Original Article

Technology-Based Banking Service Quality and Its Effects on Electronic Customer Satisfaction: A Study of Nepalese Commercial Banks

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Abstract: Globalization and liberalization have had a significant impact on the banking system in Nepal. In the banking and service industries, providing excellent customer service ought to be a way of life. Satisfying the needs of one's customers is the key to a successful bank. Therefore, in order to compete in today's market, the bank needs to put the consumer first. The wants and expectations of customers are subject to constant variation as a result of societal influence. The modern consumer is aware of what they desire. Customers' expectations of Nepali banks have increased as a result of the opening of new international bank branches in Nepal and the enhancements made to the services provided by such branches. This study examined how technology-based banking service quality affects electronic consumer satisfaction. It examined how efficiency, personal need, user friendliness, responsiveness, site organization, and reliability affect electronic consumer satisfaction. The research design used descriptive, correlation, and regression methods using SPSS for analysis. Descriptive and explanatory study design has been followed with primary data collection techniques. The demographic profile study examined i.e. gender, age, marital status, education, occupation, and income. Internet and mobile banking users were the study's respondents. In order determine whether technology-based banking service quality affects electronic customer satisfaction, N=221 form customers were surveyed. Research showed a positive link between dependent and independent variables. Numerous studies have studied how technology-based banking service quality influences electronic customer management in several institutions. Efficiency, timeliness, usability, site organization, and reliability mattered. Despite human need and computerized client fulfilment, little happens. Although online services are hard to trust, excellence makes customers more willing to use them. Higher authorities and banks should also evaluate consumers' personal needs and how to meet them.

