

A STUDY ON DIGITAL BANKING INNOVATIONS AND CUSTOMER CONVENIENCE AT ICICI BANK LTD, HYDERABAD

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ABSTRACT

This study explores the impact of digital banking innovations on customer convenience. With the rapid evolution of technology, digital banking has transformed the way customers interact with banks. The research investigates the various digital banking services, including mobile banking, internet banking, and online payment systems, and their effect on customer convenience. The study analyzes the benefits and challenges of digital banking, highlighting its potential to enhance customer experience, increase accessibility, and reduce transaction costs. The findings of this study reveal that digital banking innovations have significantly improved customer convenience, enabling customers to manage their finances anytime, anywhere.

Key words: Online banking, Mobile payments, Digital payments, E-Service

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I. INTRODUCTION

E-banking, or electronic banking, has changed the way people handle their money. It lets customers do financial transactions and use banking services online, which makes banking easier, faster, and more flexible. Although the idea of e-banking started in the 1970s, it became popular in the late 1990s as more people began using the internet. At first, people were unsure about using online banking because they worried about security. But as technology got better and online shopping became common, more people started using e-banking. E-banking offers many services like checking account balances, transferring money, and paying bills. It can be done through regular banks that also have physical branches or through banks that only exist online. For example, Citibank gives customers the option to use both in-person and online services. On October 1, 2000, a law was passed to make online signatures legally valid. After this, banks started planning to use electronic checks, but had to sort out security issues first. In the future, more e-banking services are expected. Some banks plan to offer electronic money and electronic checks. Electronic money can be stored on a computer or smart card and used to buy small items online. Electronic checks will work like paper checks but will be sent over the internet and processed electronically by banks. Banks also plan to offer more new services to make banking even more convenient.

II. REVIEW OF LITERATURE

1. **Jadhav Anil (2004):** E-banking channels like ATM, telebanking, and internet banking provide convenience and flexibility. ICICI Bank is a major player in e-banking services. Security is a

crucial aspect of e-banking transactions. E-banking offers opportunities for growth.

2. **Heber Raveendranath (2004):** Technology advancements in banking have led to alternative delivery channels like ATM and internet banking. These channels provide customers with more convenience and flexibility. Banks need to adapt to changing technology to stay competitive. Technology is essential for banking growth.
3. **Janeetal (2004):** Online banking requires significant consumer involvement and tech-savviness. Customers need to maintain and interact with technology like computers and internet connections. User-friendly online banking systems are crucial for customer satisfaction. Online banking provides convenience and flexibility.
4. **Uppal R.K (2007):** Customers are satisfied with e-banking services, which provide convenience and flexibility. E-channels are essential for banking growth. Banks need to improve their e-banking services to stay competitive. Effective e-banking measures can enhance customer satisfaction.
5. **Ahmad Jamal (2007):** Self-image congruence may not necessarily impact satisfaction with technology-based self-services. Customers may experience satisfying and dissatisfying incidents that don't affect overall satisfaction. Brand managers in retail banking should focus on improving customer experience. Future research directions can explore customer satisfaction and brand preference.
6. **Safeena (2010):** Perceived usefulness, ease of use, and awareness are key determinants of internet banking adoption. Perceived risk also plays a significant role in adoption. User-friendly and secure online banking systems are crucial for customer adoption. Banks need to educate customers about online banking.
7. **Rao, K. Rama Mohana and Lakew, TekesteBerhanu (2011):** Reliability and assurance are key dimensions of service quality in banking. Public and private sector bank customers have different perceptions of service quality. Banks need to improve their service quality to stay competitive. Tangibles dimension scored the lowest rating.
8. **Dharma lingam, S. AnandKannan. V. (2012):** Customers perceive tangibles as the most important dimension of service quality in retail banking. Product variety scored the lowest rating. Banks need to improve their product offerings to stay competitive. Service quality is crucial for retail banking success.
9. **Bahl, Sarita, (2013):** Security and privacy issues are major concerns in e-banking. Resolving these issues can lead to a prosperous future for electronic banking. Banks need to prioritize customer data protection. Security is crucial for e-banking success.
10. **Fernando A.F. Ferreira (2014):** Evaluating retail banking service quality and customer convenience is crucial for banks. Cognitive mapping and MACBETH technique can be used to create a comprehensive evaluation system. The evaluation system identifies strengths and weaknesses of retail banking services. Transparency in decision-making is essential for retail banking performance.

NEED AND IMPORTANCE

Banking can be frustrating when customers have to wait in long queues for hours to withdraw or deposit money. This wastes both customers' and bank staff's time. Additionally, banks have limited working hours, which can be inconvenient for customers who need to access their money at any time. E-banking services can solve these problems by providing convenient, fast, and secure banking solutions. ICICI Bank's e-banking services are worth studying, especially with the rise of digital banking and the COVID-19 pandemic accelerating the shift to online financial services. This study aims to understand customer satisfaction, identify challenges, and provide insights to improve digital banking services and promote financial inclusion.

