

## **E-Banking Services and Customer Satisfaction of Nepalese Commercial Banks**

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### **Abstract**

**Purpose:** The study investigates the impact of electronic banking services on customer satisfaction in Nepalese commercial banks, focusing on five dimensions: convenience, cost advantage, secure services, ease of use, and personalization & customization.

**Methods:** A survey of 400 e-banking users was conducted. Variables were selected based on a comprehensive literature review and analyzed using statistical tools, including descriptive analysis, correlation, regression, reliability tests, and ANOVA through SPSS. Demographic factors such as gender, age, marital status, education, profession, and income were also examined.

**Findings:** There is a significant positive relationship between customer satisfaction and the dimensions of convenience, security, ease of use, and personalization. Cost advantage had no significant effect. Among all factors, convenience was identified as the most influential in enhancing customer satisfaction.

**Implications:** The results emphasize the need for Nepalese commercial banks to prioritize user-friendly, secure, and personalized e-banking services, as these aspects are more valued by customers than mere cost benefits. These insights can guide the development of customer-centric services in a competitive market.

**Keywords:** E-Banking, Customer Satisfaction and Commercial Banks

### **Background**

Customer satisfaction serves as a fundamental indicator of success in the banking sector, particularly as institutions increasingly rely on digital platforms. As Kotler et al. (2014) note, customer satisfaction reflects the degree to which a bank's products or services meet or surpass customer expectations and has become central to the drive for electronic banking adoption. Khera

et al. (2022) and Zafar et al. (2011) observe that recent technological advancements have transformed the financial services landscape, reducing both geographical and operational barriers, and have subsequently promoted e-banking adoption worldwide.

Singh (2023) defines e-banking as the provision of banking services via digital platforms, highlighting its ability to offer customers 24/7 access, shorter transaction times, reduced costs, and greater flexibility. This transition has prompted a significant shift away from traditional approaches towards electronic channels, as described by Ayinaddis (2022). Within this shift, dimensions such as responsiveness, reliability, trust, accessibility, privacy, security, and ease of use have been identified as key drivers of satisfaction (Hammoud et al., 2018; Hoseini et al., 2015; Liébana et al., 2013; Shankar et al., 2019; Jebarajakirthy, 2019; Zouari et al., 2021).

Historical developments within Nepal reflect this trajectory. According to Bhattarai (2014), Kumari Bank pioneered internet banking in Nepal in 2002, with Laxmi Bank subsequently introducing mobile banking in 2004. In the years that followed, Nepalese commercial banks integrated a variety of electronic banking options including ATM networks, SMS banking, online and mobile solutions to enhance accessibility and convenience for clients. Nevertheless, as Haudi et al. (2022) argue, challenges such as slow technological adoption, limited infrastructure, weak internet connectivity, and inadequate customer service persist, often undermining customer satisfaction.

Despite improvements brought about by technological modernization, Goutam et al. (2021) and Eryiğit et al. (2021) report that regulatory constraints, insufficient staff training, and an underdeveloped service culture continue to impede the full realization of quality digital banking experiences in Nepal. These scholars advocate for strategic investment in technology, innovation, and customer-focused practices to boost satisfaction in this evolving context.

The broader landscape of Nepal's banking sector is described by the International Finance Corporation (2025) as gradually embracing digital transformation, spurred by advances in financial technology, wider smartphone adoption, and supportive regulatory initiatives aimed at promoting financial inclusion. However, for banks to succeed in a competitive digital era, scholars such as Walfried (2000), Kotler (2003), and Lawanson (2012) emphasize the importance of investing in robust e-banking infrastructure, data security, and seamless user experience to maintain trust and loyalty among customers.

### **Problem Statement**

Oliver (1980) introduced the disconfirmation theory, which posits that customer satisfaction arises when perceived service performance is compared against initial expectations; notably, satisfaction or dissatisfaction hinges upon whether these expectations are exceeded or unmet. Grönroos (1993) and Berry (1983), building on this view, emphasized the central role of service quality and an organization's capacity to consistently meet or surpass expectations in shaping customer satisfaction.