Keywords: technology-based banking, electronic customer satisfaction, Nepal

1. INTRODUCTION

With the rapid growth of technology and market globalization, companies adopted new information and communication technology to support traditional activities and new opportunities, mostly from the Internet. Digital commerce and internet business stand out. Many organizations are creating websites as a new channel for conducting commercial transactions and allowing customers to make purchases online. It allows enterprises to reach a worldwide market at low cost, supply detailed information, and deliver high-quality electronic service (e-service) through the Internet's interactivity, increasing competition. Internet technology could transform banks and the banking industry. Extremists believe the Internet will disrupt bank service delivery paradigms [1]. The widespread availability of Internet banking is projected to influence banks' financial services, production methods, and financial performance. How profitable a delivery system is for banks will determine whether this extreme view is right and whether they use this new technology? Business studies on the potential impact of Internet banking on cost savings, revenue growth, and risk profile has also sparked interest and conjecture about its impact on the banking business [2]. Internet banking has become a critical resource for improving efficiency, control, and cost by automating paper-based and labor-intensive processes, increasing productivity and profitability. Researchers have found little evidence of these modifications. Recent empirical studies show that Internet banking does not affect banking profitability, but this may alter as Internet use grows [3]. Internet has transformed
retail banking rivalry. After PC banking, ATMs, and phone banking, Internet adoption and penetration have provided a new distribution channel to retail banking: Internet/Online-banking. E-finance as “the provision of financial services and markets using electronic communication and computation,” and retail banks are switching to multi-channel distribution of financial services in hybrid platforms that provide traditional services through both “bricks and mortar” branches and the internet. Technology’s rise has benefited enterprises and customers during the past decade [4]. Technology is being used in customer service. Retail banks believe technology improves competitiveness by expanding distribution channels. Technology-based service delivery lets user’s access information and transaction services remotely. Customers can execute financial operations such electronic money transfers or automatic money transfers over the telecommunications infrastructure, but simple information requests are more popular [5]. Technology has created a new way for companies to engage with customers. In reaching customers, this innovation has revolutionized the service industry, particularly banking. The banking industry has capitalized on this rise by creating many distribution channels to attract tech-savvy customers, enhance business, and retain customers [6]. This integration of Internet services created Internet banking. The latest financial channel, internet banking, allows information and services to be accessible without time or geographic limits. Many analysts believe internet banking cuts costs and offers the bank a competitive edge. Customers’ opinions of service quality and security limit online banking’s quick expansion [7]. Businesses are more customer-focused than ever since customer satisfaction is a long-term competitive advantage. Businesses should always listen to consumers’ expectations, demands, complaints, and requirements to build healthy partnerships. Keep them by making respectful comments, keeping commitments, and working hard to establish a good customer service team. Since satisfied customers are loyal, businesses profit long-term [8]. As a service industry, banking customer satisfaction is crucial to corporate success. In any service company, customer service is paramount. Well-trained people can provide systematic customer service or self-service. In banking, customers directly interact with bank staff for any services or products. Therefore, banks should teach front desk workers to meet customer expectations and wants. Internet banking lets customers pay bills and invest [9]. Internet banking is the most profitable e-commerce application, and many banks have used it to improve customer service and cut costs. This banking method will benefit banks and please clients [10]. Internet banking allows clients to do banking transactions at any time and at a lesser cost. Internet banking, unlike traditional banking, lets customers engage with a website rather than a representative, making it cheaper and improving customer relations. Still, banks struggle to optimize their operations, which may explain customers’ reluctance to use internet banking despite its benefits [11]. To compete for clients, banks must offer high-quality Internet banking services. Historically, banks have led the way in using technology to improve their services. Banking in the 21st century is complicated and competitive, so information and communication technology must be central to bank operations [12]. Internet use by industries has erased time, location, and communication constraints, making the world a small village. Financial institutions examine their technology and electronic commerce and internet banking (i-banking) strategies due to competitive cost, customer service, customer education and income, and other criteria. Internet banking lets you make transactions, payments, and more through a bank, credit union, or societies secure website from anywhere. In internet banking, a consumer interacts one-on-one with the bank’s website, hence high-quality services are vital. Non-human interactions between customers and online bank information systems distinguish i-banking from traditional banking. I-banking prioritizes customer pleasure, retention, and acquisition. Since online banking acquisition costs are 20%-40% higher than offline business, this is crucial [13]. I-banking is becoming a necessity rather than a luxury. Since i-banking is the cheapest way to provide financial services, it has become the norm in many developed countries. Indian banks now offer internet banking. Information and transactions are available through i-banking. I-banking has not taken off in India as planned (Ravi et al., 2007). It has been examined Indian banks' i-banking uptake. This new technology is more likely to be adopted by larger or younger banks with private ownership and lower branch intensity, according to the report. I-banking technology can also help banks with lower market share gain market share by attracting more consumers through this new channel [14]. Nepalese customers do not like internet banking. Limited client knowledge and resources were a major impediment to internet banking technology development and widespread adoption by banks. Additionally, banks gave little information to clients, so those who are aware of the service are not interested in using it for daily transactions [15].

