

e-banking Services and Customer Satisfaction with reference to Nepalese Banking Sector

Makshindra Thapa, Ph.D.

Tribhuvan University, Patan Multiple Campus, Lalitpur.

Email: makshindra.thapa@pmc.tu.edu.np

<https://orcid.org/0009-0008-2596-6908>

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Abstract

This study is intended to investigate the impact of e-banking services on customer satisfaction, as this area of research is still in the foundation phase in Nepal. The conceptual framework included five e-banking service dimensions: ease of use, efficiency, reliability, responsiveness, and security as predictors and customer satisfaction as dependent variables. The descriptive and casual-comparative research was conducted with a sample of 232 bank customers actively using e-banking services. A questionnaire survey was an instrument to collect data, and along with descriptive and correlation analysis, the regression analysis was conducted with the use of SPSS and JASP. The empirical result shows a positive and significant impact of e-banking service dimensions on customer satisfaction. The findings show that ease of use, security, efficiency, and reliability have a relatively greater impact on customer satisfaction. However, responsiveness has a weak impact on customer satisfaction. E-banking is an inevitable part of the modern banking system that enhances customer satisfaction and core competencies in the area and provides competitiveness. The banking institutions can focus on maximizing firm value through customer satisfaction, retention, and loyalty through the best e-banking services.

Keywords: E-Banking, Customer satisfaction, Ease in use, Efficiency, Reliability, Security

Introduction

The intense development in communication technology has completely changed the way we live and businesses do their business. Globalization, in fact, is an outcome of the internet that links the entire globe and enables activities in a single click by reducing physical and geographical barriers. Industries of all types exploit modern technologies as a platform to conduct marketing activities. Electronic banking (e-banking) has renovated banking business processes and enhanced efficiencies, accessibility, and comfort in banking services. The application of technological

innovation over the last two decades has drastically altered the way businesses are operated by eliminating geographical, regulatory, and industrial barriers (Zafar et al., 2011).

Singh (2023) has stated e-banking as the practice of providing banking services electronically, either at their place of business or house. Electronic banking provides retail and small-value banking products and services through electronic channels, as well as large-value electronic payment and other wholesale banking services delivered electronically (Abid & Noreen, 2006). Further, Khan (2017) has termed e-banking as the inclusion of internet banking, mobile banking, automated teller machines (ATMs), POS terminals (point of sales), and any online banking services.

The banking industry has always been a leader in applying modern technologies in order to achieve operational efficiencies. This technological innovation in the banking industry has created value for both banks and customers in that it enables customers to perform banking transactions without having to visit a physical bank (Khan, 2017). The development of technology in the financial services industry has been accelerating in recent years and swiftly becoming the norm rather than the exception (Khera et al., 2022).

Zafar et al. (2011) stated that the adoption of technological innovation over the last two decades has considerably altered the way businesses are operated by eliminating geographical, regulatory, and industrial barriers. According to Shamsuddoha (2008), e-banking is transforming the financial services industry by supporting growth, promoting innovation, and enhancing competitiveness. Banking institutions globally benefitted from the use of e-banking services, which have enabled banking institutions to compete more effectively in the global environment by extending their products and services beyond the restriction of time and space (Turban et al., 2004).

The development and adoption of e-banking technology in banks and financial institutions is ever-growing and has been accelerating in recent years, swiftly becoming the norm rather than the exception (Khera et al., 2022). Nowadays, physical branch banking has been replaced by e-banking, whereby customers can obtain service through the internet from their homes or at work rather than physically visiting the branch (Drigă & Isac, 2014; Poon, 2008). This transformation to e-service has provided both banks and customers with several benefits, such as personalized services, transaction security, speed of processing transactions, and overall better service quality (Abdulfattah, 2012). E-banking has forced changes in the patterns and practices of businesses and organizations, including banking institutions. Due to busy work lives, saving in time, effort, and cost, customers prefer performing their banking transactions digitally as e-banking. As consumer satisfaction is the “must-do” act for all types of businesses, it’s the very condition for achieving customer retention and loyalty. The customer-focused strategies and products/services derived from listening to customers assure sustainability.

