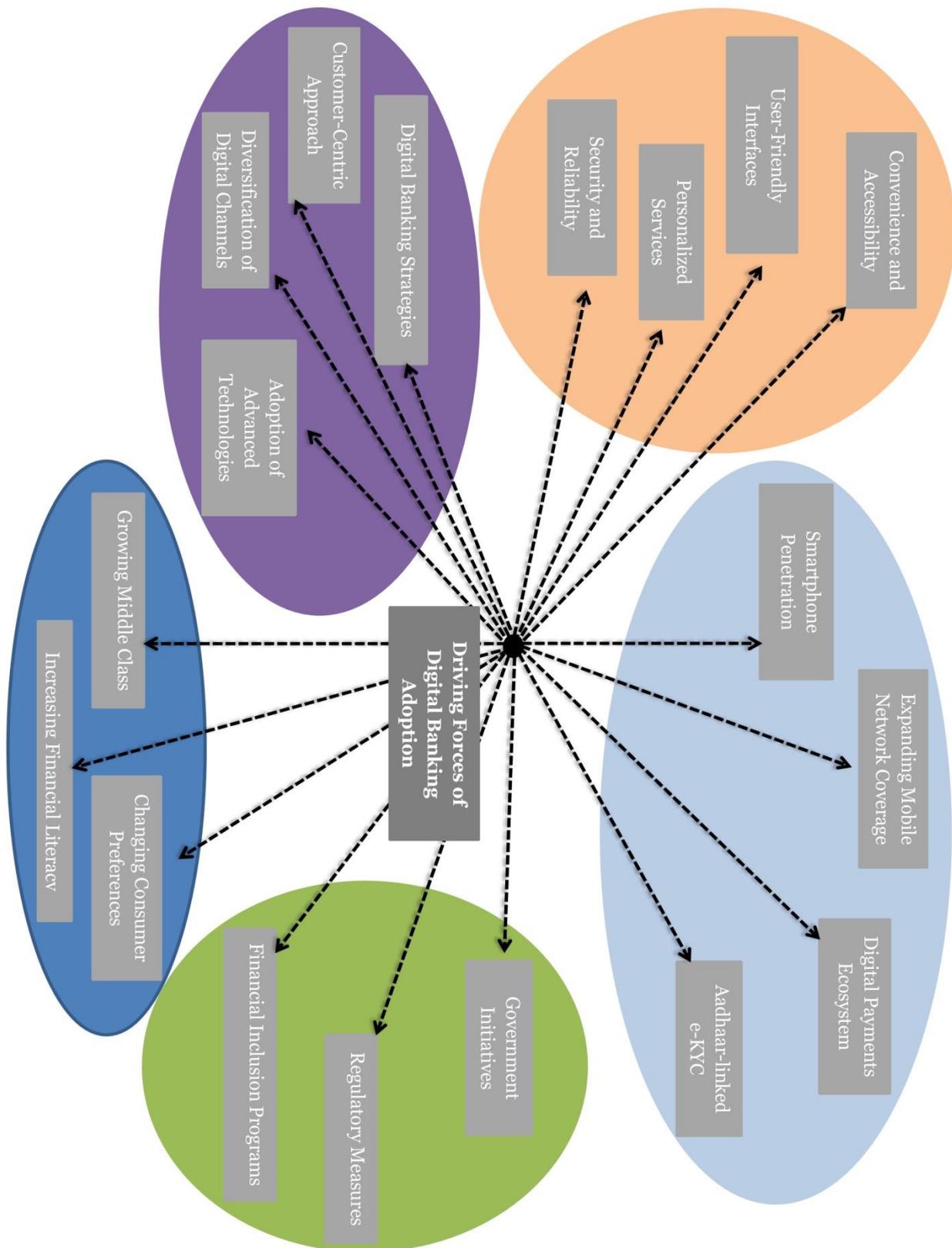


Figure 4: Factors Driving the Rapid Growth of Digital Banking Adoption among Retail Customers

Source: Created by Author & Co-Author

ANALYSIS OF THE IMPACT OF GOVERNMENT PROGRAMS: UPI AND E-KYC ON DIGITAL BANKING AND FINANCIAL INCLUSION

Electronic know-your-customer (e-KYC) and the United Payment Interface (UPI) are two important government initiatives that have advanced digital banking and financial inclusion in India.

United Payment Interface (UPI):

- ❖ **Makes payments easier:** Users can send money, make payments, and settle transactions between bank accounts with UPI, an instantaneous real-time payment system. The ease of use and compatibility of this product have greatly increased its popularity among Indian customers.
- ❖ **Encourages digital transactions:** Contactless and secure payments for online shopping, bill payment, peer-to-peer transfers, and merchant transactions are now possible in India thanks to UPI, which has completely transformed digital transactions in the country.
- ❖ **Promotes financial inclusion:** The unbanked and underbanked have been assiduously brought into the formal financial system thanks in large part to UPI. It is a good substitute for traditional banking channels because of its accessibility and ease of use, especially in rural areas.