2. LITERATURE REVIEW

Technology-based banking lets people and businesses access accounts, transact business, and learn about financial products and services online. Online banking: Consumer orders are processed online. Internet banking enables customer’s bank from home or work. Online shoppers can order products, have their banks pay the
merchant, and have them delivered. Withdraw money and update your bank statement using an OTC teller [16]. Internet banking is the automated delivery of innovative and traditional banking products and services to customers via electronic, interactive channels [15]. Internet banking lets people and businesses access accounts, perform business, and learn about financial products and services. After computer networks, networked printing machines replaced manual statement changes. To expand withdrawals, deposits, and transfers, CDs and ATMs were developed. Phone banking made banking accessible anywhere with a phone. Telephone banking is maturing as mobile phones spread. One of the largest financial technology changes is Internet banking [16]. Internet banking uses automated and interconnected computers and electronics to replace manual and traditional business methods. Electronic invoicing and payments, detailed product websites, and real-time tele-conferencing across continents and time zones are replacing ledger books, paper bills, printed materials, and business travel [17]. Internet banking enables customers to do a variety of banking transactions anytime, anyplace, faster, and cheaper than with traditional banks. Despite the expanding number of Internet users and the clear benefits of Internet banking for customers, numerous nations have seen less Internet banking adoption than expected. Internet banking usage in Europe differs greatly. Approx. 70–80% of Internet users in Norway and Finland use online banking, 40% in Austria and Germany, and less than 10% in Greece and Romania. Brazil’s Internet banking has developed faster than the Internet [18]. Internet banking lets clients access and transact on their bank accounts from connected computers. Some scholars characterized Internet Banking by client service. Internet banking allows individuals and businesses open accounts, pay bills, apply for loans, manage funds, and more [19]. Internet banking allows banks and customers to prepare, manage, and control financial transactions. Internet banking defined as “Internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments”. Internet Banking allows almost every banking transaction with a mouse click [20]. Online shopping initiatives by various corporations undoubtedly influenced these services. Internet shopping boosted credit card use. Data centers were built by many banks to support employees. European and American banking and finance organizations began ‘home banking’ research and programming in the 1980s [21]. In the 1980s, when computers and the Internet were developing, ‘home banking’ used fax machines and phones. Internet and programming enabled home banking. UK Internet banking began in 1983 with the Nottingham Building Society (NBS). Most online banking began with this. This inadequate facility hampered account holders’ transactions and functions [22]. Electronic cash has pros and cons but is changing banking. Most marketers and consumer researchers concern about it conceptually and practically because firms don't always know customers' thoughts. Many service organizations, such as banks, think that customer satisfaction increases client loyalty and income [23]. “Customer satisfaction” goes beyond happy customers. Customer satisfaction combines customer and satisfaction. Marketing studies today emphasize client satisfaction. It links buying to brand loyalty, attitude change, and repeat purchases. A study defined 11 e-service quality factors, analysts built many user experience and assessment models. The service quality model or e-service quality model is used in many research to assess business success and define customers' interactive virtual experiences. Interactive information facility e-service quality, helps enterprises differentiate their services and acquire a competitive edge [24]. E-service quality as how well a website simplifies transactions and service delivery. E-commerce companies must consider e-service quality, which is users' overall evaluation of cyber enterprises' virtual facilities, when designing online marketing policies. Internet potential is recognized by the highest e-service quality requirements. The eservice's effectiveness shows virtual customers the Internet's potential. Internet, mobile, TV, and phone networks are used for electronic banking [25]. Customers increasingly seek financial services anywhere, anytime, and without cost-effective time or location constraints. Internet banking has improved customer satisfaction by simplifying transactions and protecting personal data, it found that fast service quality improved customer satisfaction and explained servqual indicators like aircraft physical facilities, timely check-in procedures, willingness to help with passenger issues, and flight safety confidence [26]. Ability to greatly affect passenger satisfaction. The first ATM in Finland gave banks a new route, making Finland the pioneer in electronic banking [27]. This study focuses on the impact of Internet banking service quality on electronic customer satisfaction. This study has taken electronic customer satisfaction as dependent variables, whereas site organization, efficiency, reliability, user friendliness, responsiveness, and personal need as independent variables in order to measure the impact of Internet banking service quality on electronic customer satisfaction.
3. MATERIALS & METHODS

Descriptive and explanatory research design has been followed, data has been collected with the help of primary data collection technique. A self-administered questionnaire was developed to collect the responses. There are N= 221 responses has been collected, with questionnaire included multiple-choice, ranking, and five-point Likert scale items. The study used correlation, regression, mean, standard deviation, etc. The best metric for numerous scale items and the most used test for inter-item consistency dependability is Cronbach's alpha.” Secondary data was used to support primary data wherever needed. After gathering all the questionnaires from the respondents, SPSS and Excel were used for the analysis of the data. Total responses collected from the respondent were coded and tabulated into the SPSS worksheet. Depending upon the nature of the question such as the Likert scale, the coding was followed as per the rule. The data obtained from the research were analyzed by using SPSS software. All the observed relationships and findings have been interpreted to drive meaningful conclusions regarding the impact of technology based banking service quality on electronic customer satisfaction.