SCOPE OF THE STUDY

ICICI Bank offers a range of digital banking services, including internet banking, mobile banking, digital payments, investment and wealth management, loan services, and bill payment and recharge services. The bank's digital services cater to urban and semi-urban customers in India, providing convenience, efficiency, and security. Customer perception and usage patterns vary, but factors like security, ease of use, and convenience influence satisfaction. Overall, ICICI Bank's digital banking services aim to meet the diverse needs of its customers in India.

OBJECTIVES OF THE STUDY

- To understand the demographics and online banking usage patterns of respondents.
- To assess the level of satisfaction and concern with online banking services, including satisfaction with mobile and internet banking, concern about security issues, and experience with security issues in online banking.
- To highlighting on the security problems of online-banking and how to reduce the security issues with the help of security control tools.
- To examine the impact of ATM, Internet banking, Mobile banking, and Credit cards on customer satisfaction by analysing the problems faced by the customers.

III. RESEARCH METHODOLOGY

Research Approach

A quantitative approach is used, supported by qualitative insights to better understand customer experiences and preferences regarding digital banking services.

SOURCES OF DATA

Primary Data: Collected through structured questionnaires distributed to bank customers.

Secondary Data: Sourced from journals, bank reports, industry publications, and research articles on digital banking innovations.

SAMPLING TECHNIQUE

Population: Bank customers who use digital banking services.

Sampling Method: Convenience sampling technique.

Sample Size: 100 respondents.

DATA COLLECTION TOOLS

Structured questionnaire including:

- Demographic information
- Usage of digital banking channels (mobile banking, internet banking, etc.)
- Customer satisfaction levels
- Challenges or limitations faced

DATA ANALYSIS TECHNIQUES

- Descriptive statistics (mean, percentage, frequency)
- Graphical representation (charts, bar graphs)

LIMITATIONS OF THE STUDY

1. The study may be limited to a specific number of participants or branches, which may not be representative of the entire bank.
2. The study may be limited by the availability of data, particularly if secondary data is used.
3. The study may be limited by the time frame considered, which may not capture long-term trends or effects.

IV. DATA ANALYSIS AND INTERPRETATION

1. What is your age group?

Table-1: Age group

AGE GROUP	FREQUENCY	PERCENTAGE
18-25	30	30%
26-35	40	40%
36-45	20	20%
46-55	8	8%
Above 55	2	2%
Total	100	100%

Interpretation:70% of respondents are young adults (18-35 years old).Majority are tech-savvy and familiar with digital banking.Older adults (above 55 years old) are underrepresented (2%).

2. What is your occupation?

Table-2: Occupation

OCCUPATION	FREQUENCY	PERCENTAGE
Student	25	25%
Working Professional	55	55%
Business Owner	10	10%
Retired	5	5%
Other	5	5%
Total	100	100%

Interpretation: 55% of respondents are working professionals.25% are students.10% are business owners.Majority (80%) are working professionals or students, likely influencing digital banking usage and perceptions.

- 3.How often do you use online banking?

Table-3: Online Banking usage

ONLINE BANKING	FREQUENCY	PERCENTAGE
Daily	67	67%
Weekly	23	23%
Monthly	6	6%
Rarely	3	3%
Never	1	1%
Total	100	100%

Interpretation:67% of respondents use online banking daily.90% use online banking at least weekly.96% use online banking at least monthly.Only 1% never use online banking, indicating high adoption and reliance on digital banking services.

- 4.Which online banking services do you use most frequently? (Select all that apply)

Table-4: Frequency of online banking services usage

ONLINE BANKING SERVICES	FREQUENCY
Account Management	52
Fund Transfer	68
Bill Payment	45
Mobile Recharge	31
Other	12

Interpretation: Fund Transfer is the most popular online banking service, used by 68 respondents. Account Management is also widely used, with 52 respondents. Bill Payment and Mobile Recharge

are also popular, used by 45 and 31 respondents respectively. This shows customers value convenience and flexibility in online banking services.

5. Have you used mobile banking services?

Table-5: Mobile banking services

MOBILE BANKING USAGE	FREQUENCY	PERCENTAGE
Yes	82	82%
No	18	18%
Total	100	100%

Interpretation: 82% of respondents have used mobile banking services, indicating a high level of adoption. 18% of respondents have not used mobile banking services, suggesting that there may be opportunities to promote mobile banking to this group.

