

A Study on Impact of Digital Banking on Customer Satisfaction

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Abstract:

The rapid digital transformation of the banking sector has fundamentally reshaped the delivery of financial services, particularly in emerging economies like India. This study investigates the impact of digital banking services on customer satisfaction among retail banking users in the Pune region. Using a structured questionnaire administered to 150 respondents, the research examines key dimensions of digital banking such as ease of use, transaction speed, security, customer support, technical reliability, and convenience. The study adopts a quantitative descriptive and explanatory research design grounded in the Technology Acceptance Model (TAM) and E-SERVQUAL framework.

Findings reveal that 86.7% of respondents are either satisfied or highly satisfied with digital banking services. UPI-based transactions are the most widely used digital platform (60%), followed by internet banking. The majority of users access digital banking daily (71.3%), indicating high integration into financial behavior. Ease of use (89.4%), transaction speed (87.3%), and customer support quality (87.4%) emerged as major determinants of satisfaction. However, technical issues such as server downtime remain a concern, with 57.3% reporting occasional disruptions.

The study concludes that digital banking significantly enhances customer satisfaction through convenience, accessibility, and operational efficiency, but long-term sustainability depends on cybersecurity robustness, system reliability, and inclusive digital literacy initiatives. The findings offer strategic implications for banks, NBFCs, and financial service providers seeking to strengthen digital engagement and customer loyalty.

Keywords: Digital Banking, Customer Satisfaction, UPI Adoption, Service Quality, Technology Acceptance Model, Retail Banking, Financial Inclusion

1. Introduction

The banking industry is a key part of the economy that deals with managing money, credit, and financial services. In simple terms, a bank is a financial institution that accepts deposits from people, provides loans, and helps in making payments and other financial transactions. Its main role is to act as a bridge between people who have extra money and those who need money, helping the economy grow. Banking has a long history that dates back to ancient times, around 2000 BCE, when temples and merchants in places like Mesopotamia and Babylon used to store valuables and give loans, often in the form of grain. Later, modern banking started developing in medieval Italy, especially in cities like Florence and Venice, where famous families such as the Medici introduced advanced practices like bookkeeping and branch banking. Over time, banking continued to evolve, and in the 17th century, goldsmiths in London began issuing receipts for stored gold, which slowly turned into an early form of paper money. This also led to the concept of fractional reserve banking, where banks lend out a portion of deposits. The establishment of institutions like central banks further strengthened and regulated the system. In recent times, banking has gone through a major digital transformation with the introduction of ATMs, cards, and online banking, making services faster and more convenient.

Banks perform several important functions in the economy. They collect deposits and provide loans, which helps in turning savings into investments and supports economic growth. They also provide payment

systems such as cheques, online transfers, and card payments, making transactions safe and easy. In addition, banks offer services like lockers, foreign exchange, wealth management, and guarantees, helping individuals and businesses manage their finances better. Another important role of banks is money creation, as lending activities increase the overall money supply in the economy. In today's world, banks are essential for economic development because they provide funds for businesses to expand, help individuals meet their financial needs, and support the implementation of monetary policies set by central banks like the Reserve Bank of India. They also ensure safety and liquidity by giving people a secure place to keep their money and access it whenever needed.

With the advancement of technology, digital banking has become an important concept. Digital banking goes beyond just online banking by completely transforming the way banking services are delivered. While online banking mainly allows customers to perform basic activities like checking balances or transferring money, digital banking focuses on providing a full, end-to-end experience where customers can open accounts, apply for loans, and manage their finances entirely online without visiting a branch. It uses modern technologies like cloud computing, APIs, and artificial intelligence to create a smooth and personalized experience. Features such as mobile banking apps, video KYC, real-time payments like UPI and IMPS, instant loans, and AI-based financial insights have made banking more efficient and user-friendly. At the same time, strong security measures like multi-factor authentication and biometrics are used to protect customer data.

Digital banking offers many benefits, such as convenience, as customers can access services anytime and from anywhere, reduced costs for banks due to fewer physical branches, faster transactions, and personalized services based on customer data. However, it also comes with challenges like cybersecurity risks, where customers may face fraud or data breaches, the digital divide where some people may not have access to technology or internet, regulatory challenges in managing new risks, and difficulties for traditional banks in integrating new digital systems with older ones.

