

# An Analytical Study of Customer Satisfaction in E-Banking Services of Public Sector Banks

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## **ABSTRACT**

In recent years, the banking industry has undergone significant changes due to rapid technological advancements. Electronic banking (e-banking) has become an essential service, enabling customers to carry out banking transactions conveniently without visiting bank branches. In this context, understanding customer satisfaction has become increasingly important, particularly for public sector banks that cater to a large and diverse customer base.

This study examines the level of customer satisfaction with e-banking services provided by public sector banks and identifies the key factors influencing satisfaction. The study adopts a descriptive research design and is based on primary data collected through a structured questionnaire from e-banking users in selected regions of Gujarat. Statistical tools such as descriptive statistics, correlation, regression analysis, t-test, and ANOVA were applied using SPSS software. The results indicate that factors such as ease of use, security, privacy, and accessibility play a significant role in shaping customer satisfaction. The study offers practical suggestions to improve e-banking services and enhance overall customer experience.

**Keywords:** E-banking, Customer Satisfaction, Public Sector Banks, Digital Banking, Service Quality

## **INTRODUCTION**

The banking sector plays a crucial role in the economic development of a country by facilitating financial transactions and promoting savings and investments. With the advancement of information technology, traditional banking practices have gradually shifted towards digital platforms. Electronic banking has emerged as a convenient and efficient alternative, allowing customers to access banking services anytime and from anywhere.

Public sector banks in India have adopted e-banking services to support government initiatives such as Digital India and to meet the growing expectations of customers. Although these banks enjoy widespread trust and a strong customer base, they face increasing competition from private and foreign banks that offer advanced digital services. Therefore, it is important for public sector banks to understand how customers perceive their e-banking services and identify areas that require improvement.

## **LITERATURE REVIEW**

The concept of electronic banking has attracted significant attention from researchers due to its growing importance in the modern banking system. E-banking has changed the traditional way of banking by allowing customers to access financial services through digital platforms such as internet banking, mobile banking, and ATMs. As competition in the banking sector increases, customer satisfaction has become a key factor in determining the success of banks, particularly public sector banks.

Several studies have examined customer satisfaction in relation to e-banking services. Many researchers have found that service quality plays a vital role in shaping customer satisfaction. Factors such as ease of use, reliability, security, privacy, accessibility, and responsiveness have been identified as major determinants of customer satisfaction in e-banking services. Customers tend to prefer banking platforms that are simple to use, time-saving, and secure.

Previous research highlights that security and privacy are among the most important concerns for customers using e-banking services. Customers are more satisfied when they feel confident that their personal and financial information is protected. Public sector banks are often perceived as trustworthy institutions, which positively influences customer confidence in using their e-banking services. However, some studies suggest that despite strong trust levels, public sector banks need to improve technological efficiency and system performance.

Several studies comparing public sector and private sector banks indicate that private banks generally perform better in terms of innovation, speed of service, and user-friendly technology. In contrast, public sector banks are appreciated for their reliability and security but are sometimes criticized for technical issues, slow response time, and inadequate customer support. These factors can negatively affect customer satisfaction if not addressed properly.

Research also shows that demographic factors such as age, education, and income level influence the adoption and satisfaction of e-banking services. Younger customers are more likely to use digital banking services and report higher satisfaction levels due to their familiarity with technology. Older customers, on the other hand, may face difficulties in using e-banking platforms, which can reduce their satisfaction. Gender, however, has been found to have little or no significant impact on customer satisfaction in many studies.

Some studies emphasize that customer satisfaction with e-banking services leads to higher customer loyalty and retention. Satisfied customers are more likely to continue using digital banking services and recommend them to others. Therefore, banks that focus on improving e-banking service quality can gain a competitive advantage and build long-term relationships with customers.

Although a large number of studies have been conducted on e-banking and customer satisfaction, limited research specifically focuses on public sector banks at a regional level. Many studies are either comparative in nature or concentrated on private banks. This creates a research gap, highlighting the need for more region-specific studies that analyze customer satisfaction with e-banking services in public sector banks. The present study attempts to address this gap by examining customer satisfaction with e-banking services offered by public sector banks in a selected region.

