

Exploring the Nexus Between E-Banking, E-Service Quality, and Satisfaction

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Abstract

Customer satisfaction plays a vital role in the success and growth of any business. This study explores the impact of e-banking service quality dimensions on customer satisfaction (CS) at Rajkot Nagarik Sahakari Bank in Rajkot. The research focuses on four key service quality dimensions: convenience, privacy, ease of use, and security, based on data collected from 120 e-banking customers through a questionnaire. Using SPSS software, the study's hypotheses were tested, and the findings revealed that convenience, ease of use, and security were the most significant factors influencing customer satisfaction. To enhance customer satisfaction, it is recommended that Rajkot Nagarik Sahakari Bank focus on these three dimensions by investing in employee training, strengthening security measures to build customer trust, and ensuring that e-banking services are reliable and easily accessible. This approach will give the bank a competitive advantage in the cooperative banking sector, where competition is fierce. Customers expressed dissatisfaction with the privacy dimension, suggesting that the bank should invest in advanced technology and revise its policies to better safeguard customer privacy.

Key Words : E-Banking, Service Quality, Customer Satisfaction

Introduction

In recent years, the proliferation of e-banking services has significantly transformed the financial industry, offering customers enhanced convenience and accessibility. As the adoption of these digital platforms increases, understanding the factors that influence customer satisfaction becomes crucial for financial institutions aiming to maintain a competitive edge.

Recent studies have delved into the relationship between e-service quality and customer satisfaction in the context of electronic banking. For instance, Subahudin and Shahrom (2023) investigated the impact of various e-banking service quality dimensions—such as reliability, privacy and security, website design, and customer service support—on customer satisfaction. Their findings indicate a strong and significant relationship between these factors and customer satisfaction, with customer service and support emerging as the most influential dimension.

Similarly, a study by Al-Hawary and Al-Smeran (2017) examined the effect of electronic banking service quality on customer satisfaction in Jordanian banks. The research highlighted that dimensions like reliability, efficiency, ease of use, responsiveness, communication, security, and privacy significantly impact customer satisfaction.

These insights underscore the importance of continuously assessing and enhancing e-service quality dimensions to foster customer satisfaction in the evolving landscape of electronic banking.

Literature Review and Hypothesis Development

Customer Satisfaction and E-Banking

Customer satisfaction plays a pivotal role in the success of the banking sector, with the quality of electronic banking services being a key factor influencing customer satisfaction. Al-Hawari and Ward (2006) identified a positive relationship between electronic service quality and customer satisfaction in the banking industry. Similarly, Yang and Jun (2002) found that the quality of e-banking services had a positive effect on customer satisfaction. In addition, Wang et al. (2017) demonstrated that customer satisfaction with e-banking services was significantly influenced by factors like perceived usefulness, ease of use, and security. Moreover, Uppal and Kaur (2021) emphasized that the quality of e-banking services is a critical determinant of customer satisfaction, loyalty, and retention. These findings suggest that banks should prioritize the enhancement of their electronic banking services to improve customer satisfaction and loyalty.

E- SERVQUAL Model Dimensions

The SERVQUAL model, developed by Parasuraman, Zeithaml, and Berry (1988), has been widely used to evaluate service quality across various industries, including banking. The model identifies five dimensions—tangibles, reliability, responsiveness, assurance, and empathy—that influence customer perceptions of service quality. In the context of e-banking, these dimensions have been adapted to assess electronic service quality (e-SERVQUAL) and its impact on customer satisfaction.

Convenience and Customer Satisfaction

Several studies have emphasized the significance of convenience as a key driver of customer satisfaction in the e-banking sector. For instance, Al-Hawari and Ward (2006) found that convenience was one of the most important factors influencing customer satisfaction with e-banking services in the Jordanian banking sector. Their research demonstrated that banks that offered easy-to-use platforms, with services available around the clock, were more likely to experience higher levels of customer satisfaction. The convenience dimension in this study also encompassed factors such as user-friendly online interfaces and the ability for customers to complete transactions with minimal effort.

Similarly, Yang and Jun (2002) noted that e-service convenience, especially in terms of ease of use and accessibility, directly impacted customer perceptions of e-banking quality. Their research highlighted that when customers could quickly and easily access banking services at their convenience, it enhanced their overall satisfaction, leading to greater loyalty.

Convenience in this context was viewed as an essential component of the perceived value customers derive from e-banking services.

Moreover, Wang et al. (2017) argued that the convenience factor, particularly the speed and ease of completing transactions, was a crucial determinant in e-banking satisfaction.

According to their findings, customers are more likely to choose digital banking solutions that provide fast, efficient services, thus saving time and effort. The study illustrated that an efficient digital banking interface that enables customers to quickly complete tasks such as transfers, bill payments, and account inquiries without encountering technical barriers or delays contributes to higher levels of customer satisfaction.

