






“Impact of customer satisfaction on commercial banks in Nepal: Insights from a survey-based study”

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IMPACT OF CUSTOMER SATISFACTION ON COMMERCIAL BANKS IN NEPAL: INSIGHTS FROM A SURVEY-BASED STUDY

Abstract

This study investigates how various service quality dimensions affect customer satisfaction in commercial banks across Nepal. The objective of this study is to examine the impact of key service quality dimensions (responsiveness, empathy, assurance, communication, and overall service quality) on customer satisfaction in commercial banks in Nepal. A survey-based quantitative approach was employed, collecting data from 399 customers in Nepal. The study utilizes multiple linear regression analysis and hypothesis testing to determine the relationship between these factors and customer satisfaction. The results indicate that communication, assurance, and service quality positively influence customer satisfaction, with a moderate mean score of 2.317949 out of 5 and moderate variability ($SD = 0.479612$). These three factors are key contributors, accounting for 41.5% of the variation in satisfaction, whereas empathy and responsiveness have weaker or insignificant impacts. The study concludes that enhancing communication and service quality is crucial for improving customer satisfaction, which is essential for sustainable growth in Nepal's financial sector.

Keywords

customer satisfaction, communication, assurance,
service quality, empathy, responsiveness, multiple linear
regression, Nepalese commercial banks

JEL Classification G21, O15, M31

INTRODUCTION

In the highly competitive banking realm, customer satisfaction has become a pivotal factor for financial institutions striving to maintain and expand their market share. As consumer expectations continually evolve, banks are pressured to prioritize customer-centric strategies that ensure high satisfaction levels. The banking sector, especially in fiercely competitive landscapes, has recognized service quality as a critical determinant of operational success.

Recent studies show that customers are becoming more aware of their rights, leading to increased competition and customer mobility in the banking sector. The Nepal Rastra Bank (2022) reported a 15% annual rise in customer complaints about service issues, highlighting the demand for improved service standards. Additionally, Mishra's (2023) survey found that 65% of customers prioritize service quality over product offerings and technology. Banks must continually assess and improve their service delivery to meet these evolving expectations.

In Nepal, the expanding banking sector necessitates a comprehensive evaluation of commercial banks' performance, particularly regarding customer satisfaction. Customer satisfaction has emerged as a crucial

indicator of the industry's efficacy and sustainability. This emphasizes the need for banks to provide not only a diverse range of products but also exceptional service quality and accessibility. As technological advancements and changing consumer preferences continue to reshape the banking landscape, banks' ability to adapt and innovate will be critical to maintaining and enhancing customer satisfaction.

1. LITERATURE REVIEW

In the field of customer satisfaction, Bonin et al. (2005) shed light on the correlation between customer attitude and advancements in banking. Chipunza's (2008) study emphasizes the significance of bank managers prioritizing service quality dimensions, with a particular focus on assurance. This is critical for improving overall service quality and increasing customer satisfaction among Jordanian commercial bank patrons. Additionally, findings from Masukujjaman and Akter (2010) demonstrate that tangibility, reliability, responsiveness, assurance, and empathy significantly and positively impact customer satisfaction.

In Bangladesh's private commercial banking sector, the dimensions of service quality play a pivotal role in ensuring customer satisfaction. Auka (2012) discovered a significant positive relationship between service quality, customer satisfaction, customer value, and customer loyalty. Similarly, George and Kumar's (2013) research found that service quality, customer value, and satisfaction are crucial success factors that influence an organization's competitiveness.

Security, dependability, usability, and service quality are crucial factors affecting satisfaction. According to Lee et al. (2015), managerial expertise is essential in luring customers to banks through quality and honesty. Iberahim et al. (2016) underscore management's significant role in enhancing service quality, providing valuable insights for policymakers and governance seeking to address customer satisfaction. According to Hennayake's (2017) findings, human-related factors such as perceived service quality have a significant impact on customer satisfaction, with reliability and responsiveness emerging as the most influential factors. Despite progress, challenges persist, such as limited connectivity, scarce infrastructure, security concerns, controlling changes, low financial knowledge, and subpar customer service, as Klapper and Singer (2017) noted.

The version about mobile banking by Tam and Oliveira (2017) found the epitome of the 21st-century customer experience. Despite its significance, Kang (2017) highlights the substantial challenges of mobile banking in this era. According to Alemu and Zewdu (2018), banks must address problems like customer satisfaction and loyalty in the competitive market, as well as fears about hackers, trust issues, device functionalities, and costs. According to Shareef et al. (2018), understanding crucial factors for improving the mobile banking experience is essential for differentiation, customer satisfaction, and market expansion. Manjula's (2019) study underscores customers' demand for advanced technology to enhance their banking satisfaction.

Factors such as reliability, responsiveness, empathy, security, and tangibles impact customer satisfaction with service quality at retail banks in Vietnam. Based on these findings, Hong (2018) proposes recommendations to improve service excellence in Vietnamese retail banking.