The banking industry in Nepal has dramatically developed over the last two decades after the entrance of joint venture banks, which are supposed to be leaders of modern banking services, including e-banking practices. In addition, the banking industry has been more competitive,

resulting from tough competition from banking firms and other financial institutions providing similar services (Shrestha, 2018; 2019). To build and maintain market share, the banks rely on the best banking products via innovation and modernization. Due to the growing number of educated and information technology-friendly customers in the Nepalese context, the adoption of e-banking practices is a pro-active measure led by banking institutions aimed at success and survival.

E-banking is the latest but vital in terms of enhanced competitiveness that helps to maintain satisfaction. Over the past two decades, the use of e-banking facilities has been increasing day by day due to customer-perceived benefits. The Covid-19 pandemic also highlighted the application of e-banking services like ATMs, Electronic Funds Transfer at Point of Sale (EFTPOS), Internet banking, SMS alerts, credit and debit cards, and other technological advancements that have enriched the banking landscape in Nepal. This is more convenient, effective, and efficient than the traditional way of banking. In addition, providing various e-banking services has been key to banking institutions in terms of enhancing service quality, addressing changing customer preferences, and improving competitiveness in the market. In Nepal, the banking industry has begun to use e-banking systems in the last decade only. There is an absence of sufficient studies in the area of e-banking services in relation to customer satisfaction. This study aims to investigate and comprehend how the delivery of e-banking services has an impact on customer satisfaction.

Objective of the study

This study's primary goal is to examine how e-banking services provided by Nepalese banking institutions affect customer satisfaction. The following are two study objectives:

1. To determine customer perceptions of e-banking services and satisfaction.
2. To examine the impact of e-banking service delivery on customer satisfaction.

Literature Review

Electronic banking (e-Banking)

E-banking is a blanket term used to indicate a process through which a customer is allowed to carry out personal or commercial banking. According to Salehi et al. (2008), e-banking is an electronic connection between banks and clients to prepare, manage, and control financial transactions. It is a modern banking system with which the customer can perform various transactions over the internet and is supposed to be convenient, reliable, safe, and secure. It promotes paperless/cashless transactions. Awara and Anyadighibe (2014) describe e-banking as the provision of retail banking services via electronic channels as well as large-value electronic payment and other wholesale banking services delivered electronically. The various services included in e-banking are mobile banking, ATMs, debit cards and credit cards, point of sale (POS), electronic data exchange (EDI), electronic fund transfer (EFT), and many others using electronic and telecommunication networks. Electronic banking facilitates the use of computers, phones, and other technologies to facilitate banking transactions without human interaction. In the words of Daniela and Dosoinescu (2004), e-banking is the access of customers to bank services by secure intermediaries without any physical

presence. It has reduced the need to move paper money and coins from one place to another, and humans are no longer required to facilitate every banking transaction.

e-banking service quality

Other than product quality, service quality relies on intangible and impalpable interactions between a provider and a user that affect the service user's perceptions. Gronroos (1984) defined quality as a judgment resulting from an evaluation process in which customers compare their expectations with the service they perceive to have received. Services quality, in the banking industry, can be defined as a measure of how well the level of service provided meets customer expectations, resulting from a comparison between customers' prior expectations about the service and their after perceptions of the actual experience of service performance (Sewaka et al., 2023).

E-service quality is a blend of advanced information technology facilities with banking services that is more effective and efficient than traditional banking systems of rendering services. In the words of Parasuraman, Zeithaml, and Malhotra (2005), e-service quality is defined as the "extent to which a website facilitates efficient and effective shopping, purchasing, and delivery." Many researchers define service quality based on a customer's overall impression of the product or service (Parasuraman et al., 1985, 2005). Similarly, Wolfinbarger and Gilly (2003) define e-service quality as "the beginning to the end of the transaction, including information search, website navigation, order, customer service interactions, delivery, and satisfaction with the ordered product.

e-banking and customer satisfaction

Lustsik (2004) defines e-banking services as a variety of e-channels for doing banking transactions through the Internet, telephone, TV, mobile, and computer. Banking customers' desires and expectations with regard to service are expanding as technology advances and improves. Tse and Wilton (1988) have defined customer satisfaction as a consumer response to the evaluation of the perceived difference between expectations and the final result after consumption. Customer satisfaction can also be described as the feedback of a post-purchase assessment of certain services or products' quality and compared with the expectations of the prior-purchasing stage (Kotler & Keller, 2011).