6. How satisfied are you with the mobile banking services?

Table-6: Satisfaction level with mobile banking services

SATISFACTION LEVEL	FREQUENCY	PERCENTAGE
Highly Satisfied	35	35%
Satisfied	45	45%
Neutral	10	10%
Dissatisfied	8	8%
Highly Dissatisfied	2	2%
Total	100	100%

Interpretation: Most respondents (80%) are satisfied with mobile banking services, with 35% being highly satisfied. This shows mobile banking is meeting expectations. However, 10% are dissatisfied, and another 10% are neutral, indicating areas for improvement to enhance the overall experience.

7. Have you used internet banking services?

Table-7: Internet banking usage

INTERNET BANKING USAGE	FREQUENCY	PERCENTAGE
Yes	85	85%
No	15	15%
Total	100	100%

Interpretation: A significant majority (85%) of respondents have used internet banking services, showing high adoption. However, 15% haven't used it, indicating an opportunity for banks to promote and encourage adoption among this group.

8. How satisfied are you with the internet banking services?

Table-8: Satisfaction level with internet banking services

SATISFACTION LEVEL	FREQUENCY	PERCENTAGE
Highly Satisfied	32	32%
Satisfied	43	43%
Neutral	6	6%
Dissatisfied	3	3%
Highly Dissatisfied	1	1%
Total	100	100%

Interpretation: Most respondents (88.2%) are satisfied with internet banking services, with 37.6% being highly satisfied. This shows internet banking is meeting expectations. However, 4.7% are dissatisfied, and 7.1% are neutral, indicating areas for improvement to enhance the overall experience.

9.How concerned are you about security issues in online banking?

Table-9: Security issues in online banking

SECURITY CONCERN LEVEL	FREQUENCY	PERCENTAGE
Highly Concerned	42	42
Concerned	38	38
Neutral	12	12
Not Very Concerned	6	6
Not at All Concerned	2	2
Total	100	100

Interpretation:Most respondents (80%) are concerned about security issues in online banking, with 42% being highly concerned. This shows security is a top priority. However, 8% aren't concerned, and 12% are neutral, indicating potential gaps in security awareness that banks could address.

10.Have you experienced any security issues with online banking?

Table-10: Security issues in online banking

SECURITY ISSUES EXPERIENCED	FREQUENCY	PERCENTAGE
Yes	23	23%
No	77	77%
Total	100	100%

Interpretation: 23% of respondents have experienced security issues with online banking, indicating a notable level of security incidents.77% of respondents have not experienced security issues, suggesting that most respondents have had a secure online banking experience.

11.How satisfied are you with the overall digital banking services?

Table-11: Satisfaction with overall digital banking services

OVERALL SATISFACTION	FREQUENCY	PERCENTAGE
Highly Satisfied	28	28%
Satisfied	52	52%
Neutral	10	10%
Dissatisfied	8	8%
Highly Dissatisfied	2	2%
Total	100	100%

Interpretation: Most respondents (80%) are satisfied with digital banking services, showing a high level of satisfaction. However, 10% are dissatisfied, and another 10% are neutral, indicating areas for improvement to further enhance the digital banking experience.

12.How likely are you to recommend digital banking services to others?

Table-12: Likelihood to recommend

LIKELIHOOD TO RECOMMEND	FREQUENCY	PERCENTAGE
Highly Likely	35	35%
Likely	45	45%
Neutral	12	12%
Unlikely	6	6%
Highly Unlikely	2	2%
Total	100	100%

Interpretation: Most respondents (80%) are likely to recommend digital banking services, showing a high level of advocacy. However, 8% are unlikely to recommend, and 12% are neutral, indicating areas for improvement to increase customer loyalty and advocacy.

13.What problems have you faced while using digital banking services? (Select all that apply)

Table-13: Problems faced by using digital banking services

PROBLEMS FACED	FREQUENCY
Technical Issues	30
Security concerns	25
User Interface Issues	18
Transaction Failures	22
Other	10

Interpretation: Technical Issues (30%) and Security Concerns (25%) are the most common problems faced by respondents while using digital banking services.Transaction Failures (22%) and User Interface Issues (18%) are also significant concerns, indicating areas for improvement.10 respondents reported other problems, which may include issues not listed in the options.

14.How often do you face problems while using digital banking services?

Table-14: Frequency of problems while using digital banking services

FREQUENCY OF PROBLEMS	FREQUENCY	PERCENTAGE
Frequently	8	8%
Occasionally	30	30%
Rarely	45	45%
Never	17	17%
Total	100	100%

Interpretation: Most respondents (45%) face problems rarely, showing digital banking services are generally reliable. However, 30% face problems occasionally, and 8% face problems frequently, highlighting areas for improvement. Meanwhile, 17% of respondents never face problems, indicating high satisfaction with digital banking services.

