

# Customer Satisfaction of E-Banking Services in Nepalese Commercial Banks: Evidence from Pokhara University Students


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## Abstract

**Background:** E-banking has revolutionized the banking sector globally, and this is also the case in Nepal, where digital solutions are gradually replacing or augmenting traditional banking practices. Notwithstanding these advancements, it remains imperative to assess the perception of e-banking services among important customer segments, especially students, who constitute a technologically astute portion of the population as well as the future labor force.

**Objective:** This study examines the relationship between customer satisfaction with the e-banking services of Nepalese commercial banks with evidence from students of Pokhara University, Pokhara, Nepal.

**Methods:** This is a descriptive questionnaire survey of a cross-sectional research design for Pokhara University students (both Bachelor's and Master's levels). 400 questionnaires (200 online and 200 printed) were distributed after constructing a five-point Likert scale, along with a pilot test of 15 responses, which were administered to university students using a convenience sampling method. However, only 204 usable responses were found for drawing the result. Questionnaire development and hypothesis tests are primarily based on the SERVQUAL model.

**Results:** The findings reveal a significant positive relationship between customer satisfaction and aspects of service quality, particularly assurance, tangibility, responsiveness, and reliability. Despite a positive correlation, empathy has a less significant impact on customer satisfaction. Results further indicate that these four factors significantly contribute to customer satisfaction, while empathy plays a lesser role.

**Conclusion:** This study concludes that reliability, responsiveness, assurance, and tangibles dimensions of service quality positively drive customer satisfaction with e-banking services of commercial banks among university students. However, a detailed study covering various sectors is desirable for the generalizability of the study findings.

**Keywords:** Commercial banks, customer satisfaction, e-banking services, Pokhara University.



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## Introduction

Emerging technologies are compelling banking service providers to adopt transformative banking practices to satisfy and build a loyal customer base, thereby ensuring long-term organizational prosperity (Hadid et al., 2020). Digital banking has emerged as a significant sector of the banking industry, driven by technological advancements and the growing demand for more convenient access to banking products and services. This evolution demonstrates a worldwide trend in which conventional banking networks are being heavily replaced by programs that provide clients with various financial services through the internet (Ayinaddis et al., 2023). Digital banking activities are the broader aspect of banking activities while the electronic banking is narrower and activities are limited. According to Toor et al., (2016) e-banking is the automated delivery of existing as well as new banking offerings directly associated with ultimate customers by electronic and interactive communication channels. Paudel et al., 2025 mentioned that e-banking include ATM, SMS, mobile and internet banking in general practices.

Oliver (2010, p. 8) states, "Satisfaction is the consumer's fulfillment response. It is a judgment that a product/service feature, or the product/service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or over-fulfillment." It is the meeting of customers' expectations with the indicated performance to them (Susanti & Kowanda, 2023). The indicators of fulfillment, as pointed out by Parasuraman et al. (1988), are the frequently tested dimensions of service quality in different service organizations.

There are numerous studies on customer satisfaction with e-banking services in various countries (Ogundipe et al., 2024; Claude, 2022; Kaur et al., 2021; Raza et al., 2020; Hadid et al., 2020). In addition, Kaur et al. (2022) studied customer satisfaction after the introduction of digital banking services during COVID-19 in Northern India in the SERVQUAL model. Like Nshimiyimana (2020) about operational efficiencies and customer satisfaction from the e-banking services. Susanti & Kowanda (2023) studied customer satisfaction on selecting mobile banking services in the Indonesian commercial bank Mandiri. A study by Aktar (2023) also highlights banking services and customer satisfaction in Bangladesh. Perceived service quality and customer satisfaction in Nepalese banking services (Joshi, 2021). The development of e-banking in Nepal has been facilitated by several factors, including the increased usage of smartphones and the internet, a larger young technology-savvy population inclined towards online portals, and government policies promoting digital financial transactions (Belbase & Paudel, 2023).

Most researchers use e-banking services (Shariff et al., 2024; Almansour et al., 2023; Ayinaddis et al., 2023; Chowdhury et al., 2022; and Shanmugam & Chandram, 2022); however, others are defined as digital banking (Ogundipe et al., 2024; Kaur, 2021; and Hadid et al., 2020). Regardless of the research topic, customers in the contemporary world expect sophisticated banking services that leverage technological advancements. In e-banking services, customers can perform all the banking services from their smartphone, laptop, or other electronic devices from their workplace (Al-Habashneh et al., 2025).

As the expectations of customers increase, the service providers of commercial banks are prone to update the services that have increased with the advancement of technology. Bhattarai et al. (2024) contributed to determining the factors for service quality in commercial banks that are operating in Pokhara. The studies made by Lamichhane et al. (2025), Belbase and Paudel (2023) have contributed to the general aspect of a huge population. Undergraduate and graduate-level students of Pokhara University represent a dynamic and most appropriate group of people representing the behavior of youngsters on the date, which has high technology adoption. It is worthwhile examining their level of satisfaction with Nepalese commercial banks' e-banking

services and how effectively they render to the customers. However, there is already a developed model of e-service quality, ES-QUAL (Parasuraman et al. 2005). This study adopts the general service quality model SERVQUAL in the commonly used five dimensions: reliability, responsiveness, assurance, empathy and tangibles in the Nepalese commercial banks to explore the relationship between customer satisfaction with the e-banking services of Nepalese commercial banks with students of Pokhara University, Nepal. Paudel et al., (2025) after reviewing academic articles published between (1985) to (2025) found that most of the articles published for measuring service quality of banking sector are based on SERVQUAL model. They further suggested that SERVQUAL as the important framework for refinement and actionable insight for customer centric e-banking services. They have further pointed out that SERVQUAL model has conceptual clarity, multidimensional design and greater empirical reliability.