3.1 The Model Specification

The econometric models employed in this study tries to analyze the impact of internet banking service quality on electronic customer satisfaction. The following regression model is used in this study to examine the empirical relationship between the technology based banking service qualities on electronic customer satisfaction. Thus, the following model equation is designed to test the hypothesis. From the conceptual framework the function of dependent variables (i.e. electronic customer satisfaction) takes the following form:

Electronic Customer Satisfaction = f (Efficiency, Reliability, Responsiveness, User Friendliness, Site Organization and Reliability). More specifically, the given model has been segmented into the following models:

Model

$$ECS = \beta_0 + \beta_1 SO + \beta_2 RESP + \beta_3 REL + \beta_4 USFR + \beta_5 PENE + \beta_6 EFFE + e$$
In the above regression model, the dependent variable is electronic customer satisfaction. The impact of efficiency, reliability, responsiveness, user friendliness, site organization and efficiency on electronic customer is tested.

Where,

ECS= Electronic Customer Satisfaction
SO= Site Organization
RESP= Responsiveness
REL= Reliability
USFR= User Friendliness
PENE= Personal Need
EFFE= Efficiency

β₀ is the constant term and β₁, β₂, β₃, β₄, β₅ and β₆ are the coefficients of variables

4. RESULTS AND DISCUSSION

4.1 Respondents’ Profile

Gender, age, marital status, education, income, and profession were used to classify respondents. Nearly 250 surveys were sent to people from various backgrounds. These surveys were emailed and posted on Facebook. Only 221 valid questionnaires were collected. The response rate was 88.40 percent. They show male respondents outnumbered female and other respondents in the 221-person sample. The survey included 64.7% men, 34.8% women, and 0.5% others. The bulk of respondents (64.7%) were male. The age of respondents was divided into four groups: 15-25, 26-35, 36-45, 46-55, and 55+. 54.8% of 221 responders are 26–35 years old. Additionally, 24.4% of respondents were 15-25 years old and 0.9% were 55 or older. The majority of respondents (54.8%) were 26–35 years old. Married respondents make up 56.6% of 221 respondents and single respondents 43.0%. Most respondents (56.6%) were married. Respondents’ education levels are intermediate & below, undergraduate, postgraduate, and MPhil/PhD and below. Post graduate (52.0 percent) is the most common response, followed by undergraduate (24.4 percent), intermediate & below (18.1 percent), and MPhil/ PhD (5.4 percent). Out of 221 respondents, 52.0% were postgraduates. The occupations of respondents are salaried, self-employed, student, and unemployed. Of 221 persons, 58.8% were salaried. The 221 sample was 15.4% self-employed, 22.6% student, and 3.2% jobless. The majority of respondents (58.8%) were salaried. The respondents’ incomes are divided into four groups: less than Rs 2 lakh, Rs 2 lakh–Rs 3 lakh, Rs 3 lakh–Rs 4 lakh, and beyond Rs 4 lakh. Income was tabulated to determine Year respondents’ income. A number of responders (51.1%) earn over 4 lakhs. The second largest group is those earning less Rs.2 lakhs (30.8%), followed by Rs.2 lakh–Rs.3 lakh (8.6%), and Rs.3 lakh–Rs.4 lakh (9.5%). The good number of responders (51.1%) earn over Rs. 4 lakhs annually.

4.2 Correlation Analysis

Having indicated the descriptive statistics, correlation coefficients are computed and the results are presented in Table 01. More specifically, it shows the correlation coefficients of dependent and independent variables. Higher correlation value indicates stronger relationship between both sets of data. When the correlation is 1 or -1, a perfectly linear positive or negative relationship exists; when the correlation is 0, there is no relationship between the two sets of data.