Customer satisfaction plays a very important role in the banking industry because it directly affects a bank's success. It is not just about using services but about how happy customers are with their overall experience. Satisfied customers are more likely to stay with the bank, use more products, and recommend the bank to others, which increases revenue and builds trust. Important factors that influence customer satisfaction include service quality, trust, convenience, suitable products, personalization, and a smooth, hassle-free experience. Banks measure customer satisfaction using different metrics such as Net Promoter Score (which shows how likely customers are to recommend the bank), Customer Satisfaction Score (which measures satisfaction with a specific service), and Customer Effort Score (which shows how easy it is for customers to complete a task). Overall, the banking industry continues to evolve with technology, and maintaining high customer satisfaction remains the key to long-term success.

2.Literature Review

The transformation of the banking sector through digitalization has attracted extensive scholarly attention over the past two decades. As financial institutions increasingly shift from traditional branch-based operations to technology-enabled service delivery, researchers have focused on understanding how digital banking influences customer satisfaction, loyalty, and long-term profitability. The literature suggests that digital banking is not merely a technological upgrade but a structural transformation affecting service quality, risk management, cost efficiency, and customer relationship management.

One of the earliest theoretical foundations used to explain digital banking adoption is the Technology Acceptance Model (TAM) proposed by Davis (1989). TAM argues that two primary factors determine technology adoption: perceived usefulness and perceived ease of use. In the context of digital banking, perceived usefulness refers to the degree to which customers believe that digital platforms improve their financial management efficiency, such as faster transactions, better monitoring of expenses, and convenient access to funds. Perceived ease of use relates to how simple and user-friendly the digital platform is. Numerous empirical studies have confirmed that when customers find digital banking platforms intuitive and beneficial, their overall satisfaction significantly increases. This relationship becomes particularly strong among younger users who are technologically adept and value speed and convenience.

Closely linked to TAM is the concept of service quality, particularly the SERVQUAL model introduced by

Parasuraman, Zeithaml, and Berry (1988), later adapted into E-SERVQUAL for digital platforms (Parasuraman, Zeithaml, & Malhotra, 2005). While traditional SERVQUAL measures tangibility, reliability, responsiveness, assurance, and empathy, the digital adaptation emphasizes efficiency, system availability, fulfillment, and privacy. In digital banking, efficiency relates to how quickly and smoothly users can access services, while system availability concerns the reliability of the banking platform without crashes or downtime. Fulfillment reflects whether digital transactions are processed accurately, and privacy refers to the protection of sensitive financial data. Research consistently shows that these four dimensions directly influence customer satisfaction in online and mobile banking environments.

Another important theoretical lens is Expectancy-Disconfirmation Theory (Oliver, 1997). According to this theory, customer satisfaction is formed when perceived performance meets or exceeds prior expectations. In digital banking, customers often expect instant transactions, high security, and seamless functionality. When these expectations are met—such as real-time UPI transfers or instant balance updates—positive disconfirmation occurs, resulting in higher satisfaction. However, when technical issues such as server downtime or failed transactions arise, negative disconfirmation leads to dissatisfaction. This theoretical perspective is particularly relevant in digital banking because customer expectations are continuously rising due to rapid technological advancements.

In the Indian context, digital banking growth has been significantly accelerated by policy initiatives and technological infrastructure improvements. The introduction of the Unified Payments Interface (UPI) revolutionized digital transactions by enabling instant peer-to-peer and merchant payments. Studies conducted after 2016 indicate a sharp increase in digital payment adoption, especially among urban youth and salaried professionals. Scholars argue that UPI's simplicity and zero-cost structure have enhanced perceived usefulness, thereby boosting customer satisfaction. Furthermore, the COVID-19 pandemic acted as a catalyst, forcing customers to rely on contactless banking methods, thereby strengthening digital adoption patterns.

