

Internet Banking Service Quality and Customer Satisfaction during the COVID-19 Pandemic: A Study of University Students in Sri Lanka

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Citation: G. Weerasinghe (2026). Internet Banking Service Quality and Customer Satisfaction during the COVID-19 Pandemic: A Study of University Students in Sri Lanka. *Journal of Business, IT, and Social Science*.

DOI: <https://doi.org/10.51470/BITS.2026.05.01.19>

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13 October 2025: Received | 10 November 2025: Revised | 12 December 2025: Accepted | 17 January 2026: Available Online

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ABSTRACT

The rapid advancement of information and communication technologies has fundamentally transformed the global banking industry, accelerating the transition from traditional branch-based operations to technology-driven service delivery systems. Internet banking has emerged as a key channel for providing efficient, cost-effective, and convenient financial services, a role that became particularly pronounced during the COVID-19 pandemic. Pandemic-related mobility restrictions and health concerns intensified reliance on digital banking services, placing significant pressure on banking institutions in developing economies such as Sri Lanka, where digital banking adoption remains at a relatively early stage. Against this background, this study examines the impact of internet banking service quality on customer satisfaction during the COVID-19 pandemic, with special reference to university students at the University of Sri Jayewardenepura. Grounded in the E-S-QUAL framework and expectancy-disconfirmation theory, the study adopts a quantitative, cross-sectional research design. Primary data were collected from 120 respondents using a structured questionnaire, and the data were analyzed using descriptive statistics, correlation analysis, and binary logistic regression techniques. The empirical findings indicate that efficiency is the most significant determinant of customer satisfaction, highlighting the importance of ease of use, transaction speed, and time savings during crisis conditions. Income level also emerged as a statistically significant factor influencing satisfaction, while other service quality dimensions, although positively related, did not demonstrate significant effects. These results suggest a context-specific shift in customer priorities toward functional performance during periods of economic and social disruption. The study contributes context-specific empirical evidence to the literature on internet banking service quality in Sri Lanka and offers practical insights for banking institutions seeking to strengthen digital service delivery and customer satisfaction during times of uncertainty.

Keywords: COVID-19, Customer Satisfaction, Digital Banking, Internet Banking, Service Quality

1. Introduction

The rapid advancement of information and communication technologies has fundamentally transformed the global banking industry, shifting traditional banking operations toward technology-driven service delivery systems. Among these innovations, internet banking has emerged as a pivotal channel through which banks deliver financial services efficiently, transcending geographical and temporal constraints. Internet banking enables customers to perform a wide range of financial transactions, including fund transfers, bill payments, and balance inquiries, with reduced time and cost compared to conventional branch-based banking systems [5]; [25].

In recent years, intensified competition within the banking sector has compelled financial institutions to prioritize service quality as a key strategic tool for achieving competitive advantage and sustaining customer relationships. In the context of internet banking, service quality is primarily reflected through the efficiency, reliability, responsiveness, security, and design of electronic service platforms. High-quality e-banking services have been widely recognized as critical determinants of customer satisfaction, loyalty, and continued usage intentions [19]; [24]. Consequently, customer satisfaction has become a central performance indicator for banks operating in digitally competitive environments.

The relevance of internet banking gained unprecedented significance during the COVID-19 pandemic, which disrupted conventional economic activities and accelerated the adoption of digital financial services worldwide. Lockdown measures, mobility restrictions, and health concerns associated with physical interactions substantially altered consumer behavior, encouraging a shift toward cashless and remote transaction methods. In Sri Lanka, the pandemic adversely affected overall economic performance and placed additional pressure on the banking sector to ensure uninterrupted service delivery through digital platforms [12]. As a result, internet banking evolved from a complementary service into an essential banking channel during this period.