Year	No. of Banks live on UPI	Volume (in Mn)	Value (in Cr.)
2023*	505	11,408.79	17,15,768.34
2022	382	7,829.49	12,82,055.01
2021	282	4,566.30	8,26,848.22
2020	207	2,234.16	4,16,176.21
2019	143	1,308.40	202,520.76
2018	129	620.17	102,594.82
2017	67	145.64	13,174.24
2016*	35	1.99	707.93

Table 2: Quantitative Data on UPI

Source: NPCI

- In Year 2023 Data were gathered up to October 2023.
- In Year 2016 Data were gathered April 2016 onwards.

Electronic know-your-customer (e-KYC):

- ❖ **Simplifies account opening:** By utilising Aadhaar, the national digital identity system, e-KYC has made the process of opening an account for digital banking services easier. This has facilitated people's access to financial services by doing away with the requirement for hard copy documentation and in-person verification.
- ❖ **Lowers costs and fraud:** Compared to traditional paper-based KYC procedures, e-KYC has eliminated the associated costs and inefficiencies. Digitally validating address and identity information has also improved customer onboarding security and dependability.
- ❖ **Increases financial reach:** E-KYC has made financial services more accessible to groups that were previously underserved, especially those living in rural areas. Financial inclusion has been facilitated

by its ability to onboard new customers more securely and efficiently by banks and other financial institutions.

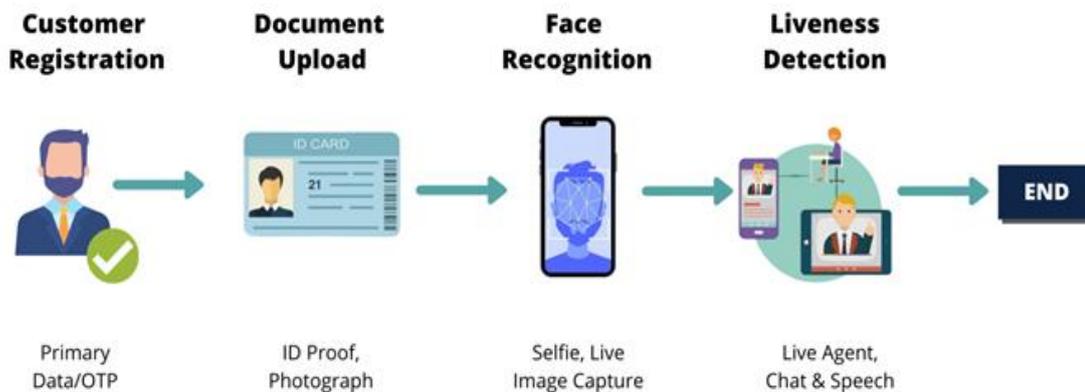


Figure 5: E-KYC Process

Source: Google Image

Combined Impact

The synergy between UPI and e-KYC has been so potent that it has completely changed the digital banking scene in India. Digital banking has become more popular due to UPI's user-friendliness and interoperability, and e-KYC's ability to streamline onboarding and lower barriers to access.

When combined, these two projects have been crucial to:

- ❖ **Growing adoption of digital banking:** In India, the number of active users of digital banking has increased dramatically, with over 505 million expected by 2023. This growth has been largely driven by UPI, which in October 2023 processed over 5 billion transactions per month.
- ❖ **Encouraging financial inclusion:** e-KYC has made it easier for people who are underbanked or unbanked to enter the formal financial system. With UPI emerging as the go-to payment method for online purchases, over 37 crore Indians currently use mobile banking.
- ❖ **Improving financial literacy:** Indian consumers now have a greater understanding of finance as a result of the extensive use of digital banking. Consumers are growing more accustomed to financial products, online banking, and digital payment methods.
- ❖ **Accelerating economic growth:** Through lowering costs for both consumers and businesses, enabling cashless transactions, and expanding financial inclusion, digital banking has helped to accelerate economic growth.

To sum up, the government's revolutionary initiatives, UPI and e-KYC, have completely changed digital banking and financial inclusion in India. Their combined influence has been crucial in promoting financial literacy, propelling economic growth, and bringing millions of previously marginalised people into the formal financial system. These initiatives will probably have an even greater impact on how banking and financial services are shaped in the future as India moves closer to becoming a digital economy.

CONCLUSION

In conclusion, the emergence of the digital banking revolution has drastically changed India and the way that people interact with financial institutions. This paradigm shift has been fueled by a number of factors, including rising smartphone usage, wider mobile network coverage, cutting-edge digital technologies, and government initiatives. Digital banking has replaced the traditional brick-and-mortar model by providing 24/7 access via online and mobile platforms. Using a descriptive design, the study tracks India's adoption of digital banking while analysing the results of government initiatives. UPI and e-KYC have been instrumental in promoting financial inclusion, enhancing literacy, and quickening economic expansion. In India's transition to a digital economy, these initiatives have the potential to influence banking and financial services in the future.

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