## **Literature Review**

### **Theoretical Framework**

The expectation disconfirmation theory of Oliver (2010) explains the comparison of product or service expectations and their performance. The expectation is based on promotional and other external communications about the product and service, and performance refers to the customer's experience after consuming the product or service. A consumer who was promised a high-value product but receives a low-value one would notice the difference and likely suffer from cognitive dissonance (Cardozo, 1965). It also shares a similar notion with customer satisfaction expectations, namely that when customer satisfaction is lower, it fails to meet expectations. That is, perceived psychological impairment, or psychological distress, or perceived cognitive inconsistency originates from perceived unmet expectations. If they put more effort into getting service, the probability of getting satisfaction is higher.

Parasuraman et al. (1988) proposed five dimensions of service quality, namely reliability, responsiveness, tangibles, assurance, and empathy. The suggested SERVQUAL model with 22 different parameters for measuring the service quality of service organizations. This research has also taken the basic theoretical foundation from the SERVQUAL model. The model is the most appropriate and proven by different researches to measure the gap between customers' expectations on the banking services with the performance actually they are providing to the banking service receivers. Further explain the parameter reliability as the fulfillment of the promise made to the customers and being able to precisely solve the problem of the customer, as Khan et al. (2024) indicated in their study. Responsiveness is another dimension of SERVQUAL, demonstrating willingness and prompt service to the customers. A study on factors affecting service quality and loyalty intention in mobile banking (Zhou et al., 2021). System quality and assurance are important factors for customer satisfaction in mobile banking services. Balinado et al. (2021) and Kaur et al. (2021) found that service quality is in the banking sector. Assuring the customer's safety and security also matters in the service industry. Khan et al. (2024) have pointed out that assurance with maintaining courtesy to the service customers significantly matters to customer satisfaction. Customers' best interests are at heart and prioritizing them with special care is a key aspect of empathetic service. Balinado et al. (2021 and Khan et al. 2024) pointed out the significant impact on customer satisfaction in the banking industry. Visually appealing with neat and clean professional employees, it significantly contributes to customer satisfaction in a service firm.

### **Customer Satisfaction with E-Banking Services**

Customer satisfaction was moderately affected by the ease of use and friendliness of online banking only. Also, customer satisfaction regarding ATM privacy, accessibility, and usability was noted in the poll conducted. Besides, the convenience of using ATM cards in supermarkets and reasonable charges for ATM

services do not contribute to the level of satisfaction of the customers (Simon et al., 2016). The level of e-banking adoption is moderately positive relationship between e-banking services and demographic factors on customer satisfaction. Customer satisfaction levels reduce the frequency of customers visiting a bank for banking services due to service failure. On the same note, some customers were unhappy with the charges without prior notice, while others were pleased to observe the activities of their e-banking accounts. A study of Pakistani banks, Toor et al. (2016) explained that, based on the five dimensions of service quality, reliability, responsiveness and assurance signify the service quality of e-banking services. Their findings explained that the service quality dimensions, tangibles and empathy were not significant for e-banking services. They further explained that it may be due to the fact that the virtual services do not matter, the tangibles and empathetic behavior of the service providers. Tesfay (2016), profitability of Ethiopian commercial banks from employee and customer satisfaction, found that internal marketing influences employee satisfaction, and it leads to service quality of the commercial banks, which ultimately result the customer loyalty.

The impact of quality of service on customer satisfaction in the private and public sector Banks, Paul, et al. (2016) found a positive relationship between banking services and customer satisfaction in both private and public sector banks of India. They further explain that understanding of the products, reaction towards the need, query handling, quick service, quick access to the person concerned to response, and effort made to minimize the overall queue time. Reliability, assurance, tangibility, empathy, and responsiveness are the service quality dimensions that influence customer satisfaction with banks. Tangible, assurance, and empathy are strong in Nepalese commercial banks and have better explanatory power of the client's happiness (Lamichhane et al., 2025). A study of Islamic banking, Jahani & Mubarak (2017) explore that compliance, reliability, empathy, assurance, responsiveness and tangibles have a strong positive relationship among Islamic banking customers. The results of Vellore, India, also support service quality dimensions and customer satisfaction. Leelavathi & Saravanan (2020) suggested that the service quality dimensions of online banking greatly affect the satisfaction level of Internet banking customers in all aspects and positively influence attitude formation too. The study established that the factors of dependability, system, warranty, rate of interest, cost, and tangible factors, namely facilities and forms, were positively associated with customer satisfaction in the Vietnamese customer (Tien et al., 2021). Chowdhury et al. (2022) found that infrastructure for e-banking activities and the responsiveness behavior of the service providers primarily determined the service quality of e-banking service during the COVID-19 period in Bangladesh.