In the context of Nepal, the growing adoption of e-banking has not fully mitigated core challenges to customer satisfaction. Researchers such as Mchomba (2018) and Singh (2023) identify persistent security concerns, cyber threats, inconsistent technological adoption, and low levels of customer digital literacy as major impediments to effective e-banking service delivery. Kuisma et al. (2007) and Aryal (2020) observe that a lack of modern banking infrastructure and insufficient customer awareness programs frequently leave users hesitant or confused about embracing digital services. Mchomba (2018) further highlights that unreliable ATMs and

technology-related anxieties erode consumer trust and diminish loyalty, while Aryal (2020) notes that these challenges are acute in rural areas, where traditional banking dominates. While Broderick (2002) and Sharma (2018) point to e-banking's promise of greater convenience and cost efficiency, they also emphasize that regulatory limitations and scarce resources stymie service expansion.

Addressing these issues, the present study seeks to identify and analyze the principal factors influencing customer satisfaction in Nepalese commercial banks' e-banking services. By doing so, it aims to inform strategic improvements in technology, customer service, and awareness initiatives that together can foster a more secure, user-friendly banking environment.

### **Objectives**

The primary objective of this study is to rigorously assess the level of customer satisfaction with e-banking services provided by Nepalese commercial banks. This research is designed to evaluate the overall status of e-banking service delivery while systematically examining the impact of key factors—such as convenience, security, ease of use, cost advantages, and personalization—on user satisfaction. The study further aims to analyze how these variables shape customer experiences, quantify satisfaction levels across diverse user groups, and investigate the influence of demographic characteristics on satisfaction outcomes. Ultimately, the insights generated will contribute to enhancing service quality and operational efficiency within Nepal's commercial banking sector, supporting the development of more customer-centric e-banking solutions.

### **Methodology**

This survey was conducted among 400 e-banking users from selected Nepalese commercial banks, focusing on institutions that have offered e-banking services in the past five years. The study employed a comprehensive literature review to identify key variables, which were then analyzed using descriptive analysis, correlation, regression, reliability tests, and ANOVA via SPSS. Demographic factors such as gender, age, marital status, education, profession, and income were included in the analysis to provide a holistic view. However, the methodology is constrained by certain limitations. The focus on a limited selection of banks and the sample size may affect the generalizability of results, and findings may not be applicable to other financial sectors beyond commercial banking.

### **Internet Banking and Its Evolution**

The trajectory of e-banking in Nepal began in the mid-1990s, as Himalayan Bank Limited pioneered the deployment of Automated Teller Machines (ATMs) and telephone banking services, marking a significant milestone in the nation's financial landscape. Daniel (1999) describes online banking as the provision of banking services through the internet, enabling banks to offer essential information and services via dedicated websites. According to Yiu (2007), this model of service delivery has become foundational for the modern banking industry.

Empirical insights from Eriksson et al. (2005) and Manzano (2009) emphasize that perceived usefulness, trust, and ease of use are fundamental to driving both e-banking adoption and customer satisfaction. Their research collectively illustrates that service quality in digital banking is shaped by multifaceted dimensions, with website usability, trust, personalization, and perceived usefulness repeatedly identified as primary determinants of satisfaction.

Mobile banking, considered an evolution of online banking, has expanded the self-service capabilities available to customers. As outlined by Aboelmaged (2013), mobile banking uses

mobile devices to facilitate financial management ranging from account checks and money transfers to more advanced banking transactions from any location. The services have grown from basic SMS-enabled functions to comprehensive mobile platforms, offering enhanced security as services are automatically disabled if a device is lost or stolen.