Ahmed et al. (2019) provide evidence that satisfied customers are more likely to stick with and promote mobile banking, fostering trust and enduring connections. Vencataya et al. (2019) validate the SERVQUAL model's reliability in assessing and improving service quality in the banking sector. Their findings indicate that all five service quality factors substantially contribute to favorable customer satisfaction, with empathy emerging as a particularly notable predictor among these dimensions. Manjula (2019) elaborates on the markedly positive impact of service on banking customers.

Fawaz's (2020) study revealed a statistically significant influence of software, databases, human resources, and networks on customer satisfaction in both the State of Kuwait and the Kingdom of Bahrain. Additionally, Kanungo and Gupta (2021) highlight the heightened awareness among customers regarding their rights, leading to increased competition and customer mobility within the banking sector.

Commercial banks in the State of Kuwait have a moderate level of innovation management practice, as Fawaz and Afaf (2021) reveal. Their study highlights significant impacts and correlations among innovation management, innovative climate, customer satisfaction, and the behavior of innovative employees. Jahan and Shahria (2021) investigate the relationship between financial inclusion and customer satisfaction. Additionally, Shanmugam and Chandran (2022) explored the factors influencing e-banking, emphasizing reliability, safety and security, assurance, technological enhancement, and speed as crucial elements for commercial banking services that depend entirely on Internet processes.

The study by Yu and Nuangjamnong (2022) investigated the impact of mobile banking services on customer satisfaction. Their findings indicate that transaction speed, accessibility, affordability, adaptability, ease of use, and relative advantage significantly influence customer satisfaction. Marei et al. (2022) suggest that decision-makers in the banking industry should enhance innovation levels to improve business performance and customer satisfaction based on their findings. Furthermore, according to Arora and Sharma (2023), positive customer experiences with digital banking contribute to financial performance by enhancing customer satisfaction.

The study by Shanmugam and Chandran (2022) emphasizes that e-banking relies on five crucial factors: reliability, safety and security, assurance, technological advancement, and speed. This is because commercial banks' electronic banking services are entirely dependent on internet processes. On the other hand, Yu and Nuangjamnong (2022) researched the impact of mobile banking services on customer satisfaction. Their findings reveal that transaction speed, accessibility, affordability, adaptability, ease of use, and relative advantage significantly influence customer satisfaction.

The infusion of information technology into finance has sparked a banking revolution in the 21st century, elevating customer experiences through self-service technologies. This evolution encompasses Internet banking, ATMs, and mobile banking, with mobile banking emerging as a prominent catalyst influencing convenience, availability,

speediness, security, cost-effectiveness, financial tools, environmental sustainability, and economic growth. Mobile banking advocates for financial inclusion, particularly in remote regions, while simultaneously curbing costs and saving time and money for both customers and banks (Sthapit, 2023).

The study by Yoeung et al. (2023) successfully investigated the results, which underscore the importance of enhancing service quality to positively influence customer satisfaction, suggesting potential for increased cooperation and improved services for customers utilizing ATM services in commercial banks. The study by Uwimana and Nyambane (2023) revealed a positive relationship between automatic banking and customer satisfaction. The findings emphasize the need for awareness campaigns to address lower adoption rates and enhance overall customer satisfaction.

In essence, Nginyu et al.'s (2023) study examines the findings and guides for improving customer satisfaction in Cameroonian commercial banks and beyond. It is important to recognize the study's limitation of focusing solely on Bamenda's commercial bank customers. The study by Dias and Dissanayake (2023) identifies, through multiple linear regression, a statistically significant impact of reliability, competence, ease-to-navigate, and trust on customer satisfaction with mobile banking services in commercial banks in Sri Lanka's Colombo District.

Nepalese banks offer a wide range of online services, but widespread adoption is difficult due to public anxiety (Shrestha, 2018). Understanding customer behavior is essential to enhancing customer experience, satisfaction, and loyalty. Ghimire (2021) focuses on evaluating customer comprehension of mobile banking, identifying factors impacting satisfaction, addressing customer challenges, and proposing managerial solutions. Khadka and Maharjan (2017) evaluate customer satisfaction in mobile banking by aligning the product or service with their expectations. Ghimire et al. (2021) investigate customer satisfaction in mobile banking, particularly examining the impact of convenience and cost. Furthermore, Shrestha et al. (2021) emphasize the importance of customer privacy, security, and responsiveness in Nepalese commercial banks.

Goet and Kharel (2022) examine the effects of accessibility, communication, time savings, and safety on customer satisfaction with mobile banking services provided by Nepalese commercial banks. Their findings reveal a positive and significant correlation between these factors. Similarly, Ghimire (2021) reveals that convenience, communication, and time-saving pointedly contribute to customer satisfaction.

In Nepal, the transition towards digital banking is evident, with approximately nine million individuals utilizing mobile banking services. There has been an increase in the availability of mobile phones, widespread use of the Internet, government initiatives, competition among banks, and the convenience of digital solutions (Ghimire & Dhakal, 2023).

According to Danibrata et al. (2024), customer satisfaction is crucial for maintaining and growing market share in the competitive banking sector. As consumer expectations evolve, banks must prioritize customer-centric strategies, with service quality being a key determinant of success in this competitive landscape.