A study by Shanmugam & Chandran (2022) in Chennai, India, indicates that reliability, assurance, technological augmentations, prompt service, and safety and security are the determining factors for customer satisfaction. According to Claude (2022), customer satisfaction is strongly associated with the information technology adopted by the bank, device-friendly systems, banking transactions, and financial policy. The study further suggests that diagnosing network problems and implementing prompt service recovery systems have a significant impact on bank customer satisfaction in Kigali, Rwanda. Study of customer satisfaction of e-service quality in Addis Ababa, Ahmed (2024), concludes a positive direct impact on e-customer satisfaction from banking services. A Jordanian study, AL-Habashneh et al. (2025), reveals that the reliability dimensions of the services and ease of use are the determining factors for customer satisfaction with banking services.

Regarding the Nepalese banking business, Joshi (2021) has studied the perceived service quality and customer satisfaction. Data from the Kailali district support that service quality and bank customer satisfaction have a positive relationship; however, the tangibility dimension was found to have no positive relationship with customer satisfaction. Belbase and Paudel (2023) explored the effect of e-banking on customer satisfaction. In this research, four factors, personalization, cost, ease of use, and security system of the transaction, were

positively correlated with consumer satisfaction. The security system of a bank has the greatest impact on consumers' satisfaction with e-banking of commercial banks in Nepal. A study of the Kailali district of Nepal on the Prabhu commercial banks customer satisfaction reveals that the service quality factors have a significant impact on customer satisfaction. The perceived ease of use has the greatest effect (Timilsina, 2023). A survey of the social media marketing of e-banking services of commercial banks of Nepal (Bhatta, 2024) found that customer satisfaction of the Nepalese commercial banks is hugely impacted by e-marketing and e-banking service quality.

### **Reliability and Customer Satisfaction**

Reliability is the promise management of the service providers. It is the ability of fulfilling the stipulated promise dependably, accuracy and consistency of fulfilling commitments (Parasuraman et al., 1988). It influences greatly on identifying and measuring the service quality of an organization, there is strong association between service quality dimensions in Indian banking customers (Sharma et al., 2020). Kaur et al. (2021) suggested that reliability factors of the service quality in the banking industry has the greatest risk factors in Indian banking services. Ghimire et al. (2025) found that reliability dimension of service quality has greater association on heightening customer satisfaction in Nepalese commercial banks. Like that Raza et al. (2020) in the case of Pakistani Banks, Shamugam & Chandran (2022) in India, and Susanti & Kowanda (2024) in Indonesia.

H1: Reliability has a significant effect on university student's satisfaction from e-banking services of Nepalese commercial banks.

### **Responsiveness and Customer Satisfaction**

According to Parsuraman et al. (1988) responsiveness is the service providers' efficiency to handle the complaints of the customer. Demonstrating willingness to support the service receiver promptly and accurately. Responsiveness behavior particularly complain handling practices of the service providers hugely affect banking customer satisfaction (Susanti & Kowanda, 2024). Furthermore, Toor et al. (2016); AL-Habashneh et al. (2025); Aktar, (2023); Joshi, (2021); Lamichhane et al. (2025) and Khan et al. (2024) in the study of different countries demonstrated significantly positive association between responsiveness and banking customer satisfaction.

H2: Responsiveness has a significant effect on university student's satisfaction from e-banking services of Nepalese commercial banks.

### **Assurance and Customer Satisfaction**

Assurance is the ability of the service provider by demonstrating the professionalism, confidence to win service receivers trust and confident on the services they deliver (Paudel et al., 2025). Assurance of the customer in the financial institutions determine the success in the competitive business world (Zhon et al., 2021). Study of Bangladesh, Khan et al. (2024) on the study of COVID 19 pandemic and e-banking services urged that assurance dimension of service quality play the greatest role on banking customer satisfaction. The other studies supporting the positive influence on banking customer satisfaction are (Lamichhane et al., 2025; Joshi, 2021; Aktar, 2023; Hadid et al., 2021; Tien et al., 2021 and Raza et al. 2020).

H3: Assurance has a significant effect on university student's satisfaction from e-banking services of Nepalese commercial banks

### **Tangibles and Customer Satisfaction**

These are the physical evidences, cleanliness of the service providing environments, used equipment and

devices, the appearance of the service provider while delivering the service (Toor et al., 2016). Ogunedipe et al. (2021) confine that agile technology that is essentially for fostering tangibility aspect of banking services help on understanding demand, motivates to acquire it and providing feedback to the service providers. Nshimiyimana, (2020) study of bank of Kigali reveals that tangibility factors of banking services greatest mediating effect on customer satisfaction. Interface design and tangibility spectrum of the bank determine the quality services (Zhon et al., 2021). Hadid, (2020); Tien et al. (2021) Chowdhary et al. (2022); Lamichhane et al. (2025); Ghimire et al. (2025) also support the significance association between tangibility and banking customer satisfaction.

H4: Tangibility has a significant effect on university student’s satisfaction from e-banking services of Nepalese commercial banks.