According to Grönroos (1998), there is a steady and positive relationship that gathers both the e-service quality and customer satisfaction. Indeed, the relationship between quality of service and customer satisfaction is very strong and durable (Parasuraman et al., 1988). The study of Bei and Chiao (2006) recognized a major relationship between the quality of the service and the customer satisfaction degree of customers.

The findings of Hammoud et al. (2018) show that reliability, efficiency, ease of use; responsiveness and communication; and security and privacy all have a significant impact on customer satisfaction, with reliability being the dimension with the strongest impact. Similarly, The findings of Zavareh et al. (2012) indicated that efficient and reliable services, fulfillment, security/trust, site aesthetics, responsiveness/contact, and ease of use have a significant positive relationship with customer satisfaction in internet banking in Iran. Shankar and Jebarajakirthy (2019) found that reliability, along with privacy and security, are the strongest significant predictors of customer satisfaction and loyalty. In line with this, other researchers also revealed that there is a statistically

significant association between the service quality dimension and customer satisfaction concerning e-banking services (Sharma et al., 2020).

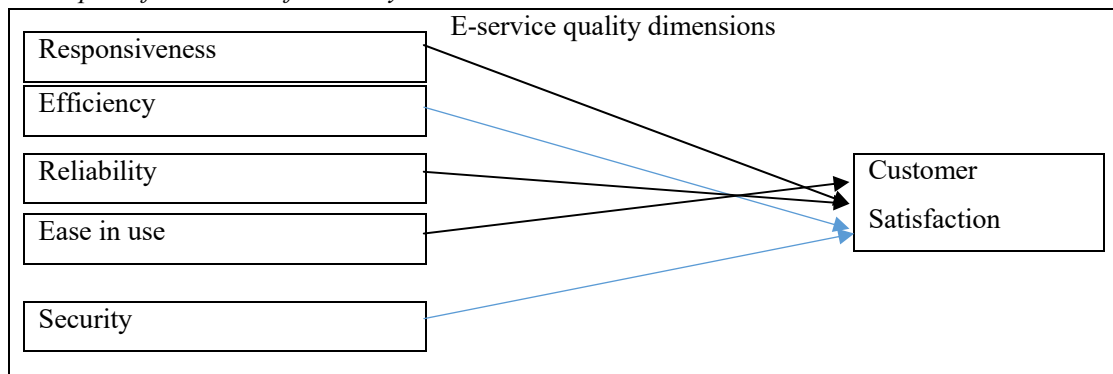
The empirical result of Mohamud (2017) revealed a linear relationship between e-banking service qualities, as ease of use, usefulness, and cost directly influence customer satisfaction. The study concluded that service quality dimensions such as security, aesthetics, reliability, responsiveness, and efficiency should not be disregarded in an attempt to obtain better-satisfied customers. Consequently, Firdous and Farooqi's (2017) empirical evidence shows that the internet banking service quality dimensions, namely efficiency, system availability, fulfillment, privacy, contact, responsiveness, and contact, were positively related to customer satisfaction.

Hammoud et al. (2018) investigated the impact of e-banking service dimensions on customer satisfaction in the case of Lebanon. Their findings show that reliability, efficiency, and ease of use; responsiveness and communication; and security and privacy all have a significant impact on customer satisfaction, with reliability being the dimension with the strongest impact. The research findings of Bashir and Zelalem (2020) indicated a significant impact of efficiency, responsiveness, ease, privacy, and commission on satisfaction and significant impact of satisfaction on loyalty. Raji et al. (2021) found a positive and significant impact of electronic banking variables security, transactional speed, ease of use, reliability, and responsiveness on customer satisfaction.