15.How has digital banking impacted your banking experience?

Table-15: Impact on banking experience

IMPACT ON BANKING EXPERIENCE	FREQUENCY	PERCENTAGE
Significantly Improved	40	40%
Improved	45	45%
No Impact	8	8%
Worsened	5	5%
Significantly Worsened	2	2%
Total	100	100%

Interpretation:Most respondents (85%) reported an improved banking experience due to digital banking, with 40% seeing significant improvement. However, 7% reported a worsened experience, and 8% saw no impact, indicating areas for improvement to enhance digital banking services for all users.

16.Do you think digital banking has increased your convenience?

Table-16: Customer convenience using digital banking

INCREASED CONVENIENCE	FREQUENCY	PERCENTAGE
Yes	92	92%
No	8	8%
Total	100	100%

Interpretation:92% of respondents believe digital banking has increased their convenience, indicating a significant positive impact.8% of respondents do not think digital banking has increased their convenience, highlighting potential areas for improvement.

17.Do you use credit cards for online transactions?

Table-17: Credit card usage for online transactions

CREDIT CARD USAGE FOR ONLINE TRANSACTIONS	FREQUENCY	PERCENTAGE
Yes	68	68%
No	32	32%
Total	100	100%

Interpretation:68% of respondents use credit cards for online transactions, indicating a significant reliance on credit cards for online payments.32% of respondents do not use credit cards for online transactions, suggesting alternative payment methods are being used.

18.How satisfied are you with the ATM services?

Table-18: Satisfaction with ATM services

SATISFACTION WITH ATM SERVICES	FREQUENCY	PERCENTAGE
Highly Satisfied	25	25%
Satisfied	55	55%
Neutral	10	10%
Dissatisfied	8	8%
Highly Dissatisfied	2	2%
Total	100	100%

Interpretation:Most respondents (80%) are satisfied with ATM services, showing a high level of satisfaction. However, 10% are dissatisfied, and another 10% are neutral, indicating areas for improvement to further enhance the ATM experience and meet all users' expectations.

19.Are you aware of the rules and regulations regarding online banking guided by RBI?

Table-19: Awareness of RBI rules and regulations

AWARENESS OF RBI RULES AND REGULATIONS	FREQUENCY	PERCENTAGE
Yes	60	60%
No	40	40%
Total	100	100%

Interpretation:60% of respondents are aware of the RBI rules and regulations regarding online banking, indicating a moderate level of awareness.40% of respondents are not aware, highlighting a need for education and awareness programs.

20.Do you think the RBI guidelines are sufficient to ensure security in online banking?

Table-20: Sufficiency of RBI guidelines

SUFFICIENCY OF RBI GUIDELINES	FREQUENCY	PERCENTAGE
Yes	55	55%
No	20	20%
Total	100	100%

Interpretation:55% of respondents think RBI guidelines are sufficient, showing moderate confidence. However, 20% disagree, and 25% are neutral, indicating some concerns and uncertainties about security guidelines that may need to be addressed.

V. FINDINGS

1. A majority (70%) of the respondents are aged between 18–35 years, indicating that young adults are the primary users of digital banking services.
2. Most respondents (55%) are working professionals, suggesting that digitally active and financially engaged individuals dominate the sample.
3. 67% of respondents use online banking daily, reflecting a strong dependence on digital platforms for financial transactions.
4. Fund transfers are the most commonly used online service, utilized by 68 respondents, indicating its central role in digital banking.
5. 82% of respondents have used mobile banking, showcasing its widespread adoption and integration into users' daily banking habits.
6. 80% of respondents are satisfied with mobile banking, signifying that these services are largely meeting user expectations.

VI. SUGGESTIONS

1. Enhance security measures: Given the high level of concern about online banking security (80%) and the percentage of users who have encountered security issues (23%), banks should prioritize robust cybersecurity measures to protect user data and transactions.
2. Improve technical infrastructure: Technical issues are a top problem (30%), so banks should invest in improving their technical infrastructure to minimize downtime and ensure smooth service delivery.
3. Educate users about RBI guidelines: 40% of respondents are unaware of RBI guidelines, so banks should launch awareness programs to educate users about regulatory guidelines and best practices for digital banking.

VII. CONCLUSION

The data underscores the pivotal role of digital banking in contemporary financial transactions, highlighting its widespread adoption and the significant benefits it offers to users. A substantial majority of respondents expressed satisfaction with digital banking services, primarily due to the convenience and enhanced banking experience it provides. This satisfaction stems from the ability to conduct financial transactions anytime and anywhere, which is a hallmark of digital banking. The improved banking experience is attributed to the efficiency, speed, and accessibility of digital banking platforms, which have revolutionized the way financial transactions are conducted.

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