INTERNATIONAL JOURNAL OF NOVEL RESEARCH AND DEVELOPMENT (IJNRD)
© 2026 IJNRD | Volume 11, Issue 3, March 2026 | ISSN: 2456-4184 | IJNRD.ORG

USAGE OF ATM, NET BANKING, UPI AMONG PEOPLE

AUTHOR: KIRUTHIKA. D CO-AUTHOR: MANJULA. P

INTRODUCTION

Banking has evolved significantly over the past few decades from traditional in-branch services to digital platforms that make financial transactions faster and more convenient. Historically, people withdrew money and conducted banking transactions in person, but with the rise of technology, digital alternatives like Net Banking and UPI have become widespread. This change has transformed how individuals manage money and interact with financial systems. Digital payment infrastructure now accounts for nearly all non-cash transactions in India, highlighting a widespread shift from paper-based to electronic banking systems (www.ndtv.com)

Net Banking, or Internet Banking, is another crucial method through which users access their bank accounts online, typically via laptops or apps, to perform tasks like transferring funds, viewing account details, and paying bills. It serves as a foundation for other digital payment channels like NEFT, RTGS, and IMPS, and remains important for managing larger value or scheduled transactions

Together, ATMs, Net Banking, and UPI form a comprehensive financial ecosystem that caters to different needs—cash access, account management, and quick payments respectively.

STATEMENT OF THE PROBLEM

With the rapid growth of technology, the banking sector has undergone a significant transformation through digital innovations such as ATMs, internet banking, mobile banking, and Unified Payment Interface (UPI) services. While these technological advancements offer convenience, speed, and accessibility to customers, there are several challenges that impact their adoption and effective utilization. Issues such as security concerns, lack of awareness, limited digital literacy, infrastructural gaps, and regional disparities affect the smooth implementation of e-banking services.

Therefore, this study aims to analyze the usage patterns, customer awareness, satisfaction, and challenges associated with ATMs, UPI, and mobile banking services in order to provide insights for banks and policymakers to improve service delivery, enhance security measures, and promote financial inclusion in the digital era.

OBJECTIVES

- To study the usage pattern of ATM, Net Banking, and UPI among people.
- To identify the factors influencing the adoption of ATM, Net Banking, and UPI.
- To identify challenges faced and awareness about safe digital transactions.
- To study the frequency of usage of ATM, Net Banking, and UPI.
- To analyze the preference of people among ATM, Net Banking, and UPI.
- To examine the level of satisfaction of users towards digital banking services.

- To understand the impact of age, income, and education on the usage of digital banking.

NEED OF THE STUDY

In today's rapidly digitalizing world, banking has undergone a major transformation from traditional branch-based services to digital platforms. Services such as ATMs, Net Banking, and UPI have become essential for daily financial activities, allowing people to withdraw cash, transfer money, pay bills, and make purchases quickly and conveniently. Understanding the usage patterns of these services is crucial for banks, policymakers, and businesses to improve digital banking infrastructure and enhance the overall customer experience.

Studying the factors that influence adoption, such as age, occupation, income, and location, helps promote financial inclusion and encourages wider use of digital payments across different demographic groups. Additionally, identifying challenges faced by users, such as security concerns, lack of knowledge, or connectivity issues, enables the development of strategies to educate people about safe, efficient, and responsible digital banking practices.

SCOPE OF THE STUDY

The scope of this study encompasses understanding the usage, adoption, and challenges related to ATMs, Net Banking, and UPI among people. It focuses on analyzing how individuals from different demographic backgrounds—such as age, occupation, income level, and location (urban and rural)—utilize these digital banking services. The study examines the frequency and purpose of transactions, including cash withdrawals, fund transfers, bill payments, online purchases, and merchant payments, highlighting preferences between traditional and digital banking methods.

The study also explores the factors that influence adoption, such as convenience, accessibility, trust, security, ease of use, and awareness of digital payment systems. It identifies the challenges faced by users, including technical issues, lack of knowledge, connectivity problems, and concerns regarding fraud or data security. By understanding these factors, the study provides insights for banks, financial institutions, and policymakers to enhance digital banking infrastructure, develop user-friendly platforms, increase adoption, and promote financial literacy.

RESEARCH METHODOLOGY:

Research Design

The study adopts a descriptive research design to analyze the usage, adoption, and challenges of ATMs, Net Banking, and UPI among people. It aims to provide an in-depth understanding of user behavior, preferences, and factors influencing digital payment adoption.