Despite the growing reliance on internet banking, Sri Lanka remains at a relatively early stage of digital banking adoption compared to other developing economies. Prior studies indicate that although awareness of e-banking services is relatively high, actual usage remains limited due to factors such as lack of technological knowledge, perceived security risks, and inadequate service quality [10], [21]. These challenges highlight the importance of understanding customer perceptions of e-banking service quality, particularly during crisis periods such as the COVID-19 pandemic, when digital banking services play a crucial economic and social role.

Existing empirical literature has extensively examined the relationship between e-banking service quality and customer satisfaction, identifying key dimensions such as efficiency, reliability, responsiveness, privacy, and system availability as significant predictors [29]; [19]. However, there remains a notable gap in context-specific evidence concerning how these service quality dimensions influence customer satisfaction during extraordinary disruptions such as a global pandemic, particularly within the Sri Lankan banking sector. Addressing this gap is essential for informing policy decisions and strategic improvements in digital banking services.

Accordingly, this study aims to examine the impact of internet banking service quality on customer satisfaction during the COVID-19 pandemic, with special reference to university students at the University of Sri Jayewardenepura. By identifying the most influential service quality dimensions in this context, the study contributes to the existing literature on e-banking and provides practical insights for banking institutions seeking to enhance digital service delivery and customer satisfaction in times of economic uncertainty.

2. Literature Review

The relationship between service quality and customer satisfaction has been widely examined in both traditional and electronic service contexts. In service-based industries, customer satisfaction is commonly conceptualized as the outcome of a comparison between customers' expectations and their perceptions of actual service performance. This notion is strongly grounded in the expectancy-disconfirmation theory, which posits that satisfaction arises when perceived performance meets or exceeds expectations, while dissatisfaction results from negative disconfirmation [16]; [20]. Within the banking sector, customer satisfaction is regarded as a critical determinant of customer retention, loyalty, and long-term profitability, particularly in increasingly competitive and technology-driven markets [13].

The theoretical foundations of service quality measurement were initially established by [19], who introduced the SERVQUAL model, identifying reliability, responsiveness, assurance, empathy, and tangibles as core dimensions of perceived service quality. Although SERVQUAL was developed for traditional service environments, subsequent technological advancements necessitated adaptations to capture the unique characteristics of electronic service delivery. In response, [19] developed the E-S-QUAL model, which conceptualizes e-service quality through dimensions such as efficiency, system availability, fulfillment, privacy, responsiveness, compensation, and contact. This framework has since become one of the most widely accepted theoretical models for evaluating internet banking service quality.

In the context of internet banking, service quality is commonly defined as customers' overall evaluation of the excellence and effectiveness of online banking services delivered through digital platforms [24]. Efficiency, reflecting ease of use and speed of transactions, and reliability, representing accurate and dependable system performance, are frequently highlighted as core determinants of customer satisfaction in electronic banking environments [29]; [19]. Privacy and security have also emerged as critical theoretical constructs, as customers' trust in online financial transactions is heavily dependent on the perceived protection of personal and financial information [28].

Additionally, application or website design has been recognized as an enabling factor that influences users' perceptions of usability, accessibility, and overall service experience [4]; [11].

Empirical evidence across diverse national contexts largely supports the theoretical proposition that higher e-banking service quality leads to greater customer satisfaction. Numerous studies have found that efficiency, reliability, responsiveness, and security exert a positive and significant influence on customer satisfaction in internet banking settings [23]; [22]; [8]. For instance, [3] demonstrated that efficiency and system availability were among the strongest predictors of e-satisfaction in Malaysian internet banking, while reliability and privacy significantly enhanced customers' trust and continued usage intentions. Similarly, [7] reported that responsiveness and reliability were key contributors to customer satisfaction in the Ethiopian banking sector.

In the Sri Lankan context, empirical studies reveal a comparatively slower adoption of internet banking services despite increasing awareness among customers. [10] found that infrastructural limitations, lack of technological knowledge, and security concerns hindered widespread usage of e-banking services. Subsequent studies confirmed that perceived risk, limited digital literacy, and insufficient service quality improvements constrained customer satisfaction and adoption of internet banking in Sri Lanka [21]; [1]. However, evidence also suggests that when service quality dimensions such as efficiency, convenience, and security are adequately addressed, customer satisfaction and acceptance of internet banking improve significantly [15]; [26].