Rita et al. (2019) have explored the impact of e-service quality components such as website design, privacy, and fulfillment on satisfaction and trust among Indonesian consumers, demonstrating how these elements influence repurchase intention and platform engagement. Similarly, Rashidi et al. (2015) investigated internet banking satisfaction in Iran, highlighting strong positive relationships between banking features and customer satisfaction. Omodele et al. (2019) further corroborate this connection, indicating through correlation and regression analyses that well-executed e-banking services strongly enhance user satisfaction.

Within the Lebanese context, Hammoud et al. (2018) found efficiency, reliability, responsiveness, communication, ease of use, and security to be significant drivers, with reliability ranking as most influential. Altobishi et al. (2018), focusing on Jordanian users, also recognized convenience, cost, ease of use, and personalization as important, though their findings suggested privacy did not have a significant impact. Collectively, these studies demonstrate the varied factors that underpin satisfaction with internet and mobile banking services across diverse contexts.

### **Electronic Banking in Nepal**

The evolution of electronic banking in Nepal has mirrored the broader technological advancements within the country's banking sector. Following the establishment of Nepal Bank Limited in 1937, commercial banks gradually embraced new banking technologies. The early 1990s marked a turning point, as NABIL Bank introduced credit cards, initiating modern payment systems into the country's financial landscape. The deployment of ATMs by Himalayan Bank Ltd. in 1995 enabled customers to access banking services at any time, significantly improving convenience. Kumari Bank Limited set a landmark in 2002 by pioneering internet banking, while Laxmi Bank Limited expanded digital access in 2004 through the launch of SMS banking, which allowed users to perform basic transactions using text messages (Laxmi Bank Limited, 2005).

By September 2023, Nepal's commercial banking sector comprised 20 institutions, with Nepal Rastra Bank (2023) noting a broad and increasing adoption of e-banking services. Banks have integrated e-banking to better retain customers and improve satisfaction, capitalizing on the advantages of speed, convenience, and accessibility. For example, during the COVID-19 pandemic, Nepal Rastra Bank initiated a policy allowing customers to use any ATM card across banks without incurring additional charges, which accelerated the uptake of electronic banking options.

Empirical literature emphasizes that the advancement of electronic banking has had transformative effects on banking operations and customer satisfaction in Nepal. As commercial banks continue to innovate, researchers have shown that shifts from traditional to electronic platforms are largely driven by improvements in internet and mobile technology, which facilitate enhanced service delivery and greater customer engagement. The dynamic between e-banking services and customer satisfaction therefore remains an essential focus for practitioners and academics.

Recent years have seen a surge in e-banking adoption, largely propelled by the limitations imposed during the COVID-19 pandemic, which restricted in-person transactions. The Nepal Rastra Bank's initiative to enable ATM card interoperability further expedited this transition.

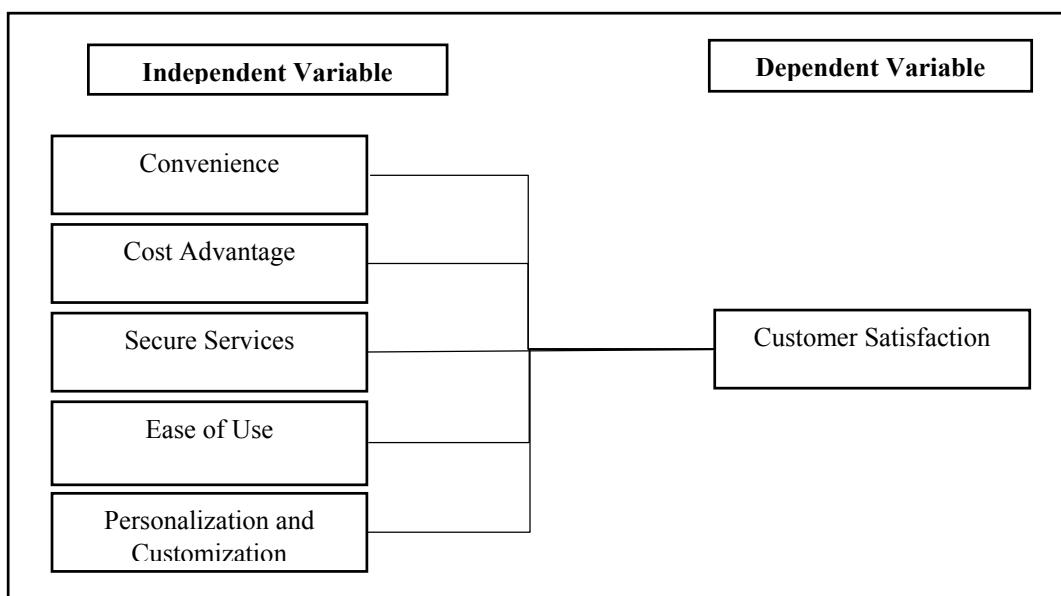
Today, nearly all commercial banks in Nepal offer diverse electronic services such as ATMs, SMS banking, and online transactions. Nonetheless, as highlighted by Haudi et al. (2022), significant obstacles persist including slow technological adoption, infrastructural weaknesses, limited internet connectivity, and insufficient customer service practices continuing to challenge the sector's ability to deliver high levels of customer satisfaction.