Furthermore, Tetteh (2022) examined the impact of electronic banking service quality on customer satisfaction and customer loyalty. The results show that the dimensions of service quality, namely, convenience, ease of use, accessibility, and affordability, were found to be significant positive drivers of customer satisfaction. In addition, Mwiya et al. (2022) found e-banking dimensions of security, website attribute, privacy, responsiveness, efficiency, fulfillment, and reliability positively affect customer satisfaction. A study result by Sewaka et al. (2023) demonstrated that there is a positive and significant relationship between service quality and customer satisfaction and customer loyalty. Rupal and Singh (2023) revealed a positive impact of e-banking dimensions such as quality of services, reliability, efficiency, responsiveness, security, and privacy, and others on customer satisfaction. Based on these empirical findings, the study intended to examine the effect of e-banking dimensions of ease of use, efficiency, reliability, responsiveness, and security on customer satisfaction in a Nepalese banking context.

Model and hypotheses

The service quality variables identified by Parasuraman et al. (1994) are reliability, responsiveness, competence, accessibility, courtesy, communication, credibility, security, understanding, and tangibility. Service quality leads to overall customer satisfaction. It is one of the service factors contributing to customers' satisfaction judgments and can be considered in multi-level and multi-dimensional terms (Caruna & Malta, 2002). This study has employed five e-banking service quality dimensions, viz. Ease in navigation, efficiency, reliability, responsiveness, and security have been derived from an e-SQ instrument developed by Zeithaml et al. (2000). The conceptual model explains these five e-SQ dimensions as predictors of customer satisfaction.

Figure 1*Conceptual framework of the study*

Based on the literature, the following study hypotheses were developed to answer the research objective of investigating the effect of five dimensions of e-banking service on customer satisfaction.

H1: Ease of use has a positive and significant effect on customer satisfaction.

H2: Efficiency has a positive and significant effect on customer satisfaction.

H3: Reliability has a positive and significant effect on customer satisfaction.

H4: Responsiveness has a positive and significant effect on customer satisfaction.

H5: Security has a positive and significant effect on customer satisfaction.

Research Methods

Research Design

This study has employed a descriptive design in order to identify and characterize the qualities of value of interest. Similarly, the casual comparative design was adopted to analyze the effect of e-banking service quality on customer satisfaction.

Population and Sample

The study population of this study is all clients who are familiar with and actively using e-banking services provided by banks and financial institutions. Convenient and snowball sampling techniques were used to reach competent clients who are familiar with e-banking services. A total of 280 questionnaires were distributed with the use of an online survey on the Google Forms platform. Out of the distributed questionnaires, only 248 were returned, and due to response errors, only 232 responses were used for analysis.

Data nature, source, and collection

The database for the study is the primary source to collect opinions from e-banking service users. The questionnaire survey method was the source of data collection. The survey was conducted during September 2023 with the use of Google Forms online software. A purposefully constructed closed-ended questionnaire/statement of e-service quality and satisfaction along with demographic information was applied for the survey after an intensive review of the literature. The questionnaire consisted of three sections: cover letter, respondent demographic profile, and e-banking services

and client satisfaction. The statements related to independent and dependent variables were scaled using a 5-point Likert scale ranging from strongly disagree-1 to strongly agree-5. Table 1 reports details of items and subsequent reliability statistics.

Table 1

Reliability Statistics of the study variables

Code	No. of items	Cronbach Alpha
Ease in use	4	.944
Efficiency	4	.949
Reliability	5	.963
Responsiveness	5	.888
Security	4	.902
Satisfaction	5	.939

The result has shown that all the items used to measure the five dimensions of e-banking and customer satisfaction are highly reliable.