Population

The population for the study includes individuals who use banking services, including ATMs, Net Banking, and UPI. This covers people from different age groups, occupations, income levels, and both urban and rural locations.

Sample Size

A sample of 100 respondents is selected using convenience sampling, focusing on individuals who actively

use digital payment systems or ATMs.

Data Collection Method

Both primary data and secondary data were used.

Sampling Technique

Convenience sampling is used to select respondents who are easily accessible and willing to provide information about their banking habits.

Tools for Data Collection

Questionnaire: Online (Google Forms)

Data Analysis Method

Collected data will be analyzed using:

- Descriptive statistics (percentages, averages, and charts) to summarize usage patterns.
- Chi-square
- Ranking Method
- Graphical tools like bar charts, pie charts, and tables for clear presentation.

LIMITATIONS OF THE STUDY:

- The study is limited to selected respondents and may not represent the entire population.
- Data accuracy depends on the honesty and knowledge of respondents.
- The study focuses on user behaviour and awareness, not the technical aspects of banking systems.
- Time constraints limit the depth of analysis.
- Some demographic factors may not be fully represented.

OVERVIEW OF THE STUDY INTRODUCTION

In today's fast-paced world, digital banking has become an integral part of financial services.

The rapid adoption of technology has transformed traditional banking, allowing customers to access financial services anytime and anywhere without physically visiting a bank branch. Digital banking encompasses various tools and services, such as Automated Teller Machines (ATMs), internet banking (net banking), mobile banking, and Unified Payment Interface (UPI), which have revolutionized the way individuals manage their finances.

AUTOMATED TELLER MACHINES (ATM)

An Automated Teller Machine (ATM) is an electronic banking outlet that allows customers to perform financial transactions without the need for a human teller. ATMs have revolutionized

the banking industry by offering 24×7 access to basic banking services such as cash withdrawals, deposits, balance inquiries, and fund transfers. The first ATMs in India were introduced in 1987, initially in metro cities, and have now spread to almost every town, providing accessibility to banking services in both urban and rural areas.

ATMs work by connecting to a bank's core system, verifying the customer's account, and authorizing transactions using a Personal Identification Number (PIN). They have reduced queues in banks, minimized operational costs, and allowed customers to access their funds conveniently. Modern ATMs are multifunctional and can also provide services like ministatements, cheque deposits, and mobile recharge.

INTERNET BANKING (NET BANKING)

Internet banking, also called net banking, is a system that allows customers to access and manage their bank accounts online using a computer or mobile device connected to the internet. Internet banking has transformed traditional banking by enabling services such as fund transfers, bill payments, loan applications, account statements, investment management, and online shopping payments from the comfort of home or office.

The evolution of net banking began in the 1990s when banks implemented core banking solutions (CBS), connecting multiple branches and allowing centralized account management. With the widespread adoption of smartphones and secure internet connections, internet banking usage has surged. Customers now rely on net banking for everyday transactions, reducing the need to visit physical branches.

UNIFIED PAYMENT INTERFACE (UPI)

Unified Payment Interface (UPI) is a real-time payment system developed by the National Payments Corporation of India (NPCI) to facilitate instant, inter-bank transactions using smartphones. Introduced in 2016, UPI allows users to transfer money between accounts, pay bills, and make purchases using UPI IDs, mobile numbers, or QR codes, eliminating the need for traditional bank details.

UPI has significantly simplified digital payments in India. The system integrates multiple bank accounts into a single mobile application, making transactions fast, secure, and convenient. Unlike debit or credit cards, UPI transactions do not require entering card details, thus reducing the risk of fraud. UPI adoption skyrocketed after demonetization in 2016 and continues to grow with the proliferation of smartphones and digital awareness campaigns.

HISTORY AND EVOLUTION OF DIGITAL BANKING

Digital banking represents one of the most transformative innovations in the financial sector, completely redefining the way individuals and businesses interact with money. Its history is intertwined with technological advancements, regulatory support, and the changing expectations of consumers. The evolution of digital banking can be traced across multiple phases, each contributing to the convenience, efficiency, and accessibility of financial services.

Early Banking Era (Pre-1980s)

Before the advent of digital technology, banking was almost entirely manual. Customers were required to visit bank branches for deposits, withdrawals, and other financial transactions.

Despite these limitations, the early banking era laid the foundation for trust in financial institutions, which became essential for later digital transformations. The challenges of accessibility, manual errors, and slow transactions created a demand for more efficient banking systems, paving the way for automation.