More recent empirical studies conducted during the COVID-19 pandemic indicate a notable shift in consumer behavior toward digital financial services. Pandemic-related mobility restrictions and health concerns accelerated the adoption of internet banking, while simultaneously raising customer expectations regarding system reliability, responsiveness, and security [27]. International evidence suggests that service quality dimensions such as efficiency, responsiveness, and system reliability became increasingly critical determinants of customer satisfaction during the pandemic period [6]; [2]. Nevertheless, empirical investigations focusing specifically on internet banking service quality and customer satisfaction during the COVID-19 pandemic remain limited, particularly within the Sri Lankan context.

Overall, the existing literature establishes a strong theoretical and empirical linkage between internet banking service quality and customer satisfaction. While prior studies provide valuable insights into key service quality dimensions, there is a clear lack of context-specific empirical evidence examining these relationships during periods of economic and social disruption such as the COVID-19 pandemic. Addressing this gap is essential for understanding evolving customer expectations and for guiding banking institutions in enhancing digital service delivery under crisis conditions.

3. Methodology

This study adopts a quantitative research design to examine the relationship between internet banking service quality and customer satisfaction during the COVID-19 pandemic. A deductive approach is employed, as the analysis is grounded in established theories of service quality and customer satisfaction and empirically tests hypothesized relationships derived from prior literature [17]; [29].

The study is cross-sectional in nature, capturing customer perceptions at a single point in time.

The target population comprises university students of the University of Sri Jayewardenepura, Sri Lanka, who represent a technologically literate segment with relatively high exposure to digital banking services. University students are considered an appropriate unit of analysis due to their frequent interaction with internet-based financial services and their responsiveness to technological innovations, particularly during periods of restricted physical mobility such as the COVID-19 pandemic. A sample of 120 respondents was selected using a simple random sampling technique to ensure equal probability of selection and to reduce sampling bias.

Primary data were collected using a structured, self-administered questionnaire. The questionnaire was developed based on validated measurement scales used in prior empirical studies on e-banking service quality and customer satisfaction [16]; [14]; [8]. All items were measured using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"), which is widely accepted for capturing attitudinal perceptions in service quality research.

Customer satisfaction is treated as the dependent variable, reflecting respondents' overall evaluation of internet banking services. The independent variables represent key dimensions of internet banking service quality, namely efficiency, responsiveness, reliability, privacy/security, and application design. Efficiency captures the ease and speed of accessing and completing transactions; responsiveness reflects the promptness and effectiveness of problem resolution; reliability measures system accuracy and consistency; privacy/security assesses perceived protection of personal and financial information; and application design evaluates the visual appeal, usability, and organization of the banking application or website. These dimensions are consistent with the E-S-QUAL framework and subsequent adaptations in the e-banking literature [29]; [19].

To analyze the data, both descriptive and inferential statistical techniques were employed. Descriptive statistics were used to summarize respondents' demographic characteristics and general usage patterns of internet banking services. Inferential analysis was conducted using correlation analysis and binary logistic regression to examine the impact of service quality dimensions on customer satisfaction. Logistic regression was considered appropriate due to the categorical nature of the satisfaction variable and its suitability for estimating the probability of customer satisfaction as a function of multiple explanatory variables [9].

The empirical model is specified as follows:

Customer Satisfaction = f (Efficiency, Responsiveness, Reliability, Privacy/Security, Application Design, Control Variables)

where customer satisfaction represents the likelihood of being satisfied with internet banking services, and service quality dimensions act as explanatory variables. Demographic factors such as gender and income level were included as control variables to account for potential heterogeneity in customer perceptions, as suggested by prior studies [27].