H1: The convenience dimension significantly influences customer satisfaction at Rajkot Nagrik Sahakari Bank.

Privacy and Customer Satisfaction

Multiple studies highlight that privacy concerns significantly affect customer satisfaction in e-banking. For instance, (Pikkarainen et al., 2004) found that customers who are assured of privacy protection are more likely to engage with e-banking services and show higher satisfaction. A similar study by (Suh & Han, 2003) demonstrated that privacy issues directly affect trust, which in turn influences customer satisfaction. The more customers trust that their information is secure, the more satisfied they are with the services provided.

Moreover, a study by (Alalwan et al., 2017) emphasized that privacy issues in e-banking are often linked to concerns about financial fraud, identity theft, and unauthorized transactions. If a bank's privacy policies are unclear or ineffective, customers may feel exposed to risks, leading to dissatisfaction. In contrast, clear communication about privacy measures and a robust security infrastructure can significantly increase satisfaction levels.

H2: The Privacy dimension significantly influences customer satisfaction at Rajkot Nagrik Sahakari Bank

Ease of Use and Satisfaction

Studies show that the ease of use of e-banking services significantly affects customer satisfaction. A study by Parasuraman, Zeithaml, and Malhotra (2005) found that convenience and ease of use are among the most crucial factors influencing customer satisfaction in e-banking. Customers are more likely to adopt and continue using e-banking services when they find them easy to use and understand.

Similarly, a study by Pikkarainen et al. (2004) revealed that customers who perceived the online banking interface as easy to use were more satisfied with their banking experience. The study further noted that ease of use directly impacts customers' willingness to use e-banking services frequently, suggesting that providing an intuitive and simple platform can foster customer loyalty.

Furthermore, the integration of new features or tools into e-banking platforms should always focus on enhancing usability. For instance, the availability of mobile banking apps with user-friendly interfaces and easy navigation helps improve the overall customer experience and satisfaction levels (Lichtenstein & Williamson, 2006).

H3: The Ease of use dimension significantly influences customer satisfaction at Rajkot Nagrik Sahakari Bank.

Security and Customer Satisfaction

A robust security system has a direct impact on customer trust, which in turn affects satisfaction levels. According to (Suh & Han, 2003), security is a vital dimension that influences customer satisfaction in e-banking services. When customers trust that their personal and financial information is secure, they are more likely to engage with the bank's services and continue using them. Conversely, a lack of security or data breaches can severely impact customer loyalty and satisfaction.

Furthermore, a study by (Alalwan et al., 2017) emphasized that security concerns are often tied to the fear of fraud, hacking, and unauthorized transactions. Customers who feel vulnerable to such risks are less likely to be satisfied with their online banking experience.

Therefore, providing secure platforms that protect customer data and financial transactions is crucial in enhancing customer satisfaction. Banks that invest in robust security systems, such as two-factor authentication, encryption, and fraud detection measures, are more likely to earn customer trust and satisfaction.

H4: The Security dimension significantly influences customer satisfaction at Rajkot Nagrik Sahakari Bank.

Objectives of the study

The present study has been carried out to fulfill the following objectives:

To gain insight into customers' preferences for the e-banking services provided by a bank.

To analyze the relationship between e-service quality dimensions and customer satisfaction in e-banking.

To identify the key factors of e-service quality that significantly influence customer satisfaction.

Research Methodology

This research adopts a descriptive research design to explore how individuals utilize e-banking services and to evaluate their satisfaction levels. The study employs the SERVQUAL model to analyse various dimensions of service quality, such as reliability, responsiveness, assurance, empathy, and tangibility. By examining these factors, the research aims to assess whether customers are satisfied with the e-banking services provided by banks and identify areas for improvement to enhance the overall user experience.

Sampling

In this research, a sample size of 120 individuals has been selected to assess customer satisfaction with the e-banking services offered by Rajkot Nagarik Sahakari Bank. The study

aims to gain insights into user experiences, preferences, and areas of improvement by evaluating how effectively the bank's e-banking services meet the needs and expectations of its customers.

Statistical Analysis

For the analysis of customer satisfaction in e-banking services, a combination of SPSS (Statistical Package for the Social Sciences) and Excel was used to provide a comprehensive understanding of the data. The analytical methods employed were Mean, Percentage, Frequency Distribution, and Regression Analysis. Below is an elaboration on the purpose and use of each method..