Introduction of Automated Teller Machines (ATMs) – 1987

The first major technological milestone in India's banking sector was the introduction of ATMs in 1987. Initially deployed in metro cities like Mumbai, these machines offered customers the ability to withdraw cash and check account balances 24 hours a day. ATMs were revolutionary because they reduced dependence on bank staff, minimized queues, and offered convenience outside regular banking hours.

ATMs also marked the beginning of self-service banking, empowering customers to perform basic transactions independently. Over time, ATMs evolved to include cash deposits, ministatements, cheque deposits, and fund transfers, making them multifunctional service points. Interoperable ATM networks further enhanced accessibility, allowing customers to use machines of banks other than their own.

Core Banking Solutions and Internet Banking (1990s–2000s)

The 1990s brought another milestone with the adoption of Core Banking Solutions (CBS). CBS connected all branches of a bank through a centralized network, allowing customers to access accounts from any branch, instead of being tied to a single location. This development facilitated the emergence of internet banking, enabling customers to perform financial transactions online without visiting branches.

Internet banking services expanded to include fund transfers, bill payments, account monitoring, loan applications, investment management, and online shopping payments. Banks also began offering online statements, alerts, and e-statements, improving transparency and customer experience.

Mobile Banking and Fintech Integration (2010–2015)

With the rapid rise of smartphones, mobile banking emerged as a game-changer. Mobile applications allowed customers to manage their finances on the go, with features such as instant fund transfers, mobile bill payments, loan repayments, and digital wallets. Mobile banking reduced the need to visit branches and extended services to semi-urban and rural customers.

Mobile banking and fintech solutions also enhanced financial inclusion, allowing even small vendors, farmers, and underbanked populations to access banking services.

Unified Payments Interface (UPI) and the Cashless Economy (2016–Present)

The launch of the Unified Payments Interface (UPI) in 2016 by the National Payments Corporation of India (NPCI) marked a pivotal moment in India's digital banking history. UPI

enabled instant inter-bank transfers, QR code payments, and app-based transactions without requiring detailed bank account information.

UPI also played a critical role in financial inclusion, as small vendors and rural populations gained access to digital payments without the need for a traditional bank account. Government initiatives, awareness campaigns, and smartphone penetration contributed to this rapid growth. **COVID-19 Pandemic and Digital Banking Surge**

The COVID-19 pandemic (2020–2022) acted as a catalyst for digital banking adoption. With restricted branch access due to lockdowns, customers shifted rapidly to online banking, mobile wallets, and UPI payments. Banks strengthened their digital infrastructure to handle increased online transaction volumes and educated customers about safe digital practices. The pandemic highlighted the resilience, scalability, and adaptability of digital banking systems, demonstrating their role in maintaining financial continuity during crises.

Future Trends and Innovations

Looking forward, digital banking is expected to leverage emerging technologies such as Artificial Intelligence (AI), Machine Learning (ML), blockchain, cloud computing, and biometrics. Innovations like Central Bank Digital Currencies (CBDCs), voice-enabled banking, and virtual financial assistants will further enhance customer convenience. Additionally, banks will focus on financial inclusion in rural areas, ensuring that digital banking services are accessible to all segments of society.


History of Digital Banking
1960s-80s
1987
First ATM in India
1990s-2000s
Internet Banking

The history of digital banking illustrates a progressive shift from manual processes to fully automated, secure, and inclusive financial services, making it an indispensable component of India's modern economy.