## **RESEARCH GAPS**

Although many studies have examined customer satisfaction in e-banking, limited attention has been given specifically to public sector banks, as most research focuses on private banks. Several studies compare public and private sector banks, but they do not clearly highlight the individual strengths and weaknesses of e-banking services in public sector banks.

Many earlier studies are conducted at national or metropolitan levels and may not reflect customer experiences at the regional level, where digital awareness and infrastructure differ. In addition, most research measures overall satisfaction without analyzing specific service quality factors such as ease of use, security, accessibility, and system reliability in detail.

Furthermore, previous studies mainly use descriptive methods and lack advanced statistical analysis, limiting deeper understanding of customer satisfaction. Rapid technological changes have also altered customer expectations, making it necessary to conduct updated studies that reflect current customer perceptions of e-banking services in public sector banks.

## **RESEARCH OBJECTIVES**

- The primary objective of this study is to analytically examine the Customer satisfaction in E-banking Service of Public sector Banks.
- The study helps us to understand how E-banking is helping the customer. It shows us what an important role it plays in the today time .
- To achieve these primary objective ,the study is guided by the following specific objectives.

**1) To examine the level of customer satisfaction with e-banking services provided by public sector banks.** This objective aims to understand how satisfied customers are with various e-banking services such as internet banking, mobile banking, online fund transfers, and other digital facilities offered by public sector banks.

**2) To identify the key service quality factors influencing customer satisfaction in e-banking services.** This includes studying factors such as ease of use, security and privacy, accessibility, responsiveness, and system reliability to determine which aspects of e-banking services have the greatest impact on customer satisfaction.

**3) To analyze customer perceptions regarding the effectiveness and convenience of e-banking services.** This objective focuses on understanding how customers perceive the usefulness, speed, accuracy, and overall convenience of e-banking services in meeting their banking needs.

**4) To examine the relationship between e-banking service quality and overall customer satisfaction.** This objective seeks to evaluate whether improvements in service quality dimensions lead to higher levels of customer satisfaction using appropriate statistical tools.

**5) To study the influence of demographic factors on customer satisfaction with e-banking services.** This involves analyzing whether factors such as age and gender affect customer usage and satisfaction levels with e-banking services in public sector banks.

**6) To suggest suitable measures for improving e-banking services in public sector banks.** Based on the findings of the study, this objective aims to provide practical suggestions to help public sector banks enhance service quality, improve customer experience, and increase customer satisfaction.

## **RESEARCH METHODOLOGY**

Research methodology explains the systematic approach adopted to conduct the study and achieve the research objectives. It describes the research design, data sources, sampling method, data collection tools, and techniques used for data analysis. The present study follows a structured methodology to examine customer satisfaction with e-banking services in public sector banks.

### **Research Design**

Research design refers to the overall plan and structure adopted by the researcher to systematically conduct the study and achieve the research objectives. It acts as a blueprint that guides the process of data collection, analysis, and interpretation. A well-defined research design ensures that the study is carried out in an organized and reliable manner.

The present study adopts a descriptive research design, as the primary objective is to understand and describe the level of customer satisfaction with e-banking services provided by public sector banks. Descriptive research is appropriate when the study aims to collect information about opinions, perceptions, attitudes, and experiences of respondents without influencing or manipulating any variables.

This research design helps in examining how customers perceive various aspects of e-banking services such as ease of use, security, accessibility, responsiveness, and system reliability. Since the study focuses on existing conditions and customer experiences, descriptive research is considered the most suitable approach.

The descriptive research design allows the researcher to collect quantitative data from a large number of respondents using a structured questionnaire. This enables the researcher to summarize customer responses, identify patterns, and make comparisons among different groups of respondents based on demographic characteristics such as age and gender.