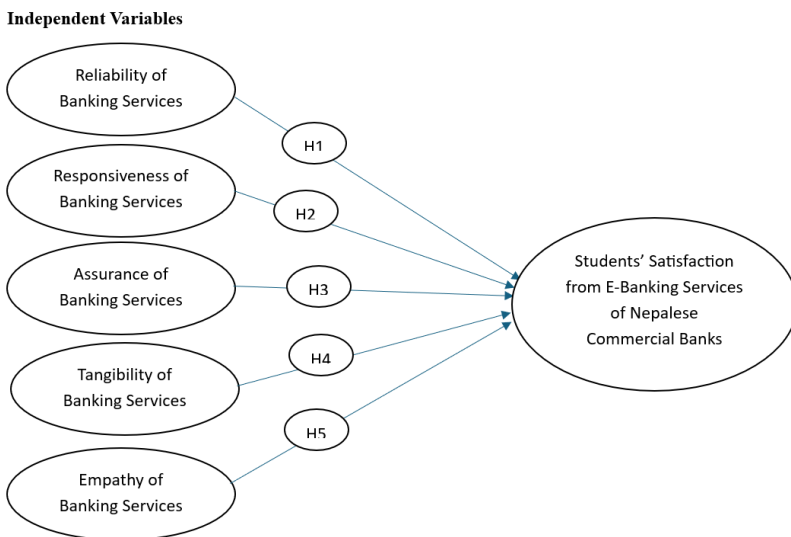
**Empathy and Customer Satisfaction**

Parsuraman et al. (1988) has defined empathy as an ability of understanding customer their need, perspective and emotion, listening them carefully and personalizing support to the service receivers are the prime activities. Other research findings of the different part of the world support empathy of the service providers significantly affect the banking customer satisfaction (Aktar, 2023; Hadid et al., 2020; Joshi, 2021; Lamichhane et al., 2025 and Susanti & Kowanda, 2024).

H5: Empathy has a significant effect on university student’s satisfaction from e-banking services of Nepalese commercial banks.

**Figure 1**

*Conceptual Framework of the Study*



Note. Adopted from Parasuraman et al. (1988) and Toor et al., (2016)

**Methods**

This research adopted a descriptive and causal research design questionnaire survey of the university students. A casual research design was used to examine the degree to which the digital banking services offered affect customers’ satisfaction with the Nepalese banking industry. There are 34,151 students at Pokhara University at present; however, 204 valid responses were received as usable out of 400 (200 printed and 200 virtual in a Google Form) distributed questionnaires. The questionnaire has been designed to assess the user experience

with e-banking services and focuses on various service quality dimensions and customer satisfaction. Statements are rated on the 5-point Likert scale, where 1 indicates strong Disagreement and 5 represents strong agreement.

Data was collected using Google Forms as well as physically printed forms on the basis of the respondent's choice and availability. A pilot test of 21 students was conducted to ensure the questionnaire was able to collect the required information. The reliability test was from Cronbach's Alpha that out of the total respondents, all variables were above acceptable levels. Where reliability has a lower value, but an acceptable 0.820, and customer satisfaction has a higher value is 0.850. And others are responsiveness, assurance, tangibility, and empathy, with the values of 0.845, 0.847, 0.821, and 0.838, respectively. Both descriptive and inferential statistics were used to analyze the collected data. Normality tests were conducted to support the test used for relationships or differences between variables based on research analysis and questions and set hypotheses. The data collected was analyzed with the help of statistical software, namely SPSS version 26.

**Table 1***Cronbach's Alpha*

| Construct             | No of Items | Cronbach's Alpha | Remarks |
|-----------------------|-------------|------------------|---------|
| Reliability           | 4           | 0.820            | Good    |
| Responsiveness        | 4           | 0.845            | Good    |
| Assurance             | 4           | 0.847            | Good    |
| Tangibility           | 4           | 0.821            | Good    |
| Empathy               | 4           | 0.838            | Good    |
| Customer satisfaction | 5           | 0.850            | Good    |

**Results****Sample Profile**

The prime goal of this study is to measure the level of satisfaction of customers with the digital banking service in Nepalese commercial banks. From the survey, 204 respondents participated in the survey. There were more female participants than male participants, as demonstrated in Table 2, where 124 of the respondents were female, while 80 were male. This shows that a large proportion of females participated in this study as compared to the males. From the age description of respondents, as presented in Table 2, it was ascertained that the largest proportion of the respondents was within the age bracket of 23-27 years, which took 55.40 percent. The 28-32 age group of customers has the lowest percentage, which is 10.30 percent. That said, most of the respondents are young. Most of the respondents have a bachelor's degree, representing 64.22% have the said academic qualification. 35.78 percent of the remaining master's degrees and above.

**Table 2***Demographic Profile of Respondents*

| Gender    | No. of Respondents | Response(percent) |
|-----------|--------------------|-------------------|
| Male      | 80                 | 39.216            |
| Female    | 124                | 60.784            |
| Age Group | No of Respondents  | Response(percent) |
| 18-22     | 70                 | 34.30             |
| 23-27     | 113                | 55.40             |
| 28-32     | 21                 | 10.30             |

| Education Levels   | No of Respondents | Response(percent) |
|--------------------|-------------------|-------------------|
| Bachelor           | 131               | 64.216            |
| Master’s and above | 73                | 35.784            |
| Occupation         | No of respondents | Response(percent) |
| Employed           | 53                | 25.98             |
| Unemployed         | 128               | 62.74             |
| Self-employed      | 23                | 11.27             |
| Options            | No of Respondents | Response(percent) |
| Less than 1 year   | 16                | 7.843             |
| 1-2 years          | 47                | 23.039            |
| 2-3 years          | 45                | 22.058            |
| 3-5 years          | 52                | 25.50             |
| More than 5 years  | 44                | 21.57             |