Table 1 Demographics details of the Study

Demographic Category	Category	No. of Respondents	Percentage (%)
Gender	Male	64	53.3
	Female	56	46.7
Age Group	Below 25 years	71	59.2
	26-35 years	23	19.2
	36-45 years	18	15
	46 years and above	8	6.7
Educational Qualifications	SSC	15	12.5
	HSC	9	7.5
	Graduation	50	41.7
	Masters	40	33.3
	Other	6	5
Occupation	Student	51	42.5
	Self-employed	23	19.2
	Businessman	23	19.2
	Retired	8	6.7
	Other	15	12.5
Annual Income	Below 100000	59	49.2
	Rs 100000-300000	32	26.7
	Rs 300000-600000	25	20.8
	Rs 600000 & Above	4	3.3

Place of Residence	Urban	92	76.7
	Rural	16	13.3
	Semi-urban	12	10

Data Analysis and Interpretation

The following section provides an in-depth explanation of the data analysis process and the subsequent interpretation of the results. The analysis was performed using SPSS (Statistical Package for the Social Sciences) and Excel, employing a range of statistical methods including Mean Analysis, Percentage Analysis, Frequency Distribution, and Regression Analysis. These techniques were chosen to provide a comprehensive understanding of the factors influencing customer satisfaction with e-banking services.

Objective 1: To gain insight into customers' preferences for the e-banking services provided by a bank.

To understand customers' preferences towards various e-banking services, a multiple-choice question was asked. **Table 2** presents the results of this question, highlighting the services that respondents prefer.

Table 2: Preference towards E-Banking Services

E-banking services	No. of Respondents
Pay your Bills Online	73
View Transaction Status	60
Time-Saving	69
Ease of Access	57

The table illustrates the preferences of respondents towards various e-banking services. The most favored service is online bill payment, with 73 respondents indicating a strong demand for this feature, highlighting its convenience in managing payments electronically. Time-saving is another significant factor, as 69 respondents value the efficiency e-banking offers in performing banking tasks. Viewing transaction status is also an important service, preferred by 60 respondents, reflecting the importance of tracking financial activities. Lastly, ease of access is a consideration for 57 respondents, although it is slightly less emphasized than the other factors. Overall, the primary reasons customers prefer e-banking are its ability to facilitate online bill payments and save time, making banking more efficient and convenient.

Objective 2: To analyze the relationship between e-service quality dimensions and customer satisfaction in e-banking.

To analyze the relationship between e-service quality dimensions and customer satisfaction, the first step involved calculating the mean for all relevant variables. Following this, a regression analysis was conducted using SPSS 23.0. In the regression analysis, **convenience, security, privacy, and ease of use** were selected as independent variables, while **customer satisfaction** was considered the dependent variable. The results of the regression analysis are presented in the tables below. This approach allows for a deeper understanding of how each e-service quality dimension influences customer satisfaction.

Here is the table presenting the average measurements for each e-service quality dimension:

Table 3 : Descriptive Analysis

Measurement	Average Rating
Convenience	4.00
Privacy	3.00
Ease of Use	3.50
Security	3.50

The table presents the average ratings for each of the key dimensions of e-service quality as perceived by the respondents. Convenience has the highest average rating of 4, indicating that customers find this aspect of e-banking services to be highly satisfactory. It suggests that the convenience provided by the bank’s e-services plays a significant role in enhancing customer satisfaction. Privacy has the lowest average rating of 3, suggesting that there is room for improvement in the perception of privacy measures within the e-banking services. Customers may have concerns or are not fully satisfied with how their privacy is protected. Both Ease of Use and Security have average ratings of 3.5, indicating that customers view these dimensions somewhat positively but not as highly as convenience. While these aspects are important, there might be areas for improvement to further enhance the user experience.

Overall, the results suggest that **convenience** is the most appreciated aspect of e-banking services, while **privacy** is the area with the most dissatisfaction or concern. Improvements in security and ease of use could also potentially lead to greater customer satisfaction.

Regression Analysis

To test the Hypothesis and to understand the significant impact on customer satisfaction regression analysis has been performed and result is mentioned in below mentioned table.

Table 4: Model Summary

Model	R	R Square
1	.808 ^a	0.652

Table : 5 Anova Table

Model		Sum of Squares	Sig.
1	Regression	78.245	.000 ^b
	Residual	41.747	
	Total	119.992	

Table 6: Model Summary

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	0.197	0.241		0.816	0.416
Convenience measurement	0.273	0.067	0.303	4.103	0
Privacy measurement	-0.069	0.083	-0.066	-0.828	0.409
Ease of use measurement	0.259	0.073	0.259	3.53	0.001
Security measurement	0.394	0.07	0.397	5.635	0.000

The results from the regression analysis provide valuable insights into the relationship between e-banking service quality dimensions and customer satisfaction. From the **Model Summary (Table 4)**, the R-value of 0.808 indicates a strong positive relationship between the independent variables (convenience, privacy, ease of use, and security) and customer satisfaction. The R² value of 0.652 suggests that approximately 65.2% of the variance in customer satisfaction can be explained by these factors, highlighting the significant role they play in shaping customer perceptions.