Data analysis was conducted using SPSS statistical software. Model adequacy was assessed using goodness-of-fit measures, including the Hosmer-Lemeshow test, while the statistical significance of individual predictors was evaluated using Wald statistics.

Overall, the methodological approach enables a systematic examination of how internet banking service quality influences customer satisfaction during a period of heightened reliance on digital financial services, thereby providing empirically grounded insights relevant to both academia and banking practitioners.

4. Analysis

This section presents the empirical findings of the study, beginning with a descriptive overview of the sample, followed by correlation analysis and binary logistic regression results examining the impact of internet banking service quality dimensions on customer satisfaction during the COVID-19 pandemic.

4.1 Descriptive Analysis

The study is based on primary data collected from 120 university students at the University of Sri Jayewardenepura. The sample represents a relatively young and technologically aware segment of bank customers, making it appropriate for analyzing internet banking usage and satisfaction. A majority of respondents reported prior experience with internet banking services, reflecting increased reliance on digital transactions during the COVID-19 period. Usage patterns indicate that internet banking was primarily used for balance inquiries, fund transfers, and bill payments, highlighting its functional importance during mobility restrictions.

Overall responses to service quality items suggest moderately high perceptions of efficiency and reliability, while comparatively lower satisfaction levels were observed in areas related to responsiveness and customer support. These descriptive trends indicate variation across service quality dimensions, justifying further inferential analysis.

4.2 Correlation Analysis

Pearson correlation coefficients were computed to examine the association between internet banking service quality dimensions and customer satisfaction. The results indicate positive relationships between customer satisfaction and all service quality variables.

Table 1: Correlation between Service Quality Dimensions and Customer Satisfaction

Variable	Customer Satisfaction
Efficiency	Positive and significant
Responsiveness	Positive
Reliability	Positive
Privacy/Security	Positive
Application Design	Positive

The strongest correlation was observed between efficiency and customer satisfaction, followed by reliability. These findings are consistent with prior studies emphasizing the importance of transaction speed and system dependability in shaping customer perceptions of e-banking services [19]; [8].

4.3 Binary Logistic Regression Analysis

To identify the determinants of customer satisfaction, a binary logistic regression model was estimated, where customer satisfaction was treated as the dependent variable. Service quality dimensions and selected demographic variables were included as explanatory variables.

Table 2 provides the regression coefficient (B), the Wald Statistic (to test the statistical significance for the relationship between an individual independent variable and the dependent variable), and the all-important Odds Ratio (Exp (B)) for each variable category. Similarly, it shows the contribution of each independent variable to the model and its statistical significance.

The Wald test ("Wald" column) is used to determine statistical significance for each of the independent variables. A variable had to be significant at the 0.05 level to enter the model. The statistical significance of the test is found in the "Sig." column. From these results, we can identify that Income ($p = .004$), and efficiency ($p = .000$) added significantly to the model/prediction. But responsiveness ($p = .792$) did not add significantly to the model.

Table 2: Binary Logistic Regression Results

Variable	B	S.E	Wald	df	Sig.	Exp(B)	95% CI Lower	95% CI Upper
Income	2.665	.930	8.216	1	.004	14.363	2.322	88.832
Efficiency	4.845	1.322	13.438	1	.000	127.148	9.532	1696.002
Responsiveness	33.892	3494.320	1.643	1	.692	.605	.402	78.172
Constant	-13.007	3.480	13.969	1	.000	.000		

Because these coefficients are in log-odds units, they are often difficult to interpret, so they are often converted into odds ratios. This is done by exponentiating the coefficient, "Exp (B)". It predicts the probability of an event occurring based on a one-unit change in an independent variable when all other independent variables are kept constant. In this case, the Exp (B) column presents the odds ratio and indicates that efficiency is 127.148 times more likely to make a consumer satisfied than being dissatisfied. Therefore, efficiency is the strongest determinant of being satisfied. Income is the second strongest determinant accounting for 14.363 times more likely to make consumer satisfied than being dissatisfied. But not being responsive negatively affects being satisfied with Exp(B) of 0.605.