The objective of this study is to assess how key service quality dimensions – responsiveness, empathy, assurance, communication, and overall service quality – affect customer satisfaction in commercial banks in Nepal.

This study assumed the following research hypotheses:

H_1 : *There is a strong positive relationship between responsiveness and customer satisfaction.*

H_2 : *There is a strong positive relationship between empathy and customer satisfaction.*

H_3 : *There is a strong positive relationship between assurance and customer satisfaction.*

H_4 : *There is a strong positive relationship between communication and customer satisfaction.*

2. RESEARCH METHODOLOGY

This study employs a quantitative approach, using a survey questionnaire to collect data from customers of commercial banks in Nepal. The

study targets customers across Nepal, focusing on general customers with at least one year of banking experience.

The survey was administered using a self-administered questionnaire designed to collect comprehensive data on customer satisfaction and bank-related experiences. The questionnaire was distributed to participants across various banks, and responses were collected on-site to ensure accuracy and completeness. The questionnaire comprised multiple sections, including socio-demographic information, bank-related details, satisfaction levels, and service quality measurements. Participants were asked to provide detailed answers and rank their perceptions of various aspects of bank services. Convenience sampling is employed, which includes participants who are willing to participate and present during data collection.

The respondents included a diverse group of bank customers from various demographic backgrounds. The socio-demographic section of the questionnaire collected data on respondents' names, ages, genders, marital statuses, ethnicities, religions, educational levels, occupations, and annual family incomes. The bank-related section captured information about the respondents' bank names, account types, reasons for selecting their banks, and major problems faced. Additionally, the survey assessed customer satisfaction through questions on reliability, responsiveness, empathy, assurance, communication, and overall service quality. This detailed demographic and bank-related information provides a clear picture of the survey participants and their banking experiences.

The researcher initially calculated the required sample size, 384, using a specified formula. The sample size was adjusted to 404, anticipating a 5% non-response rate. In the end, 399 respondents were included, with 14.29% (57 respondents).

Data collection involves distributing self-administered study questionnaires to customers of commercial banks in Nepal. After compiling a list of these banks, the questionnaires were distributed via email.

The collected data have been analyzed using descriptive statistics and inferential statistics such as correlation and regression models. The statis-

tical software EViews-12 was used for analysis. Significance will be set at a 95% confidence level with $p < 0.05$ to test hypotheses regarding the relationships between customer satisfaction and various factors.

A regression model with customer satisfaction as the dependent variable and reliability, responsiveness, empathy, assurance, and communication as the independent variables was developed. This model aims to analyze the impact of these factors on overall customer satisfaction, providing insights into the relative importance of each predictor in influencing customer perceptions and experiences.

$$CS = \beta_0 + \beta_1 REL + \beta_2 RESP + \beta_3 EMP + \beta_4 ASSUE + \beta_5 COMM + \varepsilon, \quad (1)$$

where $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4,$ and β_5 are the constant term and ε is the error term. *CS* is the customer satisfaction; *REL* is the reliability; *RESP* is the responsiveness; *EMP* is the empathy; *ASSUE* is the assurance and *COMM* is the communication.

3. RESULTS

A total of 420 questionnaires were distributed to respondents across Nepal. 399 of these returned duly filled, resulting in an impressive response rate of 95%, which is considered notably high and satisfactory. The direct involvement of bank officials, where feasible, likely contributed to this high response rate. As a result, this high rate suggests that the collected data are reliable for analysis. Table 1 provides further details about the questionnaire.

The researcher surveyed participants using a range of questions to assess the impact of different aspects on customer satisfaction, grading responses on a scale from strongly agree to strongly disagree. Subsequently, the mean and standard deviation of each response, along with the composite scores, were analyzed to derive interpretations and draw conclusions. A comprehensive breakdown of these responses is provided in Table 1.

Table 1 shows the results of a customer satisfaction survey for a bank. Each statement can be examined to determine how satisfied the customers are with that aspect of the bank. Table 1 shows that 11.1% of customers strongly agree with this statement, 66.3% agree, 19.2% are neutral, 2.6% disagree, and 0.8% strongly disagree. The mean rating for this statement is 2.16, which means that the average customer is slightly satisfied with the bank's services. The standard deviation is 0.675, indicating that the ratings are not evenly distributed around the mean.

The statement with the most skewed distribution is "Forms and slips are easy to understand and fill," which has 10.8% of customers strongly agreeing, 71.8% agreeing, 13.2% neutral, 3.9% disagreeing, and 0.3% strongly disagreeing. This means that most customers are satisfied with the ease of filling out the bank's forms and slips. The distribution of ratings for each statement can also be examined to see how much variation there is among customers. For example, the statement with the most balanced distribution is "Satisfaction with the bank's ATM services," which has 11.3% of customers strongly agreeing, 37.1% agreeing, 37.4% neutral, 12.6% disagreeing, and 1.6% strongly disagreeing. This means that customers have mixed opinions about the bank's ATM services.