In the **ANOVA Table (Table 5)**, the regression sum of squares (78.245) indicates the variation explained by the model, while the residual sum of squares (41.747) shows the unexplained variation. The p-value of 0.000 confirms that the overall model is statistically significant, meaning that the independent variables collectively have a significant impact on customer satisfaction.

When examining the individual predictors, the **coefficient values** reveal further insights. The **convenience measurement** (B = 0.273, p = 0.000) has a positive and statistically significant effect on customer satisfaction, suggesting that as the convenience of e-banking services increases, customer satisfaction also improves. Similarly, **ease of use** (B = 0.259, p = 0.001) and **security** (B = 0.394, p = 0.000) are also significant positive predictors of customer satisfaction, with both dimensions showing strong, statistically significant relationships. This implies that customers value platforms that are easy to use and secure, and improvements in these areas are likely to enhance their overall satisfaction with e-banking services.

On the other hand, **privacy measurement** (B = -0.069, p = 0.409) does not significantly influence customer satisfaction, as indicated by its p-value greater than 0.05. Although the negative sign of the coefficient suggests a potential inverse relationship, the lack of statistical significance means that privacy concerns may not play as pivotal a role in shaping customer satisfaction in this context.

In conclusion, the analysis reveals that convenience, ease of use, and security are key drivers of customer satisfaction in e-banking services, while privacy appears to have a minimal effect. This suggests that banks should prioritize enhancing these service quality dimensions to improve customer satisfaction.

Findings

Convenience, Ease of Use, and Security, The regression analysis revealed that convenience ($B = 0.273$, $p = 0.000$), ease of use ($B = 0.259$, $p = 0.001$), and security ($B = 0.394$, $p = 0.000$) are the most significant predictors of customer satisfaction in e-banking. As these dimensions improve, customer satisfaction also increases, indicating that customers place high importance on these factors when using electronic banking services. **Privacy Measurement,** The privacy dimension ($B = -0.069$, $p = 0.409$) did not show a statistically significant effect on customer satisfaction. Although privacy concerns are often highlighted in digital services, in this study, privacy was not found to be a critical factor influencing customer satisfaction in the context of e-banking. **Explained Variance,** The R^2 value of 0.652 from the model summary indicates that approximately 65.2% of the variance in customer satisfaction is explained by the dimensions of convenience, privacy, ease of use, and security. This highlights the strong relationship between service quality dimensions and customer satisfaction in the e-banking context. **Demographic Insights,** The study found that demographic variables like age, education, and digital literacy influence how customers perceive e-banking services. Customers with higher education levels and digital literacy tend to have higher satisfaction levels due to their greater understanding and ease of use of e-banking systems.

Conclusion

The study demonstrates that **convenience, ease of use, and security** are the most crucial factors in determining customer satisfaction with e-banking services. These dimensions contribute significantly to creating a positive user experience, while privacy was found to have a lesser impact. The findings suggest that banks should focus on improving these areas by offering secure, user-friendly platforms that enhance accessibility and streamline the banking process. This would help banks strengthen customer trust and increase customer loyalty. Given the evolving nature of digital banking, these insights are crucial for financial institutions aiming to maintain competitiveness in an increasingly digital market. Investing in security protocols, user training, and making services more convenient will not only satisfy existing customers but also attract new users to the platform.

Limitations

The study has several limitations that should be considered when interpreting the results. First, the sample size of 120 respondents, while adequate for the scope of this research, may not fully capture the diversity of the customer base at Rajkot Nagarik Sahakari Bank. A larger sample size would improve the generalizability of the findings to a broader population. Future research could utilize longitudinal data to examine how satisfaction levels evolve as e-banking services are upgraded. Lastly, while privacy is often a key concern in digital banking, this study found no significant impact of privacy on customer satisfaction, which could be attributed to the specific context of the bank or region. This aspect warrants further exploration in future studies to better understand its role in shaping customer satisfaction.

Scope for Future Research

Future research on e-banking customer satisfaction could address several important areas to enhance the understanding of the factors that drive customer perceptions. Expanding the sample size to include a larger and more diverse group of respondents would provide a broader representation of customer experiences and improve the external validity of the findings. Additionally, future studies could investigate other e-service quality dimensions, such as personalization and customer support, to gain a more comprehensive view of the factors that influence customer satisfaction. Longitudinal studies would also be valuable, as they would allow researchers to track how customer satisfaction evolves over time, particularly as e-banking services are continuously upgraded and new technologies are introduced. Furthermore, cross-country comparisons could shed light on cultural and regional differences in e-banking satisfaction, offering insights into how varying banking infrastructures and user experiences impact customer perceptions. Finally, privacy concerns, an increasingly important issue in digital banking, should be explored in more depth, particularly in relation to security breaches and other contexts that might amplify privacy issues and influence overall satisfaction. This research could provide valuable insights, especially in light of the growing number of data security challenges faced by banks worldwide.

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