### Research Gap

Despite considerable global research on e-banking and customer satisfaction, there is a significant lack of focused studies investigating these factors within the Nepalese banking sector. Existing research in Nepal has primarily concentrated on e-banking adoption rates rather than examining how specific components of e-banking such as convenience, security, and personalization affect customer satisfaction. Additionally, prior studies have often overlooked the unique infrastructural, technological, and demographic challenges faced by Nepalese customers. This study addresses these gaps by exploring the direct impact of various e-banking factors on customer satisfaction using a descriptive approach and a relatively large sample size of 400 respondents, thus providing empirical insights that have been underexplored in Nepal's commercial banking context. This contribution is critical for guiding banks in tailoring services to improve customer satisfaction effectively.

### Conceptual Framework

The conceptual framework for this research identifies customer satisfaction as the dependent variable within electronic banking systems in Nepal. The independent variables influencing customer satisfaction are convenience, cost advantage, secure services, ease of use, and personalization and customization. This framework establishes a direct relationship, indicating that improvements or changes in these independent variables can affect the overall satisfaction that customers experience with electronic banking services. The framework helps clarify the focus of the study and guides the evaluation of how specific service dimensions contribute to user satisfaction in Nepalese commercial banks.



**Table 1.** Major Milestones Electronic Banking Aspects in Nepal

S. N.	Major Milestones	Date (AD)
1.	Joint Venture Bank (NABIL Bank) evolution	1984
2.	Credit Cards introduced	1990
3.	First ISP (Mercantile Office Systems) established	1994
4.	Himalayan Bank Limited launched First ATM	1995
5.	Introduction of Tele-Banking facility by Himalayan Bank Limited	1997
6.	IT Policy formulation	2000
7.	Private Sector Bank (Kumari Bank) evolution	2001
8.	Kumari Bank introduced Internet Banking	2002
9.	Laxmi Bank launched SMS Banking (Mobile Banking)	2004
10.	Electronic Transaction and Digital Signature Act	2005

Source: (NRB, 2023)

Table 1 presents data on the usage of Internet Banking, Mobile Banking, and ATM services across Commercial Banks, Development Banks, and Finance Companies. This data offers key insights into e-banking adoption, helping financial institutions refine strategies to meet evolving customer needs in the digital era.