REVIEW OF LITERATURE

1. Bernardo Batiz-Lazo (2000) conducted a study titled "Emergence and Evolution of ATM Networks in the UK", The main objective was to trace the development of cash dispenser technology into ATMs and analyze the evolution of ATM networks in the UK. The study adopted a historical-analytical research design, examining industry innovations, competitive changes, and the role of proprietary and interoperable ATM networks. The findings revealed that ATM technology transformed banking operations, shifted competitive strategies, and became essential for effective retail banking. The study also highlighted the influence of network externalities, global manufacturers, and technological adoption challenges faced by financial intermediaries. Overall, it emphasized that ATMs not only enhanced service delivery but also reshaped banking strategy, making technology a minimum requirement for competition in retail finance.
2. Heli Snellman and Matti Viren (2006) conducted a study titled "ATM Networks and Cash Usage." The main objective was to analyze how banking market structure affects the demand for cash and the deployment of ATMs. The study adopted a theoretical and empirical research design, using a spatial transactions model and panel data from 20 OECD countries (1988–2003). The findings revealed that monopoly banks tend to minimize the number of ATMs, while competitiveness increases ATM availability. The study also showed a strong relationship between the number of ATM networks and cash usage, highlighting that cash demand is influenced by ATM accessibility, network size, and the popularity of alternative payment methods. The research emphasized that an efficient ATM network not only supports cash transactions but also enhances overall banking service delivery and customer convenience.
3. Aalia Sheerin conducted a study titled (2018) "Cashless Economy in India: Challenges and Opportunities" to analyze the evolution and growth of digital payment systems in India. The study aimed to examine the strengths, weaknesses, progress, and challenges of the cashless economy during the period 2013–2018. It was based on secondary data sources and focused on initiatives taken by the Government of India and the RBI to promote e-banking. The findings highlighted that technological advancements, Digital India Programme, and retail electronic payment systems have significantly accelerated cashless transactions. However, the study also pointed out challenges such as limited awareness, security concerns, and infrastructural gaps in achieving a fully cashless economy.
4. Mrs. A. Caroline Priyanka Koorse Govindaraj and Dr. S. Kavitha (2018) conducted a study titled "A Study on Customers' Perception towards ATMs and M-Banking (Risk, Problems, Security and Overall Comparison) with Special Reference to Indian Overseas Bank, Chennai." The main objective of the study was to analyze customers' perception towards risk, problems, security and to make a comparative analysis of ATM and mobile banking services. The study adopted a descriptive research design using primary data collected through a structured questionnaire from customers of Indian Overseas Bank in Chennai, Tamil Nadu. The nature of the study was analytical, focusing on two major technology- driven banking services together. The scope of the study was limited to ATM and mobile banking users of IOB, Chennai. The findings revealed that while customers widely accepted both ATM and mobile banking services, concerns related to security and risk continued to influence customer perception and usage.
5. Dr. C. Mallesha (2019) conducted a study titled "A Case Study on Perception towards Online Payment Systems among Urban and Rural Customers." The main objective of the study was to analyze the perception and awareness level of urban and rural consumers toward online payment systems. The study adopted a descriptive research methodology using primary data collected from urban and rural respondents. The nature of the study was analytical, focusing on consumer perception, awareness, and adoption of e-payment systems. The scope of the study covered urban and rural areas in India, highlighting differences in digital payment

acceptance. The results revealed that consumers had a medium level of awareness about online payment systems, and increased government initiatives and digitalization efforts significantly improved the adoption of e-payments.

FINDINGS, SUGGESTIONS AND CONCLUSION

FINDINGS

This study examined the usage, perception, challenges, and satisfaction level of respondents toward digital banking services such as ATM, Net Banking, and UPI. Based on the analysis and interpretation of data presented in Chapter IV, the following detailed findings are drawn:

- Majority of respondents (54%) belong to the 21–30 years age group, indicating that young adults form the dominant group of digital banking users.
- Majority of the respondents are female (67%), showing higher participation of women in digital banking services.
- Majority are undergraduates (47%), suggesting that individuals with higher education levels actively use digital banking.
- Majority of respondents are students (38%), indicating that young and academically engaged individuals frequently use digital banking facilities.
- Majority earn below ₹15,000 per month (49%), showing that digital banking is widely used even among lower-income groups.
- Majority of respondents reside in rural areas (43%), reflecting the penetration of digital banking services into rural regions.
- Majority (53%) use all digital banking services such as ATM, Net Banking, and UPI, demonstrating high acceptance of multiple digital platforms.
- Majority prefer UPI for small-value transactions (63%), due to its speed and convenience.
- Majority prefer Net Banking for large-value transactions (54%), reflecting greater trust in its security features.
- Majority consider convenience (32%) as the main reason for using digital banking services.
- Majority state that speed of transaction (49%) is the strongest factor influencing UPI adoption.
- Majority (89%) rate their overall digital banking experience as good or excellent, showing high satisfaction levels.

SUGGESTIONS

Based on the findings, the following suggestions are recommended:

1. Banks should improve network stability and server capacity to minimize transaction failures.
2. Digital banking platforms should be simplified to assist elderly and less-educated users.
3. Awareness campaigns should be conducted on fraud prevention and cyber security.
4. Internet infrastructure should be strengthened, especially in rural and semi-urban areas.
5. Faster complaint resolution mechanisms should be implemented for failed transactions.
6. Banks should provide digital banking training programs at branch level.