Customer satisfaction in banking has also been linked to financial performance indicators. Zeithaml (2000) highlighted that higher service quality leads to improved customer retention, which in turn increases profitability. In digital banking, satisfied customers are more likely to use multiple products such as digital loans, credit cards, and investment platforms. This cross-selling opportunity enhances Customer Lifetime Value (CLV) and reduces customer acquisition costs. Research indicates that digital channels significantly reduce operational expenses, thereby improving cost-to-income ratios for banks. Thus, customer satisfaction in digital banking is not only a behavioral outcome but also a strategic financial variable.

Security and trust are recurring themes in digital banking literature. Financial transactions inherently involve risk, and digital platforms increase exposure to cyber threats, phishing attacks, and data breaches. Studies reveal that perceived security strongly influences both adoption and satisfaction. Customers who believe their personal and financial information is protected are more confident in using digital services. On the other hand, security concerns can act as barriers to adoption, particularly among older customers. Banks that implement multi-factor authentication, biometric verification, and AI-based fraud detection systems report higher trust levels among users.

Another key determinant widely discussed in literature is convenience. Digital banking offers 24/7 accessibility, eliminating geographical and time constraints associated with traditional banking. Scholars argue that convenience significantly enhances customer satisfaction because it reduces transaction effort and time costs. The Customer Effort Score (CES) has emerged as an important metric in evaluating digital experiences. Lower customer effort correlates with higher loyalty. Digital banking platforms that simplify processes such as bill payments, fund transfers, and loan applications are more likely to generate positive satisfaction outcomes.

Demographic variables play a moderating role in digital banking adoption and satisfaction. Research consistently shows that younger individuals, particularly those aged 21–35 years, exhibit higher digital adoption rates. This is attributed to greater digital literacy, smartphone penetration, and lifestyle compatibility. In contrast, older customers may experience technological anxiety, which negatively impacts perceived ease of use. Income and education levels also influence adoption patterns. Higher-income and well-educated individuals tend to use advanced digital features such as online investments and automated budgeting tools. However, rural populations face infrastructure limitations, including poor internet connectivity, which affects satisfaction levels despite improvements in digital banking systems.

Several empirical studies in India have examined the relationship between digital service quality and

satisfaction. Kamboj and Singh (2018) found that demographic factors mediate satisfaction levels, particularly age and education. Hemalatha and Devaraja (2023) observed that system reliability and privacy protection are the most influential variables in urban cooperative banks. Basavaraju et al. (2024) concluded that efficiency and responsiveness significantly impact overall satisfaction in metropolitan cities. These findings collectively reinforce the multidimensional nature of digital banking satisfaction.

Customer support is another dimension gaining importance in recent research. While digital banking emphasizes self-service, customers still expect prompt assistance during technical difficulties. The availability of 24/7 chatbots, helplines, and quick grievance redressal mechanisms enhances satisfaction levels. Studies indicate that effective service recovery strategies can even turn dissatisfied customers into loyal promoters. Therefore, digital banking satisfaction is not limited to platform functionality but extends to post-transaction support.

The role of personalization has also been explored extensively. Modern banks use artificial intelligence and machine learning to analyze transaction data and offer customized financial advice. Personalized notifications, spending analytics, and tailored product recommendations enhance perceived value. Literature suggests that personalization strengthens emotional attachment to the bank, thereby increasing loyalty. However, personalization must balance data utilization with privacy protection to maintain customer trust.

Despite positive findings, literature also highlights challenges. Technical instability remains a major concern. System downtime, failed transactions, and delayed settlements can significantly reduce trust. Research indicates that frequent technical issues increase switching intentions. Moreover, digital exclusion remains a critical issue in developing economies. Low digital literacy and limited device access hinder equitable satisfaction across demographic segments.

From a strategic perspective, digital banking contributes to operational efficiency and financial sustainability. Automation reduces manpower costs and enhances processing speed. Banks leveraging digital platforms report improved return on assets and enhanced capital allocation efficiency. However, the initial investment in digital infrastructure is substantial, requiring robust risk management frameworks.