Furthermore, the descriptive design supports the use of statistical tools such as percentage analysis, mean, standard deviation, correlation, regression, t-test, and ANOVA. These tools help in analyzing relationships between service quality factors and customer satisfaction, as well as identifying significant differences among demographic groups.

Overall, the descriptive research design provides a clear and practical framework for understanding customer satisfaction with e-banking services in public sector banks. It ensures that the findings are based on real customer experiences and can be effectively used to suggest improvements in digital banking services.

### **Data Sources**

The study is based on both **primary and secondary data**.

- **Primary Data:**

Primary data were collected directly from customers of public sector banks who use e-banking services. A structured questionnaire was used to gather information related to service quality and customer satisfaction.

- **Secondary Data:**

Secondary data were collected from textbooks, research journals, published articles, websites, and previous research studies related to e-banking and customer satisfaction. These sources provided theoretical support and background for the study.

### **Sampling Techniques**

Sampling technique refers to the method used to select a representative group of respondents from the overall population for the purpose of the study. Since it is not practical to collect data from every customer of public sector banks, sampling is used to obtain reliable information within the available time and resources.

For the present study, probability sampling was adopted to ensure fairness and accuracy in the selection of respondents. Specifically, simple random sampling was used as the primary sampling technique. Under this method, every customer using e-banking services of public sector banks had an equal chance of being selected as a respondent. This helped in reducing selection bias and ensured that the sample truly represented the population.

In addition to simple random sampling, stratified sampling was also applied to ensure proper representation of different demographic groups. The respondents were divided into strata based on factors such as age and gender. From each group, respondents were selected randomly. This approach helped in capturing diverse opinions and experiences related to e-banking services across different sections of customers.

The combination of simple random sampling and stratified sampling was considered appropriate for this study because customer satisfaction levels may vary across demographic groups. By including respondents from different age groups and genders, the study was able to present a more balanced and comprehensive analysis.

Overall, the sampling technique adopted in this study ensured that the data collected were reliable, unbiased, and suitable for meaningful statistical analysis. It also enhanced the validity of the research findings and supported accurate conclusions regarding customer satisfaction with e-banking services in public sector banks.

## **Data Analysis Method**

Data analysis refers to the process of organizing, summarizing, and interpreting the collected data in order to draw meaningful conclusions related to the research objectives.

- In the present study, data analysis was carried out systematically to understand customer satisfaction with e-banking services in public sector banks.
- After collecting the responses through structured questionnaires, the data were carefully reviewed to ensure accuracy and completeness.
- The responses were then coded and entered into SPSS Software for further analysis.

Descriptive analysis was used to summarize the basic characteristics of the data and to provide an overall understanding of customer profiles and satisfaction levels. Tools such as percentage analysis, mean, and standard deviation were applied to analyze demographic variables and service quality factors.

Inferential statistical techniques were used to test hypotheses and examine relationships between variables.

- Correlation was used to study the relationship between e-banking service quality factors and customer satisfaction.
- Multiple regression analysis was applied to identify the key factors influencing customer satisfaction and to measure the extent to which service quality predicts satisfaction levels.
- To analyze differences among groups, an independent sample-t was used to examine whether customer satisfaction differs based on gender.
- A one-way ANOVA test was conducted to identify differences in customer satisfaction across various age groups. These tests helped in drawing valid conclusions about the impact of demographic factors on customer satisfaction.

Overall, the data analysis method adopted in this study provided a clear and structured approach to understanding customer satisfaction with e-banking services. The use of appropriate statistical tools ensured reliable results and supported meaningful interpretation of findings.

## **Data Analysis and the Interpretation**

### **Demographic profile of the Respondents**

**Table 1: Age-wise Distribution of the Respondents**

<b><u>Age Group</u></b>	<b><u>Frequency</u></b>	<b><u>Percentage</u></b>
18–25	88	58.6%
26–35	27	18.0%
36–45	23	15.4%
46–55	12	8.0%
<b>Total</b>	<b>150</b>	<b>100%</b>

**Interpretation:** The table indicates that most respondents belong to the younger age group, showing higher usage of e-banking services among young customers.