<table>
<thead>
<tr>
<th></th>
<th>EFFE</th>
<th>PENE</th>
<th>RESP</th>
<th>USFR</th>
<th>SO</th>
<th>REL</th>
<th>ECS</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.651**</td>
<td>.490**</td>
<td>.545**</td>
<td>.439**</td>
<td>.441**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.0001</td>
<td>0.0001</td>
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<td>0.0001</td>
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<tr>
<td>PENE</td>
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<td></td>
<td>Pearson Correlation</td>
<td>.651**</td>
<td>1</td>
<td>.707**</td>
<td>.590**</td>
<td>.591**</td>
<td>.649**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.0001</td>
<td>0.0001</td>
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<table>
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<tr>
<th>RESP</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th></th>
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<td></td>
<td>.490**</td>
<td>0.0001</td>
<td>.707**</td>
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<td>.639**</td>
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<td>Sig. (2-tailed)</td>
<td>0.0001</td>
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<td>0.0001</td>
<td>0.0001</td>
</tr>
<tr>
<td>USFR</td>
<td>Pearson Correlation</td>
<td>545**</td>
<td>590**</td>
<td>639**</td>
<td>1</td>
<td>610**</td>
<td>640**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
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<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
<tr>
<td>SO</td>
<td>Pearson Correlation</td>
<td>.439**</td>
<td>591**</td>
<td>.665**</td>
<td>.610**</td>
<td>1</td>
<td>.619**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
<tr>
<td>REL</td>
<td>Pearson Correlation</td>
<td>.441**</td>
<td>.649**</td>
<td>.656**</td>
<td>.640**</td>
<td>.619**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
<tr>
<td>ECS</td>
<td>Pearson Correlation</td>
<td>.530**</td>
<td>.581**</td>
<td>.670**</td>
<td>.644**</td>
<td>.697**</td>
<td>.634**</td>
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<tr>
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<td>Sig. (2-tailed)</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.0001</td>
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<td>0.0001</td>
</tr>
</tbody>
</table>

Notes: The asterisk signs (** *) and (*) indicate that the results are significant at 1 percent and 5 percent level respectively.

The correlation between independent variable Efficiency and dependent variable Electronic Customer Satisfaction. Since the P-value is less than alpha (p< 0.01), the correlation is significant between the variables. Further, with the correlation coefficient value 0.530, it can be said that there is a positive relationship between Efficiency and Electronic Customer Satisfaction. Hence, there is a significant relationship between efficiency and electronic customer satisfaction. The correlation between the independent variable personal need and the dependent variable electronic customer satisfaction. Since the P-value is less than alpha (p< 0.01), the correlation is significant between the variables. Further, with the correlation coefficient value 0.581, it can be said that there is a positive relationship between Personal Need and Electronic Customer Satisfaction. Hence, there is a significant relationship between Personal Need and Electronic Customer Satisfaction. The correlation between independent variable Responsiveness and dependent variable Intention to Electronic Customer Satisfaction. Since the P-value is less than alpha (p< 0.01), the correlation is significant between the variables. Further, with the correlation coefficient value 0.670, it can be said that there is a positive relationship between Responsiveness and Electronic Customer Satisfaction. Hence, there is a significant relationship between Responsiveness and Electronic Customer Satisfaction. The correlation between the independent variable user friendliness and the dependent variable electronic customer satisfaction. Since the P-value is less than alpha (p< 0.01), the correlation is significant between the variables. Further, with the correlation coefficient value 0.644, it can be said that there is a positive relationship between User Friendliness and Electronic Customer Satisfaction. Hence, there is a significant relationship between User Friendliness and Electronic Customer Satisfaction. The correlation between the independent variable site organization and the dependent variable electronic customer satisfaction. Since the P-value is less than (p< 0.01), the correlation is significant between the variables. Further, with the correlation coefficient value 0.697, it can be said that there is a positive relationship between Site Organization and Electronic Customer Satisfaction. Hence, there is a significant relationship between Site Organization and Electronic Customer Satisfaction. The correlation between the independent variable reliability and the dependent variable electronic customer satisfaction. Since the P-value is less than alpha (p< 0.01), the correlation is significant between the variables. Further, with the correlation coefficient value 0.634, it can be said that there is a positive relationship between Reliability and Electronic Customer Satisfaction. Hence, there is a significant relationship between Reliability and Electronic Customer Satisfaction.

4.3 Regression Analysis

Correlation analysis can only tell whether or not a strong relationship exists between two variables. But even if a correlation coefficient indicates that a strong relationship exists between two variables, the exact shape of the
relationship between the two variables cannot be determined. In this case, the regression analysis provides more information about the slope of the relationship. It is used to describe the nature of a relationship and to make predictions. So, for a deeper understanding of the relationship between technology based banking service quality and electronic customer satisfaction, the regression analysis is conducted. This section determines which independent variable explains variability in the outcome, how much variability in the dependent variable is explained by the independent variables and dependent variable, and which variables are significant (over other variables) in explaining the variability of the dependent variable. Multiple regression was used to explore the impact of independent variables (Efficiency, Personal need, Responsiveness, User-friendliness, Site organization and Reliability) on the dependent variable (Electronic Customer Satisfaction).