**Table 2.** Number of Mobile Banking, Internet Banking, ATMs customers in Nepal

Description	Commercial Banks	Development Banks	Finance Companies	Total
Number of Mobile Banking Customers	18,438,455	2,772,852	152,682	21,363,989
Number of Internet Banking Customers	1,347,970	494,753	13,472	1,856,195
Number of ATMs	4,465	346	44	4,855

Source: (NRB, 2023)

Table 2 presents the distribution of mobile banking customers, internet banking customers, and ATMs across Nepalese financial institutions. Commercial banks dominate digital banking adoption, serving over 18 million mobile banking customers and 1.3 million internet banking users, compared to development banks and finance companies, which serve fewer customers. The total number of mobile banking customers reaches more than 21 million, while internet banking customers total nearly 1.9 million. Additionally, commercial banks operate the majority of ATMs (4,465), far surpassing those managed by development banks and finance companies, bringing the national total to 4,855. These data highlight the pivotal role of commercial banks in expanding technology-enabled banking access in Nepal.

**Table 3.** Respondents' mostly used e-banking services

E-Banking services	Frequency	Percent
ATM Banking	160	40.00
Mobile Banking	85	21.25
Internet/Online Banking	120	30.00
Point of Sales (POS)	30	7.50
Telephone Banking	5	1.25
Total	400	100

### Statistical Analysis

The study employed both qualitative and quantitative methods to analyze data collected through questionnaires. Descriptive statistics were used to summarize and interpret the distribution of responses, and the data was processed using SPSS version 25 and Microsoft Excel. Responses were coded according to Likert scale standards and tabulated in SPSS for structured analysis. The analysis included calculating means and standard deviations to understand the central tendencies and variances of the variables. Additionally, correlation analysis was used to examine the relationships between variables, followed by stepwise multiple regression analysis to identify the impact of electronic banking components on customer satisfaction. Tests of significance, including One-Way ANOVA, were conducted to ensure the validity and effectiveness of the results. These methods allowed for a comprehensive understanding of the effects of electronic banking on customer satisfaction. The findings were presented in tables using frequencies and percentages to support clear interpretation and to draw meaningful conclusions.

Cronbach's alpha is a widely used metric to assess the internal consistency or reliability of scale items in a study. It measures how consistently a set of items reflects a single underlying construct. In this study, Cronbach's alpha was used to evaluate the reliability of the measurement scales. As per Nunnally and Bernstein (1994), an alpha value above 0.7 indicates strong internal consistency. George and Mallory (2003) provide general guidelines:  $\alpha > 0.9$  is excellent,  $> 0.8$  is good,  $> 0.7$  is acceptable,  $> 0.6$  is questionable,  $> 0.5$  is poor, and  $< 0.5$  is unacceptable.

**Table 4.** Reliability Analysis

Code	Variables	Cronbach's Alpha
CON	Convenience	0.948
CA	Cost Advantage	0.960
SE	Secure Service	0.936
EU	Ease of Use	0.952
PC	Personalization & Customization	0.955
CS	Customer Satisfaction	0.961

The measurement scales used in this study demonstrated strong reliability, with all Cronbach's alpha values exceeding 0.80. This indicates a high level of internal consistency across the items. As a result, all scale items were retained for further analysis, as none fell below the acceptable threshold. The consistency of the data confirms the reliability of the measurement instruments applied in the study.

The descriptive analysis summarizes key variables of e-banking, including Convenience (CON), Cost Advantage (CA), Secure Services (SE), Ease of Use (EU), Personalization and Customization (PC), and Customer Satisfaction (CS). It highlights respondents' perceptions through statistical measures like mean and standard deviation for each aspect.

**Table 5. Descriptive Analysis**

Code	Variables	Mean	Std. Deviation
CON	Convenience	5.656	1.088
CA	Cost Advantage	5.075	1.129
SE	Secure Services	5.548	1.164
EU	Ease of Use	5.482	1.050
PC	Personalization and Customization	5.200	1.128
CS	Customer Satisfaction	5.611	1.091

The mean values for various e-banking factors, including Convenience (5.656), Cost Advantage (5.075), Secure Services (5.548), Ease of Use (5.482), and Personalization and Customization (5.200), suggest that customers are generally satisfied with these aspects, as the overall satisfaction mean is (5.611). The small variations in the mean values indicate consistent satisfaction across all variables. The standard deviations—ranging from 1.050 to 1.164—demonstrate a good spread, confirming that customer perceptions are evenly distributed.