Source: Field survey 2024

Regarding the employment status of the respondents, 128 respondents, or 62.74% of the total respondents are unemployed, meaning that there is a large proportion of the population that is jobless while they are pursuing a university degree at Pokhara University. Only 53 respondents (25.98%) are employed, meaning that the respondents are in a minority of employment, and another 23 of the respondents (11.27%) are self-employed. This suggests that many people have chosen not to be entrepreneurs or work independently. Table 2 further demonstrates that 52 respondents (25.50%) have been using banking services for 3-5 years; thus, the majority of the respondents can be considered as having moderate experience in banking services usage. The one which ranks immediately below it is for the banking services that have been used for a period ranging from 1-2 years by 47 respondents (23.04%) and 2-3 years by 45 (22.06%). Moreover, 44 respondents (21.57%) have been using banking services for more than 5 years. Consequently, the most frequent group of respondents falls into the 1-5 years of experience in banking services, with the remaining few either having very limited or a lot of experience.

**Descriptive Statistics**

The mean and standard deviation of the survey responses are presented in Table 2. All five independent variables have four items. The items are on a five-point Likert-type scale, where 5 indicates the most agreement with the statement (item), 1 indicates the least agreement, and 3 indicates a neutral response to the item. To measure the reliability dimension of the service quality, there are four items. RL1 depicts reliability in the use of the e-banking services. The average of it is 3.8235 with a 1.0910 standard deviation. At the same time, RL2, about the website of the bank's average response is 3.4509, with a standard deviation of 0.98887. The next item on reliability is about sincerity in solving the faced problems while using the e-banking services, the RL3 has a mean response of 3.3480 and a standard deviation of 1.03697. The final item regarding the reliability of the banking services is RL4, about employees' attention to the queries of the service receivers. The mean response of RL4 is 3.1813, with 1.08797 depicting above the average.

Table 3 further demonstrates the results of the responsiveness of behaviors of e-banking services with Pokhara University students, which capture the extent of customers’ perception of how the bank is responsive to address the customers through e-banking services. The first item, RS1 is Neutral to Positive, with ‘mean =3.3921, SD = 1.09325’ revealing that, in general, bankers give moderate information to the customers concerning the e-banking services. Service provided RS2 is the second item, which measures the speed of e-banking, and it has a slightly lower mean of 3.3431 than the overall mean, with a higher standard deviation of 1.12293, which

means that while some customers are able to get quick service, others are experiencing delays. The third item of RS3 measures 'The extent to which bank employees understand the needs of their customers' has a mean of 3.2843 and a standard deviation of 1.06329. Last is RS4, which is regarding the cost of banking services, and it has the lowest mean of 3.00 with the highest standard deviation of 1.17862, which implies that the customers' perception of whether the cost of the services is fair varies considerably.

Assurance is the next dimension of service quality to measure the student's perception on the e-banking services of the Nepalese commercial banks, the first is AS1 which suggests that the knowledge and confidentiality; the mean customers' satisfaction responses to this statement were 3.4460 while the standard deviations were 1.10173 implying that while overall, the customers were satisfied with the knowledge possessed by the bank's staff, there is a slight variability in the staff knowledge. Similarly, in AS2, which measures the level of assurance the employees provide information, the result is 3.3823, and the standard deviation of 1.08772, which indicates that, though the employees confidently provide information, there are occasional fluctuations. Finally, the third element, AS3, has the highest means, 3.5931, indicating that customers feel secure and safe when executing e-banking transactions through the bank's service. Again, the variation in mean values is not significant (Standard deviation: 1.0772). The fourth item, AS4, with a mean value of 3.3970 and a standard deviation of 1.10357, shows the perception of customers towards the bank that the bank is primarily honoring its commitments, though there might be cases where this may not be entirely true.

The next dimension of service quality is tangibles, including the physical structures of the bank, the systems they have adopted, and the comfortable appearance, which are all positive. However, the reception of the employees' appearance and its relation to communication fluctuates. The first item of the measure TN1 has a mean score of 3.3284 with a standard deviation of 1.02432, revealing that customers have a moderate appeal for the physical features of the bank, even though there is a variation in customers' satisfaction. The second item, TN2, which measures the extent to which the modernization of the bank's systems depicts its image, has a higher mean of 3.6470 and a standard deviation of 1.01851, which indicates a more positive perception of the bank's modern working systems. Thus, the third item, or the perceived tangible factors, TN3 bank's facilities and designs, makes customers feel comfortable. has a mean of 3.5245 and a standard deviation of 1.06645, which poses the perception that perceived tangible factors are welcoming. Finally, the fourth item, TN4, is in the perceived dress code of the employees of the bank, and for the customers, their physical appearance is moderately attractive for interaction, and a mean of 3.3039, while the standard deviation of 1.17267 is the highest, clearly showing more variation among the customers in this respect.