**Table 02: Regression Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.792a</td>
<td>0.628</td>
<td>0.617</td>
<td>0.46153</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Reliability, Efficiency, Site Organization, User-friendliness, Responsiveness, Personal Need

Adjusted R2 is also called the coefficient of determination and tells us how the Electronic Customer Satisfaction (dependent variable) varied with the independent factors like Efficiency, Personal need, Responsiveness, User-friendliness, Site Organization and Reliability. From the regression model summary above, the value of adjusted R2 is 0.617. This means that independent variables accounted for up to 61.7% of electronic customer satisfaction. The remaining 39.3% can therefore be achieved through other factors outside the six variables analyzed. The model summary also indicates the standard error of estimate of 0.46153 which shows the variability of the observed value of Electronic Customer Satisfaction from the regression line is 0.46153 units.

**Table 03: ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>74.3</td>
<td>6</td>
<td>12.383</td>
<td>58.136</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>44.092</td>
<td>207</td>
<td>0.213</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>118.392</td>
<td>213</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Reliability, Efficiency, User-friendliness, Site Organization, Responsiveness, Personal need

b. Dependent Variable: Electronic Customer Satisfaction

ANOVA was used to establish the appropriateness of the regression model in giving reliable results. The regression model is deemed appropriate when the confidence level is 95% and above. Table 03 above shows that the F-significance value of P<0.001 this means that the regression model has less than 0.001 likelihood of giving a wrong prediction. Hence, the regression model has a confidence level of above 95% which confirms that our regression model was appropriate and the results reliable.

**Table 04: Regression Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>0.024</td>
<td>0.232</td>
</tr>
<tr>
<td></td>
<td>Efficiency</td>
<td>0.216</td>
<td>0.07</td>
</tr>
</tbody>
</table>
Findings on the relationship between independent variables and the electronic customer using regression coefficient are indicated in Table 04. It also portrays that efficiency has significantly contributed to the influence of electronic customer satisfaction (Beta = 0.177, t = 3.063, P = 0.002<0.05). Thus, it can be confirmed that there is a significant impact of efficiency on electronic customer satisfaction. This finding demonstrates that the first research hypothesis is accepted meaning that there is a significant impact of efficiency on electronic customer satisfaction. Likewise, the degree of association between personal need and electronic customer satisfaction is diagnosed using a regression equation as indicated in Table 04. It also reveals that personal need has not significantly influenced electronic customer satisfaction (Beta = -0.078, t = 1.047, P = 0.296>0.05). Thus, it can be concluded that there is no significant influence of personal need on electronic customer satisfaction. This finding demonstrates that second hypothesis is rejected. Likewise, the degree of association between responsiveness and electronic customer satisfaction is diagnosed using regression equation as indicated in the Table 04. It also reveals that there is significant impact of responsiveness on electronic customer satisfaction (Beta = 0.214, t = 3.043, P = 0.003<0.05). Thus, it can be confirmed that there is a significant impact of responsiveness on electronic customer satisfaction. This finding demonstrates that the third research hypothesis is accepted meaning that there is a significant impact of responsiveness on electronic customer satisfaction. Likewise, the degree of association between user friendliness and electronic customer satisfaction is diagnosed using regression equation. It also reveals that user friendliness has significantly influenced electronic customer satisfaction (Beta = 0.145, t = 2.267, P = 0.024<0.05). Thus, it can be concluded that there is significant impact of user friendliness on electronic customer satisfaction. This finding demonstrates that third hypothesis is accepted. Likewise, the degree of association between site organization and electronic customer satisfaction is diagnosed using regression equation. It also reveals that user friendliness has significantly influenced electronic customer satisfaction (Beta = 0.349, t = 5.512, P = 0<0.05). Thus, it can be concluded that there is significant impact of site organization on electronic customer satisfaction. This finding demonstrates that third hypothesis is accepted. Likewise, the degree of association between reliability and electronic customer satisfaction is diagnosed using regression equation. It also reveals that reliability has significantly influenced electronic customer satisfaction (Beta = 0.151, t = 2.311, P = 0.022<0.05). Thus, it can be concluded that there is significant impact of reliability on electronic customer satisfaction. This finding demonstrates that the hypothesis is accepted.