Correlation analysis was conducted to examine the relationships between variables. Pearson's correlation was used for variables with multiple response options, and a correlation matrix was created to evaluate the strength of these relationships. A positive correlation indicates both variables move in the same direction, while a negative correlation suggests an inverse relationship. According to Levin et al. (2014), values of  $r < 0.30$  indicate weak correlation,  $0.30 < r < 0.60$  show moderate correlation, and  $r > 0.60$  signifies strong correlation.

**Table 6. Pearson Correlation Matrix**

Variables	CS	CON	CA	SE	EU	PC
CS	1					
CON	.878 **	1				
CA	.814 **	.827 **	1			
SE	.872 **	.872 **	.838 **	1		
EU	.815 **	.852 **	.814 **	.831 **	1	
PC	.859 **	.882 **	.788 **	.883 **	.869 **	1

\*\* Correlation is significant at the 0.01 level (2-tailed), '000' is significance.

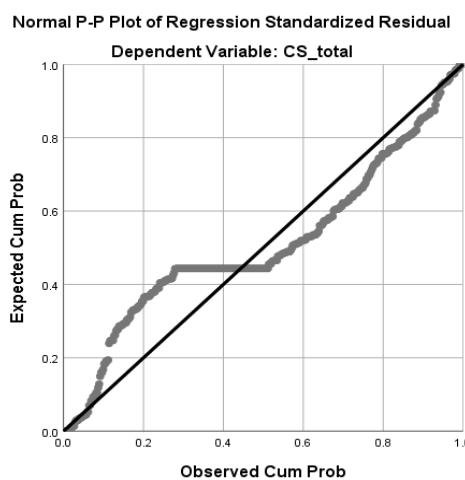
Table 6 reveals strong correlations between customer satisfaction and various e-banking factors, such as convenience (0.878), cost advantage (0.814), secure services (0.872), ease of use (0.815), and personalization & customization (0.859), all exceeding 0.6. Additionally, strong correlations were observed between convenience and other factors like secure services (0.872), ease of use (0.852), and personalization & customization (0.882). Secure services, cost advantage, and ease of use also showed strong correlations with values of (0.838), (0.814), and (0.788). Furthermore, ease of use and secure services (0.831), along with personalization & customization and secure services (0.883), were highly correlated, as was the relationship between ease of use and personalization & customization (0.869). The table indicates that the tolerance values are below one and the VIF values are under 10. Since tolerance exceeds 0.1 and VIF is below 10, there is no multicollinearity, allowing the regression analysis to proceed.

Regression assumption tests are essential for ensuring the validity of regression analysis. The Normality Test checks if data is normally distributed. The Linearity Test ensures the relationship between variables is linear. The Multi-Collinearity Test assesses if independent variables are highly correlated. Independence of Error tests if residuals are independent.

**Table 7. Coefficients Collinearity Statistics**

Dimensions of E-Banking	Tolerance	VIF
Convenience	.175	5.709
Cost Advantage	.237	4.228
Secure Services	.153	6.531
Ease of Use	.165	6.061
Personalization and Customization	.223	4.479

Linear regression seeks to establish a relationship between two variables by fitting a straight line to the data. One variable act as the explanatory variable, while the other serves as the dependent variable. If the relationship is non-linear, the regression model may fail to accurately capture the true relationship.



This Normal P-P plot compares observed cumulative probabilities of regression standardized residuals (from the dependent variable *CS total*) against expected normal distribution probabilities. If points align closely with the diagonal line, residuals are normally distributed, supporting regression assumptions. Deviations suggest non-normality, potentially requiring model adjustments.