Empathy is the extent to which bank employees can identify and understand customers' needs. The first item, EM1, specifies that customers perceive that bank employees are knowledgeable about their needs, which has a mean of 3.3186 and SD of 1.04171; therefore, customers are moderately satisfied, but satisfaction is not homogeneous. The second item, EM2, which evaluates whether the bank treats clients as individuals, offers a lower mean of 3.1078 and a standard deviation of 1.06818, which shows that while some customers feel that they receive personalized treatment, others have the opposite perception. EM3, concerning the convenience of the bank's working hours, has the highest mean value of 3.2205 with an SD value of 1.08521, indicating that the customers are quite satisfied with the working hours but have some variation in terms of their requirements. Lastly, EM4, with a mean of 3.4068 and SD of 1.02488, signifies that customers consider the employees supportive when problems emerge, implying that this is a strength in the service delivery of the bank. In general, it can be concluded that customers consider this bank to be somewhat empathetic, namely concerning support during problems; however, the opportunities to provide a more individual approach and flexible working time appear to be lacking.

**Table 3**

*Item Mean Scores and Standard Deviation*

| Items of Reliability of E-banking Services                                                                       | Mean    | Std. Dev. |
|------------------------------------------------------------------------------------------------------------------|---------|-----------|
| RL1. The use of e-banking/digital is reliable.                                                                   | 3.8235  | 1.09104   |
| RL2. The bank’s website provides all details of products and services.                                           | 3.4509  | 0.98887   |
| RL3. When I have a problem, the bank shows a sincere interest in solving it.                                     | 3.3480  | 1.03697   |
| RL4. Employees of my bank pay personal attention to the doubts about e-banking                                   | 3.1813  | 1.08797   |
| Items of Responsiveness of E-banking Services                                                                    | Mean    | Std. Dev. |
| RS1. Bank staff tell me precisely about the e-banking services.                                                  | 3.3921  | 1.09325   |
| RS2. The response to service through e-banking is very prompt and quick.                                         | 3.3431  | 1.12293   |
| RS3. Employees in the bank can understand customers' needs.                                                      | 3.2843  | 1.06329   |
| RS4. The bank offers services at a reasonable cost.                                                              | 3.000   | 1.17862   |
| Items of Assurance of E-banking Services                                                                         | Mean    | Std. Dev. |
| AS1. Bank staff have the knowledge to answer my questions about e-banking services                               | 3.4460  | 1.10173   |
| AS2. Employees of the bank provide sufficient information confidently                                            | 3.3823  | 1.08772   |
| AS3. I feel secure and safe in my transactions with the e-banking service.                                       | 3.5931  | 1.08772   |
| AS4. The bank honors its commitments.                                                                            | 3.3970  | 1.10357   |
| Scale Items of Tangibles of E-banking Services                                                                   | Mean    | Std. Dev. |
| TN1. The bank's physical features are visually appealing                                                         | 3.3284  | 1.02432   |
| TN2. The bank has an updated and modern system.                                                                  | 3.6470  | 1.01851   |
| TN3. The bank’s facilities and designs make customers feel comfortable.                                          | 3.5245  | 1.06645   |
| TN4. The employee dress code is more attractive and eye-catching, making it easier for customers to communicate. | 3.3039  | 1.17267   |
| Items of Empathy of E-banking Services                                                                           | Mean    | Std. Dev. |
| EM1. The employees of the bank can understand customer-specific needs.                                           | 3.3186  | 1.04171   |
| EM2. The bank gives customers individual attention.                                                              | 3.1078  | 1.06818   |
| EM3. The bank has working hours suitable for all customers.                                                      | 3.2205  | 1.08521   |
| EM4. When customers have problems, employees in the bank are supportive and encouraging                          | 3.4068  | 1.02488   |
| Items of Customer Satisfaction                                                                                   | Mean    | Std. Dev. |
| CS1. The services of the bank are as per my experience.                                                          | 3.1862  | 1.0096    |
| CS2. I think I made the correct decision to use e-banking services.                                              | 3.8284  | 1.08957   |
| CS3. The e-banking service conditions of this bank are excellent.                                                | 3.4901  | 1.03861   |
| CS4. I have no failure experience.                                                                               | 2.91666 | 1.14380   |
| CS5. I would like to recommend my friends and family to use e-banking.                                           | 3.8725  | 1.07062   |

Source: Field survey 2024

Table 3 examines customers’ satisfaction with the e-banking services based on the five dimensions of service quality. CS1 reveals that customers’ experience with the bank’s services moderately agrees with the statement, which has a mean of 3.1862 and a SD of 1.096, signifying a mixed response. The second item, CS2, has a higher satisfaction level, as customers mainly feel that they have made the right decision for using e-banking services on a scale of 5, the mean value is 3.8284, the standard deviation stands at 1.08957, thereby indicating

that most customers were confident about their decision in using e-banking despite the fluctuation. CS3 is for assessing the level of the bank's e-banking service conditions of commercial banks in Nepal. It estimates the mean 3.4901 as shown in Table 2, along with a standard deviation of 1.0386. The fourth item, CS4, has an average of 2.9166 along with a SD of 1.14380. Finally, the fifth item, CS5, has a mean value of 3.8725 and an SD of 1.07062.