Data Analysis Tools

All collected data were processed and analyzed with the use of SPSS software. The frequency table was utilized to demonstrate respondents' various demographic characteristics. The descriptive analysis included mean and standard deviations of the study variables. Pearson's correlation analysis was used to determine mutual association among the study variables. The linear regression analysis was conducted to investigate the effect of e-banking service quality defined into six dimensions on customer satisfaction. The analysis was a basic inferential statistic to test study hypotheses. The model is described as follows:

$$Y = \beta_0 + \beta_1 ESE + \beta_2 EFF + \beta_3 REL + \beta_4 RES + \beta_5 SEC + \beta_6 SPD + e$$

Where,

Y=Customer Satisfaction

ESE= Ease in use

EFF= Efficiency

REL= Reliability

RES= Responsiveness

SEC= Security

SPD= Speed in transaction

Error term = e

Results

The structured questionnaire survey consisted of 232 respondents of various demographic characteristics. Table 2 reports the frequency and percentage of respondent demographics.

Table 2

Respondent demographic profile (N=232)

Demographic variables	Frequency	Percentage
<i>Gender</i>		
Male	142	61.2
Female	90	38.8
<i>Age</i>		
16-25		
26-40	76	32.8
41-60	138	59.5
Above 60	17	7.3
	1	.4
<i>Employment</i>		
Student	62	26.7
Private service	62	26.7
Public service	74	31.9
Self-employed	34	14.7
<i>Education</i>		
Up to Higher secondary	79	34
Bachelors	76	32.8
Masters	72	31.0
Others	5	2.2

Source: Online Survey, 2023

Regarding the gender of the participants, the majority were male, consisting of 142 out of 232 in total. Most of the respondents were between 26 and 40 years old, representing 59.5 percent in total. Similarly, respondents engaged in public service were 74; both students and those working in private organizations occupied 62 respondents. The self-employed persons were 34 in number. Most of the respondents had up to higher secondary and equivalent education, and education with bachelors and masters was 76 and 72, respectively. The demographic characteristics of the respondents are thus diverse. Table 3 depicts basic descriptive statistics and correlation coefficients of the study variables.

Table 3

Descriptive statistics and Pearson's correlations of the study variables

	Mean	S. D.	ESE	EFF	REL	RES	SEC	CS
ESE	3.48	.43	—					
EFF	3.45	.42	.395***	—				
REL	3.43	.45	.263***	.461***	—			

RES	3.47	.49	.216***	.296***	.458***	—	
SEC	3.50	.44	.222***	.330***	.341***	.396***	—
CS	3.54	.47	.386***	.436***	.437***	.385***	.407***

* $p < .05$, ** $p < .01$, *** $p < .001$

The descriptive results depicted in Table 3 show that respondents have considered their moderate agreement in all five e-service quality dimensions, respectively, ease of use, efficiency, reliability, responsiveness, and security, along with customer satisfaction. The correlations among all the study variables are positive and significant. The dependent variable, customer satisfaction, has higher and more significant correlations with efficiency, reliability, and security.

The basic inferential statistics used in the study were linear regression analyses with the purpose of testing study hypotheses. Table 4 shows the effect of the predictors on customer satisfaction and other primary statistics. The results have shown that the regression model used can effectively predict the effects of independent variables on the dependent. The value of R-square is 0.62, which is indicative of the model's power to explain 60% of the variability observed in the target variable. The Durbin Watson statistic of 1.825 also indicates the presence of no autocorrelation in the residuals of the regression analysis used. Similarly, no multicollinearity was found among the independent variables, as all the tolerance as well as VIF values of the analyzed variables are below 1 and 2, respectively.

Table 4
Regression result with collinearity statistics

Model	Unstandardized	Standard Error	Standardized	t	p	Collinearity Statistics	
						Tolerance	VIF
(Intercept)	0.504	0.273		1.849	0.066		
ESE	0.209	0.061	0.200	3.419	< .001	0.826	1.210
EEF	0.182	0.068	0.171	2.666	0.008	0.686	1.458
REL	0.174	0.064	0.179	2.738	0.007	0.664	1.507
RES	0.120	0.056	0.133	2.124	0.035	0.721	1.387
SEC	0.191	0.060	0.192	3.184	0.002	0.780	1.283

Note: R square= 0.62, Adjusted R square= 0.60, F statistic = 25.38, p value = < .001, Durbin Watson =1.825

The regression analysis has indicated that all of the e-service quality dimensions have produced a positive and significant effect on customer satisfaction. Among five dimensions used as predictors of service quality, four dimensions, respectively ease of use ($b = .209$, $p = .001$), security ($b = .191$, $p = .002$), efficiency ($b = .182$, $p = .008$), reliability ($b = .174$, $p = .007$) and responsiveness ($b = .120$, $p = .035$).