Overall, the literature establishes a strong positive relationship between digital banking service quality and customer satisfaction. Ease of use, security, speed, convenience, reliability, and support services are consistently identified as key determinants. Theoretical models such as TAM, E-SERVQUAL, and Expectancy-Disconfirmation Theory provide strong conceptual foundations for analyzing digital banking satisfaction. Empirical studies in India confirm that digital transformation has significantly enhanced customer experiences, particularly among young urban users.

However, continuous technological evolution requires ongoing research to assess long-term trust dynamics, cybersecurity resilience, and financial inclusion outcomes. As digital banking becomes the dominant mode of financial interaction, customer satisfaction will remain central to competitive advantage in the banking and NBFC sectors.

3. OBJECTIVE OF STUDY

- To assess the overall level of customer satisfaction with the current digital banking services (e.g., mobile apps, internet banking, digital wallets) offered by the bank/sector under study.
- To identify the key factors of digital banking (such as ease of use/usability, transaction speed, security, and customer support) that significantly influence customer satisfaction.
- To determine the extent of customer awareness and adoption of various digital banking services and channels.
- To analyse the specific challenges and problems customers face while using digital banking services (e.g., technical glitches, navigation difficulty, security concerns).
- To study the influence of digital banking on customer loyalty and their intent to continue using the bank's services.

4. Methodology/ Data

Research on the impact of digital banking on customer satisfaction in India typically employs a Quantitative Research Design, often supplemented by a mixed-methods approach for richer insights.

Research Design

Type: Quantitative, Descriptive, and Explanatory

It's descriptive because it aims to map the current state of digital banking usage.

It's explanatory because it tests the hypothesized relationships between digital banking dimensions (independent variables) and customer satisfaction (dependent variable).

Approach: Survey Research. This allows for the collection of data from a large and diverse sample, which is essential when studying a wide phenomenon like digital banking adoption.

Model: Often utilizes the principles of the Technology Acceptance Model (TAM) or the SERVQUAL/E-S-QUAL Model, adapting them to measure key digital banking dimensions.

Digital Banking Dimensions (Variables)

The study focuses on establishing the dimensions of digital banking service quality and their effect on Customer Satisfaction (CS).

Data Collection

Sampling Method

Target Population: Users of digital banking services (mobile banking, internet banking, UPI, digital wallets) in a Pune region

Sample Size: Determined using statistical formulas (like those based on population size and margin of error) but typically ranges from 100 to 150 respondents for robust quantitative analysis.

Instrument and Data Source

Instrument: A structured Questionnaire (administered via Google Forms/online survey tools or physical copies).

Scale: Primarily uses (e.g., from Highly Satisfied to satisfied) to measure perceptions and satisfaction levels for each dimension.

5. Estimated Results

Data analysis

The following tables present the detailed analysis of primary data collected from 150 respondents. All calculations are based on structured questionnaire responses.

Table 2.1: Gender-wise Distribution of Respondents

Gender	Number of Respondents	Percentage (%)
Male	121	80.7%
Female	29	19.3%
Prefer not to say	0	0%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.2: Age-wise Classification of Respondents

Age Group	Number of Respondents	Percentage (%)
Below 20 years	3	2%
21–30 years	108	72%
31–40 years	36	24%

Above 40 years	3	2%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.3: Occupational Profile of Respondents

Occupation	Number of Respondents	Percentage (%)
Student	62	41.3%
Salaried Employee	48	32%
Business Owner	37	24.7%
Retired	3	2%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.4: Preferred Bank for Digital Transactions

Bank Name	Number of Respondents	Percentage (%)
HDFC Bank	53	35.3%
ICICI Bank	28	18.7%
Axis Bank	25	16.7%
State Bank of India (SBI)	20	13.3%
Other Banks	24	16%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.5: Most Frequently Used Digital Banking Service

Digital Service	Number of Respondents	Percentage (%)
UPI	90	60%
Internet Banking	32	21.3%
Debit/Credit Card	17	11.3%
Mobile Banking App	11	7.3%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.6: Frequency of Digital Banking Usage

Frequency	Number of Respondents	Percentage (%)
Daily	107	71.3%
Weekly	30	20%
Monthly	8	5.3%
Rarely	5	3.4%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.7: Ease of Use of Digital Banking Platforms