**Table 8. Multiple Regression Analysis**

Model	R	R-Square	Adjusted R-Square	Std. Error of estimate
1	.883	.779	.764	.810

*Predictors: (Constant), CON, CA, SE, EU, PC*

The model explains 77.9% ( $R^2 = 0.779$ ) of customer satisfaction variance using predictors (CON, CA, SE, EU, PC). Adjusted  $R^2$  (0.764) accounts for model complexity, showing slight overfitting. A standard error of (0.810) indicates moderate residual variability. About 22.1% variance remains unexplained, suggesting unaccounted factors influencing satisfaction.

**Table 9. Coefficients Table**

Independent Variables	Unstandardized Std. B Error	Coefficients	Standardized Coefficients Beta	t	Sig.
(Constant)	1.803	.592		3.044	.002
Convenience	.164	.059	.156	3.474	.001
Cost Advantage	-.084	.055	-.093	2.413	.016
Secure Services	.261	.049	.254	5.315	.000
Ease of Use	.405	.047	.335	7.270	.000
Personalization & Customization	.295	.035	.323	8.145	.000

*Dependent Variable: Customer Satisfaction*

The ANOVA results confirm the regression model is statistically significant ( $F = 431.001, p < 0.001$ ), indicating predictors collectively explain variance in customer satisfaction (CS). Coefficients reveal Ease of Use ( $\beta = 0.405, p < 0.001$ ) has the strongest positive impact, followed by Personalization & Customization ( $\beta = 0.295$ ) and Secure Services ( $\beta = 0.261$ ). Convenience ( $\beta = 0.164, p = 0.001$ ) also significantly boosts CS. Cost Advantage shows a weak negative effect ( $\beta = -0.084, p = 0.016$ ), suggesting higher costs mildly reduce satisfaction. Overall, four predictors are significant ( $p < 0.05$ ), while the model explains 77.9% of CS variance ( $R^2 = 0.779$ ). (100 words)

Four hypotheses (H1, H3, H4, H5) were accepted, showing significant positive relationships between customer satisfaction and *convenience* ( $p=0.001$ ), *secure services* ( $p<0.001$ ), *ease of use* ( $p<0.001$ ; strongest effect,  $\beta=0.405$ ), and *personalization* ( $p<0.001$ ). Hypothesis H2 (*cost advantage*) was rejected: despite statistical significance ( $p=0.016$ ), its negative coefficient ( $\beta=-0.084$ ) contradicted the predicted positive link, implying higher costs slightly reduce satisfaction. Notably, the original text misstated p-values for H3-H5 as “ $>0.05$ ”; all were  $<0.05$ , confirming

significance. The model explains 77.9% of satisfaction variance, highlighting ease of use as the most influential factor, while cost advantage's unexpected negative effect warrants further investigation.

### **Findings**

This study investigates the impact of electronic banking on customer satisfaction within Nepalese commercial banks, utilizing a sample of 400 respondents from the Kathmandu Valley. The analysis incorporates both quantitative data and qualitative insights, offering a holistic view of user experiences and perceptions.

The demographic profile suggests a diverse participant base: 53% of respondents were female and 47% male, with a predominant age group of 20-30 years (60.3%). Educational attainment was high, as 39.5% held a bachelor's degree and 33% a master's degree. The sample was balanced between public sector employees (30.8%) and students (24.5%). Most notably, frequent engagement with e-banking was evident as 45.5% reported using e-banking services more than four times per month. Qualitative feedback from respondents indicated that younger users tend to appreciate the convenience of digital banking, while older users often expressed reservations about technology, linking their satisfaction to service security and platform reliability.

Mobile banking emerged as the preferred e-banking service, used by 50.6% of respondents, with ATMs being the next most common method (32.8%). The most frequently cited reasons for using e-banking included checking account balances (74%), transferring funds (52.3%), and ease of bill payment. Many users described the time-saving aspect and effortless access to information as core benefits of mobile banking. Several respondents highlighted how e-banking alleviated the inconvenience of physically visiting bank branches, which was especially valuable during the COVID-19 pandemic.