Table 1. Customer satisfaction metrics and response distribution

Source: Internal Survey Data, Customer Satisfaction Study, 2024.

Customer Satisfaction	Satisfied with services	Forms and slips are easy to understand and fill	Satisfaction with the bank's ATM services	Performance of the bank	Online and mobile banking services	Understandable bank statements	Cheque book at any branch	Regular customer of this bank
S. Agree, %	11.1	10.8	11.3	3.9	11.6	14.7	13.9	8.9
Agree, %	66.3	71.8	37.1	33.2	51.3	60.8	61.6	58.4
Neut., %	19.2	13.2	37.4	48.2	32.1	22.1	16.1	28.2
Dis. Ag, %	2.6	3.9	12.6	13.4	4.2	1.8	7.6	3.7
S. dis., %	0.8	0.3	1.6	1.3	0.8	0.5	0.8	0.8
Mean	2.16	2.11	2.56	2.75	2.31	2.13	2.2	2.29
S. Dev.	0.675	0.64	0.907	0.784	0.761	0.689	0.799	0.712

A bank's performance reflects the level of satisfaction with the bank's overall performance. 3.9% strongly agreed, and 33.2% agreed. The statement with the lowest mean rating is "Performance of the bank," which has a mean of 2.75 and a standard deviation of 0.784. This means that customers are less satisfied with how the bank performs in terms of profitability, growth, and social responsibility. The satisfaction level with online and mobile banking services is indicated. 11.6% strongly agreed, and 51.3% agreed.

The ratings for different statements can be compared to determine which aspects of the bank have higher or lower customer satisfaction. For example, the statement with the highest mean rating is "Understandable bank statements," with a mean of 2.13 and a standard deviation of 0.689. This means that most customers are satisfied with the clarity of their bank statements. *Cheque book at any branch: Reflects satisfaction with the convenience of obtaining a check book at any branch of the bank.* 13.9% strongly agreed, and 61.6% agreed. *Regular customers of this bank: This indicates the percentage of respondents who are regular customers of the bank.* 8.9% strongly agreed, and 58.4% agreed.

The mean and standard deviation columns offer statistical measures of respondents' satisfaction levels for each aspect. The mean represents the average satisfaction score, while the standard deviation indicates the dispersion or variability of satisfaction scores around the mean. Overall, the table provides a comprehensive overview of customer satisfaction across various banking services, identifying strengths and potential improvement areas.

Most customers are satisfied with aspects such as the ease of understanding and filling out forms and slips, online and mobile banking services, and the convenience of obtaining a check book at any branch. These aspects have a high percentage of customers strongly agreeing or agreeing with the statements. However, there are areas where satisfaction levels are lower. For example, the statement regarding the bank's overall performance receives lower satisfaction ratings, with fewer customers strongly agreeing or agreeing compared to other statements. This

suggests customers may be concerned about the bank's profitability, growth, and social responsibility. Additionally, while customers are generally satisfied with the clarity of their bank statements, there is room for improvement in a bank's communication, particularly regarding timely information about changes in interest rates and services.

The researcher asked respondents a series of questions, rated on a scale from strongly agree, agree, neutral, disagree, to strongly disagree, to determine the extent to which various factors affected customer satisfaction. Each response's mean and standard deviation were then compared with the composite scores for interpretation and drawing conclusions. The details of these responses are presented in Table 2.

Table 2 shows that customers generally express levels of agreement across most reliability aspects, including adherence to promised time, handling of employee and customer problems, provision of all promised services, maintenance of time and error-free records, and transaction accuracy. The mean scores for these attributes range from 2.10 to 2.34, indicating a moderate-to-high level of perceived reliability.

Customers tend to agree with positive aspects of responsiveness, including employees' willingness to help, prompt service delivery, provision of information about services, readiness to respond to customer needs, and offering financial advice. However, there are slight variations in agreement levels across these attributes, with mean scores ranging from 2.03 to 2.42, suggesting a generally positive but slightly variable perception of responsiveness.

Attributes related to empathy, such as convenient business hours, transparency in service charges, the provision of personal attention, understanding of specific customer needs, and effectively addressing customer needs, generally receive moderate to high levels of agreement from customers. Mean scores range from 2.14 to 2.50, indicating a moderate to high level of perceived empathy. However, there are slight discrepancies in agreement levels across these attributes.

Table 2. Service quality dimensions and customer responses

Source: Internal Survey Data, Service Quality Assessment Study, 2024.