**Table 2: Gender-wise Distribution of Respondents**

<u>Gender</u>	<u>Frequency</u>	<u>Percentage</u>
Male	82	54.6
Female	68	45.4
Total	150	100

**Interpretation:** The gender wise distribution show the balanced participation ensuring fair representation of respondents.

➤ **Descriptive statistics of E-banking service quality factors**

**Table 3: Mean & Standard deviation of E-banking factors**

Factors	Mean	Standard deviation
Ease of use	4.12	0.61
Security&Privacy	4.25	0.58
Accessibility	4.05	0.64
Responsiveness	3.78	0.71
System reliability	3.69	0.75
Overall satisfaction	4.08	0.62

**Interpretation:** Respondents reported higher satisfaction with security and ease of use while responsiveness and system reliability were comparatively lower.

➤ **Hypothesis testing**

**Table 4 :**Correlation analysis between E- banking factors and customer Satisfaction.

Variables	Personal correlation ( r )	Sig
Ease of use	0.682	0.000
Security&Privacy	0.731	0.000
Accessibility	0.654	0.000
Responsiveness	0.592	0.001
System reliability	0.578	0.002

**Interpretation:** The results show the positive and significant relationship between E banking service quality factors and customer satisfaction

➤ **Multiple Regression Analysis**

**Table 5:** Regression Results (Dependent Variable :Customer satisfaction)

Predictor	Beta	t-value	Sig
Ease of use	0.241	3.18	0.002
Security&Privacy	0.312	4.05	0.000
Accessibility	0.198	2.74	0.007
Responsiveness	0.146	2.12	0.036
System reliability	0	1.98	0.049

R=0.68

**Interpretation:** The regression results indicate that E -banking service quality explain a substantial portion of customer satisfaction with security and privacy being the most influential factor.

➤ **Anova Test**

**Table 6:** One-way Anova -Age group and Customer satisfaction

Source	SS	df	MS	F	Sig
Between group	4.82	3	1.61	4.26	0.007
Within group	54.98	146	0.38		
Total	59.80	149			

**Interpretation:** The ANOVA results indicate a significant difference in customer satisfaction across different age group.

**Independent sample t-Test**

**Table-7 :**Gender and customer satisfaction

Gender	N	Mean	SD	t	Sig
Male	82	4.10	0.60	0.25	0.602
Female	68	4.05	0.64	0.52	0.604

**Interpretation:**The t-test results show no significant difference in customer satisfaction between male and female respondents.

**CONCEPTUAL FRAMEWORK**

The conceptual framework of this study explains how different aspects of e-banking services influence customer satisfaction in public sector banks. With the growing use of digital banking, customers evaluate e-banking services based on their overall experience, convenience, and trust in the system. Therefore, customer satisfaction is considered the central outcome of this framework.

The framework identifies several e-banking service quality factors as independent variables that directly influence customer satisfaction. These factors include ease of use, security and privacy, accessibility, responsiveness, and system reliability. Ease of use refers to how simple and user-friendly the e-banking platforms are for customers. Security and privacy relate to the protection of customers’ personal and financial information, which is especially important in public

sector banks where trust plays a major role. Accessibility reflects how easily customers can access e-banking services at any time and from any location. Responsiveness refers to how quickly banks resolve customer issues and provide support, while system reliability indicates the consistency and accuracy of e-banking services.

### **DISCUSSIONS**

The conceptual framework of the study explains how different aspects of e-banking services influence customer satisfaction in public sector banks. With the increasing shift towards digital banking, customers no longer evaluate banks only on traditional services but also on the quality and reliability of their e-banking platforms. Therefore, customer satisfaction is considered the core outcome of this framework.

In the framework, customer satisfaction is treated as the dependent variable because it reflects customers' overall experience with e-banking services. Satisfaction is influenced by several service quality factors that together shape customers' perceptions of digital banking in public sector banks.