7. Customer support services should be available in regional languages.
8. Security features such as biometric authentication and transaction alerts should be enhanced.
9. Government initiatives should focus on practical digital education rather than only promotion.
10. Banks should introduce incentives to encourage hesitant users to adopt digital banking.

CONCLUSION

Digital banking has emerged as a transformative force in the modern banking system, reshaping the way financial services are accessed and utilized. The present study provides a comprehensive understanding of the adoption, usage patterns, challenges, and satisfaction levels of users toward ATM, Net Banking, and UPI services. The findings clearly indicate that digital banking is no longer confined to urban or high-income populations. Instead, it has successfully penetrated rural areas and lower-income groups, contributing significantly to financial inclusion. The dominance of young adults and educated respondents highlights the role of digital awareness and technological exposure in shaping banking behavior.

UPI has emerged as the most preferred mode for small-value transactions due to its speed, ease of use, and convenience. Net banking, on the other hand, is widely trusted for largevalue transactions, reflecting users' confidence in secure digital platforms. ATMs continue to play an important role by supporting cash-based transactions, especially for users who still rely on traditional banking methods.

ANNEXURE

1. Age:

a) Below 20

b) 21–30

c) 31–40

d) 41–50

e) Above 50

2. Gender:

a) Male

b) Female

3. Educational Qualification:

a) School level

b) Undergraduate

c) Postgraduate

d) Diploma

4. Occupation:

a) Student

b) Salaried employee

c) Business

d) Self-employed

e) Homemaker

5. Monthly Income:

a) Below ₹15,000

b) ₹15,001–₹30,000

c) ₹30,001–₹50,000

d) Above ₹50,000

6. Area of Residence:

a) Rural

b) Urban

c) Semi-urban

7. Do you have a bank account?

a) Yes

b) No

8. Which banking services do you use?

a) ATM

b) Net Banking

c) UPI

d) All of the above

9. How frequently do you use ATM services?

a) Daily

b) Weekly

c) Monthly

d) Rarely

10. How often do you use Net Banking?

a) Frequently

b) Occasionally

c) Rarely

d) Never

11. How frequently do you use UPI services?

a) Daily

b) Weekly

c) Occasionally

d) Rarely

12. Main purpose of using ATM:

a) Cash withdrawal

b) Balance enquiry

c) Mini statement

d) All of the above

13. Main purpose of using UPI:

a) Money transfer

b) Bill payment

c) Online shopping

d) All of the above

14. Which service do you prefer for small-value transactions?

a) ATM

b) Net Banking

c) UPI

15. Which service do you prefer for large-value transactions?

a) ATM

b) Net Banking

c) UPI

16. Do you prefer digital payments over cash transactions?

a) Always

b) Sometimes

c) Rarely

d) Never

17. Main reason for using digital banking services:

a) Convenience

b) Time saving

c) Easy accessibility

d) Cashless transactions

18. Factor that influenced adoption of UPI:

a) Ease of use

b) Speed of transaction

c) Offers and rewards

d) Peer influence

19. Reason for adopting Net Banking:

a) Online payments

b) Bank guidance

c) Emergency needs

d) Others

20. Do you feel digital banking services are secure?

a) Highly secure

b) Secure

c) Not secure

d) Not sure

21. Does ease of use influence your adoption of digital banking?

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

22. Does availability of internet/network affect your usage?

a) Yes

b) No

23. Do government initiatives encourage digital payments?

a) Strongly agree

b) Agree

c) Neutral

d) Disagree

24. Does trust in banking institutions affect your usage of digital services?

a) Yes

b) No

25. Problems faced while using ATM, Net Banking, or UPI:

a) ATM out of cash

b) Technical errors

c) Security concerns

d) Lack of awareness

e) Network issues

26. How often do you face technical issues?

a) Very often

b) Often

c) Rarely

d) Never

27. Have you experienced digital fraud?

a) Yes

b) No

28. Biggest challenge faced while using digital banking:

a) Network/connectivity problems

b) Fear of fraud or security issues

c) Technical difficulties

d) Lack of digital knowledge

e) Delay in reversing failed transactions

29. Level of satisfaction with ATM services:

a) Highly satisfied

b) Satisfied

c) Neutral

d) Dissatisfied

30. Level of satisfaction with Net Banking and UPI services:

a) Highly satisfied

b) Satisfied

c) Neutral

d) Dissatisfied

31. Overall experience with ATM, Net Banking, and UPI:

a) Excellent

b) Good

c) Average

d) Poor

32. Any suggestions _____