Service Quality	Bank's	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	Mean	S. D
Reliability	Promised time	15.0	63.9	17.6	2.9	0.5	2.10	0.69
	Emp. and customers' problems	14.2	58.2	21.1	6.1	0.5	2.21	0.77
	Provides all the services	13.4	53.7	26.6	5.3	1.1	2.27	0.79
	Time and error-free records	10.3	54.2	26.8	8.2	0.5	2.34	0.79
	Accuracy and transactions	13.2	60.3	20.0	4.7	1.8	2.22	0.80
Responsiveness	Employees willing to help	16.8	66.8	12.4	3.9	0.0	2.03	0.67
	Prompt service to customers	11.1	63.9	21.8	2.4	0.8	2.18	0.68
	Information about services	13.7	51.8	30.0	2.9	1.6	2.27	0.79
	Ready to respond	15.3	57.6	22.4	4.2	0.5	2.17	0.75
	Financial advice	11.3	49.7	27.9	7.9	3.2	2.42	0.90
Empathy	Convenient business hours	15.3	61.6	17.6	5.0	0.5	2.14	0.74
	Service charges	9.5	53.7	23.9	11.3	1.6	2.42	0.86
	Personal attention	8.2	47.9	31.3	11.1	1.6	2.50	0.85
	Understand specific needs	6.1	51.3	32.6	9.5	0.5	2.47	0.77
	Customer's needs	9.2	54.2	29.2	5.3	2.1	2.37	0.80
Assurance	Confidence behavior	16.8	64.2	14.2	4.7	0.0	2.07	0.70
	polite and well-mannered	12.1	60.3	23.2	4.2	0.3	2.20	0.71
	knowledge to answer	11.6	60.0	24.5	3.9	0.0	2.21	0.69
	Feel safe in transactions	13.4	60.5	23.4	2.4	0.3	2.16	0.68
	Easily trust the employees	10.5	56.6	26.8	5.0	1.1	2.29	0.76
Communication	understandable website	15.8	62.9	16.1	4.5	0.8	2.12	0.74
	Explains the service cost	12.6	59.5	19.2	7.4	1.3	2.25	0.81
	Inform changes in interest rate	10.3	49.7	25.0	12.9	2.1	2.47	0.91
	Inform changes in services	9.2	49.7	25.8	13.4	1.8	2.49	0.90
	Assurances	7.4	58.4	26.1	6.3	1.8	2.37	0.78

Customers generally express agreement with positive attributes related to assurance, such as confidence-inspiring behavior, politeness, and well-mannered service, employee knowledge to answer queries, instilling a sense of safety in transactions, and establishing trust with customers. Mean scores range from 2.07 to 2.29, indicating a moderate to high level of perceived assurance. However, there are minor variations in agreement levels across these attributes.

Customers tend to agree with the positive aspects of communication, such as having an understandable website, a transparent explanation of service costs, timely information about changes in interest rates and services, and providing assurances to customers. However, there are slight discrepancies in agreement levels across these attributes, with mean scores ranging from 2.12 to 2.49.

The findings from Table 2 suggest that customers generally express levels of agreement across most aspects of service quality magnitudes, including reliability, responsiveness, empathy, assurance,

and communication. Regarding reliability, customers tend to agree with positive aspects such as adherence to promised time, handling employee and customer problems, provision of all promised services, maintenance of time and error-free records, and transaction accuracy. The moderate-to-high mean scores ranging from 2.10 to 2.34 indicate a favorable perception of reliability among customers.

Similarly, customers generally agree with positive attributes related to responsiveness, such as employees' willingness to help, prompt service delivery, provision of information about services, readiness to respond to customer needs, and offering financial advice. However, minor differences in agreement levels across these attributes suggest a generally positive but slightly variable perception of responsiveness, with mean scores ranging from 2.03 to 2.42.

Attributes related to empathy also receive moderate to high levels of agreement from customers, including convenient business hours, transparency

in service charges, provision of personal attention, understanding of specific customer needs, and effective addressing of customer needs. However, slight discrepancies in agreement levels across these attributes indicate minor variations in perceived empathy, with mean scores ranging from 2.14 to 2.50.

Similarly, customers express agreement with positive attributes related to assurance, such as confidence-inspiring behavior, polite and well-mannered service, employee knowledge, instilling a sense of safety in transactions, and establishing trust with customers. The moderate-to-high mean scores, ranging from 2.07 to 2.29, suggest a favorable perception of assurance, albeit with minor variations in agreement levels across these attributes.

Finally, customers tend to agree with positive aspects of communication, such as having an understandable website, a transparent explanation of service costs, timely information about changes, and providing assurances to customers. However, slight discrepancies in agreement levels across these attributes suggest minor variations in perceived communication effectiveness, with mean scores ranging from 2.12 to 2.49. Overall, while there are slight discrepancies in agreement levels across various attributes within each dimension, the findings indicate a generally positive perception of service quality among customers, highlighting areas of strength and opportunities for improvement within the bank's operations.

Table 3 shows that the correlation coefficient between customer satisfaction and communication is 0.500270, which means that there is a moderately positive relationship between these two variables. It can be seen that assurance has a higher

correlation with customer satisfaction (0.564371) than empathy (0.534780) and service quality (0.525863). This suggests that these three variables have a stronger impact on customer satisfaction than communication (0.500270) and responsiveness (0.103162).

Additionally, researchers observe strong correlations between some independent variables, including empathy and communication (0.670511), empathy and service quality (0.645604), and assurance and service quality (0.600483). This indicates that these variables share some common factors that affect customer satisfaction. Conversely, certain independent variables, like responsiveness and communication (-0.010698), responsiveness and service quality (-0.041776), and responsiveness and empathy (0.052927), exhibit weak or negative correlations with each other. This indicates that these variables have different, or even opposite, effects on customer satisfaction.