=.035), found to be influential on customer satisfaction. Relatively, the responsiveness dimension of e-service quality has a weak impact on customer satisfaction.

Table 5

Hypotheses Test Results Using Job Satisfaction as the Dependent Variable

Hypotheses	Predictor Variables	Relationship		Significance	Decision
		Expected	Reported		
H1	Ease in use	Positive	Positive	Significant	Accepted
H2	Efficiency	Positive	Positive	Significant	Accepted
H3	Reliability	Positive	Positive	Significant	Accepted
H4	Responsiveness	Positive	Positive	Significant	Accepted
H5	Security	Positive	Positive	Significant	Accepted

Based on the empirical results, all the study hypotheses have been accepted.

Discussion

The objective of this study was to determine how customer satisfaction is affected by e-banking services in Nepal. The findings of this study showed mixed results on e-services provided by the banking institutions of Nepal. As almost all the customers agreed moderately, e-services are satisfactory to some extent. The correlation results revealed positive and significant correlations between e-service dimensions and customer satisfaction. The findings of this study support previous studies (Parasuraman et al., 1988; Grönroos, 1998; Bei and Chiao, 2006; Tetteh, 2022), which confirmed a positive relationship between e-service quality and customer satisfaction. Further, as stated by Parasuraman et al. (1988), the relationship between quality of service and customer satisfaction is very strong and durable, which can provide competitive advantages to banks adopting better e-banking products.

The basic inferential analysis used to test hypotheses was regression analysis. The result from regression analysis also revealed a positive and significant impact of all five dimensions of e-banking on customer satisfaction. All five alternative hypotheses were accepted, declaring a positive and significant impact of e-banking dimensions—ease to use, efficiency, reliability, responsiveness, and security—on customer satisfaction. Among the five dimensions used as predictors of service quality, ease of use, security, efficiency, and reliability were found to be more influencing relatively. However, responsiveness was found to be less influential on customer satisfaction.

These findings are consistent with the study of Hammoud et al. (2018), which found a significant impact of reliability, efficiency, and ease of use; responsiveness and communication; and security and privacy on customer satisfaction. The findings have supported the findings of many other studies that revealed a positive and significant effect of various e-banking dimensions on customer satisfaction (Zavareh et al., 2012; Jebarajakirthy, 2019; Sharma et al., 2020; Mohamud, 2017;

Firdous & Farooqi, 2017; Hammoud et al., 2018; Bashir and Zelalem, 2020; Zamani & Abdulwakil, 2021; Tetteh, 2022; Mwiya et al., 2022; Sewaka et al., 2023; Rupal & Singh, 2023).

These results indicated positive and significant linkages of e-banking services with customer satisfaction, but the associations were not strong, and manifold improvements in e-banking still remain. The authorities need to adopt strategies, policies, and programs that may increase the use of e-banking services. They should focus on enhancing convenient, effective, reliable, and secure transactions of e-banking products. Especially the responsiveness dimension is relatively weak among other dimensions; thus, “customer listening” and quick and continuous “customer care” may lead to better outcomes from e-banking services.

Conclusion

The objective of this study was to examine the impact of e-banking service quality on customer satisfaction in the context of Nepalese banking institutions. The descriptive result has shown respondents have shown their agreement with five e-banking service quality dimensions being fair. The correlation results revealed a moderately positive and significant correlation between the five dimensions of e-banking and customer satisfaction. The empirical result from regression analysis supported all study hypotheses, indicating a positive and significant impact on ease of use, efficiency, reliability, responsiveness, and security. These findings provide insights to banking authorities in enhancing banking service qualities to achieve higher customer satisfaction that would lead to an increase in retention and loyalty rates. Since the study of e-banking and customer satisfaction is a new research area in Nepal, further studies are possible with cross-sectional studies with larger samples.

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