#### Correlation Analysis

From Table 4, the correlation coefficient between the reliability of e-banking services, RL, and the level of service receiver satisfaction, CS, is 0.729, representing a strong correlation that there is a significant positive relation between service reliability and student satisfaction with e-banking services of Nepalese commercial banks. Responsiveness, RS, is another service quality dimension to measure students' satisfaction with e-banking services. The Pearson correlation between RS and student satisfaction is 0.748 ( $P < 0.05$ ), indicating a strong correlation between e-banking service providers' responsive behavior and student satisfaction at Pokhara University. The next dimension applied to measure students' satisfaction is assurance, AS, referring to the professional practices of e-banking services in commercial banks of Nepal. The Pearson correlation between AS and student satisfaction is 0.793 at ( $P < 0.05$ ), indicating a strong positive relation. Furthermore, tangibility, TN, has been applied to measure students' satisfaction with the e-banking services. From Table 4, the correlation coefficient is 0.792 at ( $P < 0.05$ ), demonstrating a strong relation. The final dimension applied for measuring service quality of Nepalese commercial banks' e-services is empathy, EM, understanding of service providers from the service receivers' perspective. The correlation between EM and student satisfaction is 0.735 at ( $P < 0.05$ ).

**Table 4**

#### Correlation Matrix

|                            | RL   | RS   | AS   | TN   | EM   | CS |
|----------------------------|------|------|------|------|------|----|
| Reliability (RL)           | 1    |      |      |      |      |    |
| Responsiveness (RS)        | .762 | 1    |      |      |      |    |
| Assurance (AS)             | .762 | .762 | 1    |      |      |    |
| Tangible (TN)              | .675 | .709 | .810 | 1    |      |    |
| Empathy (EM)               | .710 | .705 | .754 | .752 | 1    |    |
| Customer satisfaction (CS) | .729 | .748 | .793 | .792 | .735 | 1  |

Source: Field survey 2024 and Author's Calculations,  $n=204$

#### Student Satisfaction Towards E-banking Services of Nepalese Commercial Banks

To examine the effect of electronic banking services of the Nepalese commercial banks on university students as customers, this regression model has been applied.

$$Y = \beta_0 + \beta_1 \text{Reliability} + \beta_2 \text{Responsiveness} + \beta_3 \text{Assurance} + \beta_4 \text{Tangibility} + \beta_5 \text{Empathy} + \text{eit} \quad (1)$$

Table 5 demonstrates the result of the model that the adjusted R-Square is 0.728, confirming that the model is robust for estimating the students' satisfaction from the e-service quality of commercial banks of Nepal.

**Table 5**

#### Result of Model Summary

| Model | R                 | R Square | Adjusted R-Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .857 <sup>a</sup> | .735     | .728              | .44185                     |

Source: Output from the calculation of student satisfaction (DV) with service quality dimensions

**Regression Analysis of Service Quality Dimensions of Nepalese Commercial Banks' Customer Satisfaction**

Table 6 presents the regression analysis of service quality dimensions with the dependent variable, Pokhara University students' satisfaction with e-banking services of commercial banks. The dependent variable is perceived service quality satisfaction of the university students with commercial banks' e-services. To check the multicollinearity statistics of the independent variables, the service quality dimensions, namely reliability, responsiveness, assurance, tangibles, and empathy, have been introduced, with all tolerance, TOL, above 0.1, like the variance inflation factor, VIF, below 10, which confirms there is no multicollinearity issue in the model. The  $\beta$  coefficient for fulfilling the promised service, reliability, is 0.141, signifying that student satisfaction with e-banking services from the reliability dimension of the service quality increases by 0.141 units, and the p-value is 0.030, which is also significant.

Responsiveness is the next service quality dimension, as shown in Table 6. The coefficient of responsiveness is 0.177 for the e-banking services of Nepali commercial banks to university students, signifying that a per-unit change in satisfaction affects 0.177 units. The p-value is significant, 0.007 ( $P < 0.05$ ).

**Table 6**

*Regression Coefficient of Independent Variables on Customer Satisfaction.*

| Variables      | Coefficients $\beta$ | t-statistics | p-value | Collinearity Statistics |       |
|----------------|----------------------|--------------|---------|-------------------------|-------|
|                |                      |              |         | Tolerance               | VIF   |
| (Constant)     |                      | 2.242        | .026    |                         |       |
| Reliability    | .141                 | 2.191        | .030    | .325                    | 3.081 |
| Responsiveness | .177                 | 2.739        | .007    | .321                    | 3.116 |
| Assurance      | .207                 | 2.741        | .007    | .235                    | 4.259 |
| Tangibles      | .316                 | 4.665        | .000    | .292                    | 3.430 |
| Empathy        | .116                 | 1.840        | .067    | .336                    | 2.978 |

Source: Field survey 2024 and Author's Calculations,  $n=204$

Assurance is another dimension of measuring service quality of the students' satisfaction with the e-banking services of Nepalese commercial banks. The  $\beta$  coefficient is 0.207, along with the p-value of 0.007, representing a positive influence on students' satisfaction from the e-banking services of Nepalese commercial banks. The further dimension used for measuring students' satisfaction is tangibility. Tangibility is the cleanliness of the bank, physical facilities and devices, and other infrastructure-related things that can be directly observed by the service receivers. The calculated  $\beta$  coefficient of tangibility is 0.316 at a p-value of 0.000, confirming the significant influence on satisfaction. The final dimension of the service quality to measure students' satisfaction is empathy. The regression coefficient of empathy is 0.116 for the e-banking services of Nepalese commercial banks among the university students' satisfaction. The p-value found is 0.067, which is greater that does not confine its significance for e-banking services of commercial banks of Nepal.