Communication, assurance, empathy, and service quality positively correlate with customer satisfaction. This suggests that customer satisfaction also tends to increase as these factors increase. Compared to the other factors, responsiveness has a weaker positive correlation with customer satisfaction. The correlation between awareness and customer satisfaction is the weakest among all the variables listed here.

Table 3 provides insights into the relationships between customer satisfaction and the various factors influencing it, highlighting the strengths of these relationships based on the correlation coefficients.

Table 4 shows the descriptive statistics of customer satisfaction and the five independent variables:

Table 3. Correlation matrix of customer satisfaction and service quality dimensions

Source: Internal Analysis Data, Correlation Matrix of Customer Satisfaction and Service Quality Dimensions, 2024.

Variables	Customer satisfaction	Communication	Assurance	Empathy	Responsiveness	Service Quality
Customer satisfaction	1.000000	-	-	-	-	-
Communication	0.500270	1.000000	-	-	-	-
Assurance	0.564371	0.526876	1.000000	-	-	-
Empathy	0.534780	0.670511	0.627437	1.000000	-	-
Responsiveness	0.103162	0.010698	0.067310	0.052927	1.000000	-
Service Quality	0.525863	0.511157	0.600483	0.645604	0.041776	1.000000

Table 4. Descriptive statistics for customer satisfaction and service quality dimensions

Source: Internal Survey Data, Descriptive Statistics for Customer Satisfaction and Service Quality Dimensions, 2024.

Variables	Customer satisfaction	Communication	Assurance	Empathy	Responsiveness	Service Quality
Mean	2.317949	2.337436	2.187179	2.377436	2.212821	2.226667
Median	2.375000	2.200000	2.200000	2.400000	2.200000	2.200000
Maximum	5.125000	4.600000	4.000000	4.200000	4.600000	4.600000
Minimum	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
Std. Dev.	0.479612	0.605700	0.502067	0.597083	0.552573	0.568683
Skewness	0.581384	0.649245	0.215187	0.393723	0.664167	0.657584
Kurtosis	7.069157	3.886877	4.086790	3.255788	4.867831	4.717014
Jarque-Bera	291.0386	40.18017	22.20293	11.13937	85.36552	76.01431
Probability	0.000000	0.000000	0.000015	0.003812	0.000000	0.000000
Sum	904.0000	911.6000	853.0000	927.2000	863.0000	868.4000
Sum Sq. Dev.	89.48061	142.7134	98.05590	138.6814	118.7759	125.8027
Observations	399	399	399	399	399	399

communication, assurance, empathy, responsiveness, and service quality. The mean of customer satisfaction is 2.317949, which means that the average customer satisfaction score is 2.317949 out of 5. The customer satisfaction scores exhibit a standard deviation of 0.479612, indicating a dispersion of approximately 0.479612 units around the mean. Customer satisfaction has a skewness of 0.581384, indicating a slight rightward skew in the distribution. A kurtosis of 3 specifies that the distribution is normal. For example, the kurtosis of customer satisfaction is 7.069157, which means that the distribution is very peaked compared to a normal distribution.

A higher Jarque-Bera statistic and a lower probability indicate that the null hypothesis can be rejected and it can be concluded that the variable is

not normally distributed. A common significance level for this test is 0.05. For instance, the Jarque-Bera statistic for customer satisfaction stands at 291.0386 with a probability of 0.000000, indicating the rejection of the null hypothesis and the conclusion that customer satisfaction does not trail a normal distribution at the 0.05 level.

Table 5 shows the results of a multiple linear regression model that tries to explain customer satisfaction as a function of five independent variables: communication, assurance, empathy, responsiveness, and service quality. The coefficient of each variable represents the estimated change in customer satisfaction for a one-unit increase in that variable, holding all other variables constant. For instance, the coefficient of communication stands at 0.141937, indicating an average increase

Table 5. Regression analysis of factors influencing customer satisfaction

Source: Internal Regression Analysis Data, Regression Analysis of Factors Influencing Customer Satisfaction, 2024.

Dependent Variable: Customer Satisfaction				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Communication	0.141937	0.042560	3.334966	0.0009
Assurance	0.268160	0.051316	5.225635	0.0000
Empathy	0.089751	0.050037	1.793692	0.0736
Responsiveness	0.059429	0.033983	1.748802	0.0811
Service quality	0.160812	0.045793	3.511728	0.0005
C	0.696710	0.116754	5.967326	0.0000
R-squared	0.415188	Mean dependent var		2.317949
Adjusted R-squared	0.407573	S.D. dependent var		0.479612
S.E. of regression	0.369153	Akaike info criterion		0.860056
Sum squared residual	52.32932	Schwarz criterion		0.921074
Log likelihood	-161.7110	Hannan-Quinn criterion		0.884244
F-statistic	54.52430	Durbin-Watson statistic		1.924086
Prob. (F-statistic)	0.000000			

of 0.141937 units in customer satisfaction with a one-unit improvement in communication.