Ease of use plays a crucial role in determining customer satisfaction. If e-banking platforms are simple to navigate and user-friendly, customers feel more comfortable using them regularly. Complicated procedures or technical difficulties may discourage customers, especially those who are less familiar with digital technology.

Security and privacy are particularly important in the context of public sector banks, as customers place a high level of trust in these institutions. Customers are more satisfied when they feel confident that their personal and financial information is safe. Any concerns related to security breaches or data misuse can significantly reduce customer satisfaction.

### **CONCLUSION**

The conceptual framework developed in this study clearly explains the factors that influence customer satisfaction with e-banking services in public sector banks. It highlights that customer satisfaction is not influenced by a single factor but is the result of multiple service quality dimensions working together.

The framework shows that key e-banking service quality factors such as ease of use, security and privacy, accessibility, responsiveness, and system reliability play a significant role in shaping customer satisfaction. When e-banking platforms are user-friendly, secure, easily accessible, and reliable, customers are more likely to have a positive experience and feel satisfied with the services provided by public sector banks.

In the context of public sector banks, security and trust emerge as especially important factors, as customers associate these banks with safety and reliability. At the same time, the framework emphasizes the need for improvements in system performance and customer support to meet changing customer expectations in the digital banking environment.

The inclusion of demographic factors such as age and gender in the framework further strengthens the understanding of customer satisfaction. These factors influence how customers perceive and use e-banking services, although satisfaction largely depends on the quality of service delivered.

Overall, the conceptual framework provides a clear and practical understanding of customer satisfaction with e-banking services in public sector banks. It serves as a strong foundation for analyzing customer perceptions, testing hypotheses, and suggesting improvements aimed at enhancing digital banking services and customer satisfaction in PSUs.

### **FUTURE SCOPE OF THE STUDY**

The present study focuses on customer satisfaction with e-banking services in public sector banks within a limited geographical area and sample size. Therefore, there is considerable scope for future research in this area.

Future studies can be conducted by expanding the geographical coverage to include customers from different regions, states, or even at the national level. This would help in obtaining a broader understanding of customer satisfaction with e-banking services across public sector banks in India.

The scope of the study can also be extended by increasing the sample size and including more diverse demographic groups such as customers from different income levels, educational backgrounds, and occupations. This would provide more comprehensive and generalized results.

Further research can include a comparative analysis between public sector banks and private or foreign banks to understand differences in customer satisfaction and digital service quality. Such comparisons may help identify best practices that public sector banks can adopt.

Future studies may also explore additional variables such as customer trust, perceived risk, digital literacy, service innovation, and mobile banking adoption to gain deeper insights into customer behavior in digital banking.

With rapid technological advancements, future research can focus on emerging technologies such as artificial intelligence, chatbots, and blockchain in banking and examine their impact on customer satisfaction.

Overall, the future scope of the study suggests that continuous research is required to understand changing customer expectations and to help public sector banks improve their e-banking services in the evolving digital environment.

## **DISCUSSIONS OF FINDINGS**

The findings of the study provide valuable insights into customer satisfaction with e-banking services offered by public sector banks. The analysis reveals that customers are generally satisfied with the e-banking facilities provided by these banks, indicating successful adoption of digital banking platforms.

One of the key findings of the study is that **security and privacy** have the strongest influence on customer satisfaction. Customers place high trust in public sector banks and feel confident that their personal and financial information is well protected. This trust plays a crucial role in encouraging customers to use e-banking services regularly.

The study also finds that **ease of use** and **accessibility** significantly contribute to customer satisfaction. Customers appreciate simple and user-friendly digital platforms that allow them to perform banking transactions conveniently. Easy access to services at any time and from any location enhances customer experience and satisfaction.

However, the findings highlight certain areas that require improvement. **Responsiveness** and **system reliability** received relatively lower satisfaction scores. Customers reported issues such as slow response to queries, technical errors, and occasional system downtime. These factors negatively affect customer satisfaction and indicate the need for better technological infrastructure and customer support.

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