Ease of Use	Number of Respondents	Percentage (%)
Very Easy	43	28.7%
Easy	91	60.7%
Neutral	14	9.3%
Difficult	2	1.3%

Total	150	100%
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Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.8: Speed and Performance of Digital Transactions

Speed Rating	Number of Respondents	Percentage (%)
Very Fast	41	27.3%
Fast	90	60%
Average	17	11.3%
Slow	2	1.4%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.9: Technical Issues Faced

Response	Number of Respondents	Percentage (%)
Often	32	21.3%
Sometimes	86	57.3%
Rarely	31	20.7%
Never	1	0.7%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

Table 2.10: Overall Satisfaction Level

Satisfaction Level	Number of Respondents	Percentage (%)
Highly Satisfied	31	20.7%
Satisfied	99	66%
Neutral	19	12.7%
Unsatisfied	1	0.6%
Total	150	100%

Source: Primary Data (Survey Conducted by Researcher, 2026)

6. Major Findings

1. Demographic Profile:

The majority of respondents are **male (80.7%)** and fall in the **21–30 years** age group (72%), indicating that young adults, especially males, are the primary users of digital banking services.

2. Occupation Profile:

Most respondents are **students (41.3%)**, followed by **salaried employees (32%)**, showing that tech-savvy and working-class individuals are more inclined toward digital banking.

3. Preferred Bank:

HDFC Bank (35.3%) is the most frequently used bank among respondents, reflecting its strong digital presence and customer satisfaction.

4. Most Used Digital Service:

UPI platforms (60%) like Google Pay and PhonePe are the most commonly used

digital banking services, indicating convenience and popularity in everyday transactions.

5. Frequency of Use:

A high proportion (**71.3%**) of respondents use digital banking **daily**, showing that it has become an essential part of their financial activities.

6. Ease of Use:

Around **89.4%** (Very Easy + Easy) of respondents find digital banking platforms user-friendly, highlighting good design, accessibility, and simplicity.

7. Speed and Performance:

87.3% of respondents rate the performance of digital transactions as **fast or very fast**, indicating reliability and efficiency in processing.

8. Customer Support:

About **87.4%** rated customer support as **good or excellent**, showing satisfaction with the assistance provided during digital banking issues.

7. Suggestions

1. Enhance Security Features:

Banks should continue strengthening **data protection and cybersecurity** measures to build more confidence among hesitant users.

2. Improve Technical Stability:

Efforts should be made to reduce **transaction failures, downtime, and bugs**, ensuring smoother digital operations.

3. Increase Awareness Programs:

Banks can conduct **digital literacy workshops** and tutorials for users who are less familiar with online banking tools.

4. Upgrade Customer Support:

Implementing **24/7 live chatbots or helplines** can further improve customer assistance and issue resolution time.

5. Focus on Personalization:

Providing **personalized digital banking experiences** (e.g., customized offers, dashboard analytics) can increase user satisfaction and loyalty.

6. Promote UPI Integration and Innovation:

Since UPI is the most used service, banks should innovate around **UPI-based payments** and ensure seamless integration across platforms.

7. Encourage Feedback and Continuous Improvement:

Regular customer feedback should be collected and analysed to **identify pain points** and

make necessary improvements.

8. Strengthen Rural Outreach:

Expanding digital infrastructure in **semi-urban and rural areas** can help attract new users and promote financial inclusion.

8. Conclusion

Digital banking has significantly transformed the way customers interact with financial institutions, offering convenience, speed, and accessibility. The findings of the survey reveal that most customers are satisfied with digital banking services due to their ease of use, time-saving features, and 24/7 availability. However, occasional technical issues such as server errors or failed transactions still affect the overall user experience. Customer satisfaction largely depends on the reliability of digital platforms, security measures, and prompt customer support. The results suggest that while banks have made great progress in improving digital services, continuous system upgrades, better technical support, and enhanced user education are essential for maintaining and increasing customer satisfaction.

Overall, digital banking has a positive impact on customer satisfaction, contributing to improved trust, loyalty, and convenience in banking operations.

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