In terms of quantitative outcomes, regression analysis identified "ease of use" as the strongest positive predictor of customer satisfaction (coefficient 0.405). Qualitative responses reinforced this, as many participants elaborated on the simplicity and intuitiveness of e-banking interfaces as critical to their satisfaction. On the other hand, "cost advantage" exhibited a negative relationship, and users commonly expressed that high transaction or service fees negatively colored their experiences. Reliability scores across variables were high, with customer satisfaction averaging 5.611 on the survey scale. The R-square value of 0.862 underscores the explanatory power of service quality factors—convenience, security, ease of use, and personalization in accounting for 86.2% of the satisfaction variance.

Challenges identified through both survey responses and open-ended feedback included persistent infrastructure barriers (such as unreliable internet access), inconsistent service quality, and concerns over data security. Respondents sometimes recounted personal incidents of service interruption or doubts about transaction confidentiality, which diminished trust and loyalty. Cost remains a notable deterrent; several participants stated a willingness to use more e-banking services if charges were reduced or fee structures simplified.

Overall, the study shows that while e-banking is enhancing customer satisfaction in Nepalese commercial banks especially through convenience, security, personalization, and ease of use service cost and infrastructure weakness remain areas of discontent. Qualitative feedback points to the need for banks to offer clearer communication about fees and more robust security assurances to foster deeper trust. Continuing to improve these aspects could further solidify customer loyalty and advance the overall e-banking ecosystem in Nepal.

### **Discussion**

The findings of this study confirm a robust positive relationship between convenience and customer satisfaction in e-banking services at Nepalese commercial banks, supporting evidence presented by Addai et al. (2015), Altobishi et al. (2018), and Mohalingam et al. (2018), all of whom identify convenience as a major determinant of satisfaction in digital banking. Participants consistently described how streamlined access, rapid transaction processing, and easy navigation enhance their experiences, reinforcing the outsized influence of convenience.

Importantly, this study did not observe a positive association between cost benefits and customer satisfaction. In line with Altobishi et al. (2018) and Mohalingam et al. (2018), respondents noted that high service charges and transaction fees act as significant barriers, sometimes resulting in frustration and diminished satisfaction. These qualitative insights highlight the need for Nepalese commercial banks to reassess their pricing structures to maintain customer loyalty.

Security emerges as another key factor in shaping satisfaction levels, echoing Mohalingam et al. (2018), who stress the importance of robust and transparent protective measures. Respondents often expressed that their willingness to use e-banking was closely tied to perceptions of platform security and confidence in data privacy protocols.

Furthermore, ease of use and personalization/customization are clearly valued by users, with positive correlations identified between these variables and customer satisfaction. These outcomes align with Altobishi et al. (2018) and Mohalingam et al. (2018), both of whom underline how user-friendly digital banking interfaces and tailored services foster loyalty and repeated usage. Overall, these results suggest that Nepalese commercial banks should prioritize convenience, security, and customization in service design to ensure continued growth in customer satisfaction within a competitive landscape.

### **Implications of the Research**

This research highlights the critical role of e-banking services in advancing customer satisfaction and outlines clear strategic priorities for Nepalese banks. Improving the efficiency, reliability, and accessibility of digital platforms is essential, ensuring ease of use for customers from all backgrounds. Lowering service costs and transaction fees would broaden e-banking access, especially for lower-income groups. While security and privacy concerns had a moderate effect in the study, participants underscored the need for banks to invest in advanced technologies and transparent protections to boost user trust—especially in mobile banking. Enhancing customization and personalization is also key, as these features help tailor experiences to individual customer preferences, fostering stronger engagement. Ultimately, developing robust system security protocols and personalized services will not only attract new users but also build lasting loyalty among existing customers. By enacting these recommendations, commercial banks in Nepal can significantly improve customer experiences, strengthen trust, and maintain a competitive edge as e-banking becomes increasingly central to the financial services landscape.

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