The variables communication, assurance, and service quality are statistically significant at the 0.05 level, while empathy and responsiveness are not. This means that there is strong evidence that communication, assurance, and service quality have a positive impact on customer satisfaction, but there is not enough evidence to say the same for empathy and responsiveness.

The R-squared is 0.415188, which means that the model explains about 41.5% of the variation in customer satisfaction. The adjusted R-squared is 0.407573, which accounts for the number of variables in the model and is generally lower than the R-squared. The Durbin-Watson statistic is 1.924086, which suggests that there is no autocorrelation in the residuals.

H_1 : *There is a strong positive relationship between responsiveness and customer satisfaction.* While the results indicate that responsiveness is not statistically significant at the 0.05 level, the hypothesis posits that there should be a significant positive relationship between responsiveness and customer satisfaction. This hypothesis is based on the expectation that customers who perceive higher responsiveness from a company will be more satisfied, even though the evidence from this study is insufficient to support it.

H_2 : *There is a strong positive relationship between empathy and customer satisfaction.* Similar to responsiveness, empathy is not statistically significant in the results. However, the hypothesis suggests that there should be a significant positive relationship between empathy and customer satisfaction. This hypothesis is based on the belief that customers who perceive higher empathy from a company will experience greater satisfaction, even though the data in this study do not provide strong evidence to support it.

H_3 : *There is a strong positive relationship between assurance and customer satisfaction.* This hypothesis suggests that there is a statistically significant positive relationship

between assurance and customer satisfaction. The results align this hypothesis with the importance of assurance in driving customer satisfaction, given its statistical significance and positive impact on customer satisfaction.

H_4 : *There is a strong positive relationship between communication and customer satisfaction.* Finally, this hypothesis proposes that there exists a statistically significant positive relationship between communication effectiveness and customer satisfaction. The results support this hypothesis, highlighting the importance of effective communication in enhancing customer satisfaction, given its statistical significance and positive impact on customer satisfaction.

The study's findings offer partial support for the proposed hypotheses. The study found that H_1 (responsiveness) and H_2 (empathy), which suggested strong positive relationships with customer satisfaction, were statistically insignificant, indicating no strong evidence to support these relationships. In contrast, the data supported H_3 (assurance) and H_4 (communication), demonstrating statistically significant positive impacts on customer satisfaction. These results highlight the crucial roles of assurance and effective communication in enhancing customer satisfaction.

4. DISCUSSIONS

The research on customer satisfaction within Nepal's commercial banks involves interviews with 399 respondents and holds broad significance. In the current study, respondents encountered several challenges with banking services. Employee behavior highlights areas for improving professionalism and conduct, in line with findings from Jahan and Shahria (2021), Tam and Oliveira (2017), Manjula (2019), Kanungo and Gupta (2021), and Sthapit (2023). Opening and closing accounts is a notable problem for respondents, suggesting streamlining procedures are needed. Internet banking poses challenges, indicating the necessity to address technical issues and improve user interfaces, consistent with findings from Danibrata et al. (2024).

Customers are highly satisfied with the ease of using forms, online banking, and obtaining check-books at any branch but express lower satisfaction with the bank's overall performance, suggesting concerns about profitability and social responsibility. Although the clarity of bank statements is generally high, there is a need for improvements in communication, particularly in terms of timely updates on interest rates and services.

Customers generally agree on various service quality dimensions, with positive sentiments towards reliability, responsiveness, empathy, assurance, and communication. While minor variations in agreement levels across specific attributes exist, overall, customers have a positive perception of service quality. These findings highlight both strengths and opportunities for improvement within a bank's operations.

Customer satisfaction correlates positively with key factors, notably showing a moderate relationship with communication and stronger associations with assurance, empathy, and service quality. This version is the same as the study of Danibrata et al. (2024). Certain variables exhibit high correlations, suggest-

ing shared influences on customer satisfaction, while others show weak or negative correlations, indicating differing effects. The version of Goet and Kharel (2022) is exactly the same as this study: communication, assurance, empathy, and service quality positively impact customer satisfaction, with responsiveness displaying a comparatively weaker association. Customer satisfaction and independent variables like communication, assurance, empathy, responsiveness, and service quality show moderate variability around the mean with a standard deviation.

A multiple linear regression model shows statistical significance, indicating a positive impact on customer satisfaction, while empathy and responsiveness do not demonstrate statistical significance. Masukujjaman and Akter (2010), Iberahim et al. (2016), Hennayake (2017), Yoeung et al. (2023), Danibrata et al. (2024), and Dias and Dissanayake (2023) also support this conclusion. The model explains only around fifty percent of the variation in customer satisfaction, with communication, assurance, and service quality being significant contributors. Focusing on improving these factors may yield the greatest gains in enhancing customer satisfaction.