**Table 7**

*Hypothesis Test Results*

| Hypotheses | Statements                                                                                                                      | Accepted/Not Accepted |
|------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| H1         | Reliability has a significant effect on university student's satisfaction from e-banking services of Nepalese commercial banks. | Accepted              |

|    |                                                                                                                                    |              |
|----|------------------------------------------------------------------------------------------------------------------------------------|--------------|
| H2 | Responsiveness has a significant effect on university student's satisfaction from e-banking services of Nepalese commercial banks. | Accepted     |
| H3 | Assurance has a significant effect on university student's satisfaction from e-banking services of Nepalese commercial banks.      | Accepted     |
| H4 | Tangibility has a significant effect on university student's satisfaction from e-banking services of Nepalese commercial banks.    | Accepted     |
| H5 | Empathy has a significant effect on university student's satisfaction from e-banking services of Nepalese commercial banks.        | Not Accepted |

Source: Authors' Calculation

## Discussion

According to the results obtained from the data analysis, e-banking services have a significantly positive relationship with the level of student satisfaction. The reliability dimension of service quality has a positive relationship with e-banking services of commercial banks in Nepal. The result corroborates with Toor et al. (2016) and Tesfay (2016), who revealed that reliability has a positive and significant relationship with customer satisfaction. The findings also support the findings made by Janahi and Mubarak (2017). These findings also align with Sharma et al. (2020); Joshi (2021); Ghimire et al. (2025) and Lamichhane et al. (2025), who explains that the reliability of e-banking services has a considerable impact on the level of customer satisfaction.

The result reveals that responsiveness to e-banking services has a positive and significant linkage with the university students' satisfaction with the e-banking services of Nepalese commercial banks. The positive and significant impact of e-banking service was also confirmed by Janahi and Mubarak (2017) and Joshi (2021). If consumers think that the response to service through e-banking is very high and quick, and there is fast processing at a reasonable cost, consumers are highly satisfied. This study finds that the increase in internet banking services is associated with significantly positive customer satisfaction, with results similar to those of prior studies by (Toor et al., 2016; Susanti & Kowanda, 2024; Aktar, 2023; Ghimire et al., 2025; and Lamichhane et al., 2025).

The finding reveals that assurance of e-banking services and the amount of university students' satisfaction are highly correlated among consumers. Analyzing the data, it is found that the impact is also positive and significant on consumers' satisfaction. The result conforms with the findings of Toor et al. (2016); Janahi and Mubarak (2017); Susanti & Kowanda (2024); Aktar (2023), Ghimire et al. (2025) and Lamichhane et al. (2025) opined that e-banking services, when ensured, have a positive and significant correlation with customer satisfaction. Customers have perceived that bank staff can answer questions about any e-banking service, and employees in banks offer adequate assurance to customers in every way possible, which may be more satisfying for them. This is also consistent with Joshi (2021), who stated that the assurance of the e-banking service delivery has a positive impact on the level of satisfaction among the clients.

The results show a positive and significant correlation between the tangibility of e-banking services and

consumer satisfaction among students at Pokhara University. Summary of findings, on the same note, the study finds that the impact is also positive and significant on the consumers' satisfaction. The above finding is in line with the works of Janahi & Mubarak (2017), who have supported that the tangibility of e-banking services indicates a high and significant level of customer satisfaction. When a customer feels the bank has modern-looking equipment and tools and physical features that are visually appealing to them, they are satisfied. This is also contrary to Lamichhane et al. (2025); Susanti & Kowanda (2024); Aktar (2023), who stated that tangible e-banking services have a positive impact on customer satisfaction.

However, many studies confirm that empathy has a significant positive relationship with customer satisfaction for e-banking services (Joshi, 2021; Janahi & Mubarak, 2017; Susanti & Kowanda, 2024; Aktar, 2023; and Ghimire et al. (2025). The study on Pakistan (Toor et al., 2016) and Tien et al. (2021) also corroborates that the empathetic behavior of e-banking service providers does not matter to them. Nevertheless, empathy is not positively and significantly related to the satisfaction of university students. A negative and insignificant impact is determined in the case of the below-stipulated impact. It means students are not satisfied with the empathetic quality of the e-banking services. On the other hand, they are satisfied with the other qualities of e-banking services, such as assurance, reliability, tangibility, and responsiveness.

## Conclusion

The objective of the study was to examine the relationship between customer satisfaction with the e-banking services of Nepalese commercial banks with evidence from students of Pokhara University, Pokhara, Nepal. The service quality dimensions, namely reliability, responsiveness, assurance, and tangible have a significantly positive impact on the students' satisfaction with the e-banking services of Nepalese commercial banks. It is ascertained that the degree of e-banking service quality is a predominant determining factor in banking customer satisfaction. However, the analysis of the regression result proves that empathy has an insignificant impact on the satisfaction level of university students. In conclusion, the results reveal overall customer satisfaction with the e-banking services offered by the bank, as evidenced by their decision to choose it and their tendency to recommend it. Nonetheless, several concerns might require additional attention, particularly concerning the service failure domain to enhance satisfaction. Therefore, commercial banks should be empathetic toward the customers' problems with e-banking services.

This study is based on data collected from university students who are very preferably technology inclined, may not be generalizable for other population. Thus, it is recommended that comprehensive study data from diverse population may give a finding for generalization of the major chunk of the population of Nepal. If a mixed method will be employed the items used in data collection could be more localized with Nepalese population. Thus, a comprehensive research is recommended for future research.

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