The overall goodness-of-fit of the model was assessed using the Hosmer–Lemeshow test, which indicated that the model adequately fits the observed data. The model correctly classified a substantial proportion of satisfied and dissatisfied customers, confirming its explanatory power in identifying key satisfaction drivers.

The findings demonstrate that efficiency is the most influential service quality dimension affecting customer satisfaction with internet banking during the COVID-19 pandemic. This result aligns with the E-S-QUAL framework and prior empirical evidence, which highlights efficiency as a core determinant of e-banking satisfaction [29]; [3]. The significance of income further underscores the role of socio-economic factors in shaping digital banking experiences.

The lack of significance for other service quality dimensions does not imply their irrelevance; rather, it suggests that during crisis periods, customers prioritize uninterrupted, fast, and convenient access to banking services over design features or advanced service interactions. This shift in priorities reflects the situational context of the pandemic, where necessity-driven adoption outweighed experiential considerations.

Overall, the empirical results support the argument that improving operational efficiency in internet banking services is essential for enhancing customer satisfaction, particularly during periods of economic and social disruption.

5. Conclusion

This study examined the impact of internet banking service quality on customer satisfaction during the COVID-19 pandemic, with special reference to university students at the University of Sri Jayewardenepura. Grounded in established service quality and customer satisfaction theories, the study employed a binary logistic regression approach to identify key determinants of customer satisfaction in the context of heightened reliance on digital banking services.

The findings provide empirical evidence that internet banking service quality significantly influences customer satisfaction, with efficiency emerging as the most critical determinant during the pandemic period.

The empirical results reveal that efficiency, characterized by ease of use, speed of transactions, and time savings, exerts a positive and statistically significant effect on customer satisfaction. This finding underscores that, during periods of crisis and restricted physical access to banking facilities, customers primarily value uninterrupted, fast, and convenient digital service delivery. Although other service quality dimensions, such as responsiveness, reliability, privacy/security, and application design, exhibited positive relationships with customer satisfaction, their effects were not statistically significant in the estimated model. This suggests a context-specific shift in customer priorities, where functional performance outweighs supplementary service attributes during extraordinary disruptions such as the COVID-19 pandemic.

From a theoretical perspective, the study extends the applicability of the E-S-QUAL framework to crisis-driven digital banking environments by demonstrating that the relative importance of service quality dimensions may vary according to situational factors. The findings contribute to the limited empirical literature on internet banking service quality in Sri Lanka and provide context-specific evidence during a global pandemic, thereby addressing an important gap in existing research.

Based on the empirical findings, several policy-oriented and managerial recommendations can be proposed. First, banking institutions should prioritize enhancing the efficiency of internet banking platforms by improving system speed, simplifying navigation, and minimizing transaction processing time. Continuous system upgrades and regular performance testing are essential to ensure smooth service delivery during peak usage periods. Second, although privacy and security were not statistically significant predictors in this study, banks should continue to strengthen cybersecurity measures and communicate these efforts effectively to customers, as trust remains a fundamental prerequisite for sustained digital banking adoption. Third, targeted digital literacy initiatives, particularly for lower-income users, may help reduce disparities in satisfaction levels and encourage broader acceptance of internet banking services. Finally, banks should establish responsive technical support mechanisms to promptly address service disruptions, especially during periods of heightened uncertainty.

In conclusion, the study highlights the central role of efficiency in shaping customer satisfaction with internet banking services during crisis conditions. By focusing on operational performance and user-centric system design, banking institutions can enhance customer satisfaction, ensure service continuity, and strengthen resilience in the face of future disruptions. Future research may extend this analysis by incorporating longitudinal data, broader customer segments, and additional contextual factors to further enrich the understanding of digital banking service quality and customer satisfaction dynamics.

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