CONCLUSION

This study aims to evaluate the effects of key service quality dimensions – responsiveness, empathy, assurance, communication, and overall service quality – on customer satisfaction in commercial banks across Nepal. The study concludes that enhancing communication and service quality is crucial for improving customer satisfaction in Nepal's financial sector. These factors have been identified as having a significant positive impact on customer satisfaction, explaining 41.5% of the variation in satisfaction levels. Specifically, clear, transparent communication and consistently high service quality are essential in fostering trust and loyalty among customers. In contrast, aspects such as empathy and responsiveness demonstrated weaker or insignificant effects on overall satisfaction. As a result, it is recommended that financial institutions in Nepal prioritize initiatives aimed at bolstering their communication strategies and service standards. By doing so, they can better meet customer expectations, ultimately leading to sustained growth and competitive advantage in the market. Furthermore, the focus on communication and service quality should be seen as a strategic investment that not only enhances customer satisfaction but also contributes to long-term business success in the increasingly competitive financial sector.

AUTHOR CONTRIBUTIONS

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APPENDIX A

QUESTIONNAIRE

Form No.:

Date:

Participant's Signature

1. Self-administered questionnaire

S.no.	Questions	Response
Section A: Socio-demographic Information		
	Name	
	Age (completed years)	
	Gender	a) Male b) Female c) Others
	Marital status	a) Married b) Single c) Divorced d) Separated e) Others (specify)
	Ethnicity	a) Brahmin/Chhetri b) Adibashi/janajati c) Dalits d) Muslim e) Others (specify)
	Religion	a) Hinduism b) Buddhism c) Christianity d) Islam (Muslim) e) Others (specify)
	Educational level	a) Illiterate b) Primary level c) Secondary level d) Bachelor e) Masters and above
	Occupation	a) Private employee b) Government employee c) Business d) Farmer e) Health worker f) Self-employed g) Foreign employment h) Labor i) Others (specify)
	Annual Income of Family (average)	a) Less than 1 Lakh b) 1-10 Lakh c) More than 10 Lakh

2. Bank related information of the respondent

S.N	Questions	Response
	Name of the Bank	
	Type of Bank	Private Public
	Types of account	Saving Fixed deposit Current

S.N	Questions	Response
	Main reason to select bank	High interest rate on deposit Low service charge Wide branch network/Location Efficient, reliable and fastest services Public image of the bank Recommendations from friends and relatives Personal relationship Others (please specify)
	Major problem that you have faced from this bank while receiving services?	ATM Service Employees behavior Opening/Closing accounts Internet Banking Services Others (please specify)

3. Please tick mark on appropriate option

S.N.	Customer Satisfaction levels on Banking	Yes	No	Don't Know
	Are you satisfied with bank's reliability (accurate and on-time services)?			
	Are you satisfied with bank's responsiveness (willingness to assist customers and fast and efficient service)?			
	Are you satisfied with empathy (employee behavior, personalized or customized service)?			
	Are you satisfied with assurance (friendliness, trust and confidence to the staff) in your bank??			
	Are you satisfied with communication system of your bank (understandable and timely information and listening to customers)?			
	Are you satisfied with product and services provided by your bank?			
	Does your bank offer competitive interest rate?			
	Are you satisfied with the service charges by your bank?			
	Do you recommend your bank to others?			

4. Please use the following table to rank your responses to situations given below

(Please tick mark on appropriate option)

S.N.	Service quality measurement variables	Perception				
		Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1.	The bank provides services at promised time.					
2.	Employees of bank are sincerely handling customers' problems.					
3.	The bank provides all the services as per agreement (promised).					
4.	The bank maintains timely and error-free records.					
5.	The bank provides accuracy in all type of transaction.					
S.N.	Responsiveness	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1.	Employees of bank are willing to help customers.					
2.	Bank provides prompt service to customers.					
3.	Bank ensure customer informed about when services will be performed.					
4.	Employees are ready to respond to customers' request.					
5.	Bank provides financial advice to the customers.					

S.N.	Empathy	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1.	The bank provides convenient business hours.					
2.	The bank provides convenient service charge.					
3.	Employees give personal attention to the customers.					
4.	Employees understand the customer's specific needs.					
5.	The bank focuses to fulfill customer's need.					
S.N.	Assurance	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1.	Employee's behavior brings confidence in customers.					
2.	Employees are consistently polite and well mannered.					
3.	Employees have the knowledge to answer customer questions.					
4.	The bank makes customers feel safe in their transactions.					
5.	Customers can easily trust employee of their bank.					
S.N.	Communication	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1.	Bank's website has clear and understandable information about its products and services.					
2.	Bank explains about the service cost.					
3.	Bank timely inform about the changes in interest rate.					
4.	Bank timely inform about the changes in services.					
5.	Bank assures the consumer that a problem will be handled.					
S.N.	Customer satisfaction	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1.	I am satisfied with the services provided by the bank.					
2.	Banks forms and slips are easy to understand and fill.					
3.	I am satisfied with the bank's ATM services.					
4.	The performance of bank is more than my expectation.					
5.	Online and mobile banking services of the banks are secure and reliable.					
6.	The bank provides clear and understandable bank statements.					
7.	I can apply for cheque book at any branch where I find convenient.					
8.	I will always be the customer of this bank.					

Thank You for your time.