**4.4 Test of Hypothesis as per Regression Analysis**

The initial hypothesis establishes was there is a significant impact of technology based banking service quality and electronic customer satisfaction. As per regression analysis, efficiency, user friendliness, responsiveness, reliability and site organization have a significant impact on electronic customer satisfaction. On the other hand, personal need has an insignificant impact on electronic customer satisfaction. Hence, the hypothesis

**Table 05: Summary of the hypotheses testing**

<table>
<thead>
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<th>Attributes</th>
<th>Remarks</th>
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<td>1 There is significant impact of efficiency on electronic customer satisfaction</td>
<td>Accepted</td>
</tr>
<tr>
<td>2 There is significant impact of personal need on electronic customer satisfaction</td>
<td>Rejected</td>
</tr>
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</table>
4.5 Discussions

The data analysis on Nepalese commercial banks’ electronic customer satisfaction factors is presented. The study aims to examine how technology-based banking service quality affects electronic customer satisfaction in Nepalese commercial Bank. A study discovered that reliability is a major factor in electronic consumer satisfaction. Trust, frustration, efficiency, positive word-of-mouth, and client retention are improved. Therefore, organizations should prioritize stability in their electronic solutions to optimize customer pleasure and loyalty [28]. It has discovered that electronic consumer satisfaction depends on understanding and meeting customers’ demands. Businesses may increase customer satisfaction and loyalty by designing and offering products and services that meet customers’ functional needs, usability preferences, customization possibilities, design aesthetics, convenience, emotional needs, and value expectations [29]. It has observed that timeliness affects banking electronic customer satisfaction. Banks may give clients a good electronic banking experience by responding quickly to customer requests, giving timely updates and notifications, communicating proactively, providing efficient technical assistance, and handling feedback well [22,23]. The study aims to determine how technology-based banking services affect electronic consumer satisfaction. The foregoing research and discussion showed that efficiency, responsiveness, user friendliness, site organization, and reliability had a major impact [24].

Personal need and electronic customer satisfaction have little effect on commercial banks of Nepal’s electronic customer satisfaction. Personal need has been shown to improve electronic consumer satisfaction, but this study found no meaningful association [25].

5. CONCLUSION

This study examined how technology-based banking service quality affects electronic consumer satisfaction. The study examines how technology-based banking services affect electronic client satisfaction. Various literature reviews guided further research. The study aimed to construct a descriptive model to analyze technology-based banking service quality and electronic customer satisfaction in Nepalese commercial banks. User friendliness is the most important feature in computerized customer management, according to studies. This is because user friendliness considerably affects electronic client satisfaction. This study found that efficiency, site organization, responsibility, reliability, user friendliness, and personal need are essential technology-based banking service quality factors. This suggests that clients choose banks with fast, easily accessible web platforms. However, clients place more emphasis on data security when dealing with major financial institutions, therefore banks can strategically raise client awareness of new technology that protects consumer data. Banks will gain a competitive edge. In online banking, customers want their transactions to be accurate, timely, and quick, and high-quality services can drive their satisfaction, value, faith, and obligation, so online banking should meet these demands. Banks should provide their customers with a well-designed website and advanced technology to provide top-notch services. In understanding virtual clients’ changing behavior, physical (system, functionalities, interface) and psychological features (services, information, attitudes) are prioritized. Today, customers have many banking portals, which can make them transfer banks, so banks should focus on improving their functionality, user experience, and appeal. Due to strong competition, banks’ technology-based banking services should answer consumer requests and issues quickly to attract and retain customers. Make the app easy to use and the services trustworthy and secure. Online services are hard to trust, yet clients are more likely to adopt them if they perceive quality. Personal needs are another important factor, thus higher authorities and banks should pay considerable attention to consumers’ personal wants and how to provide them. Thus, create technology-based financial services to meet the needs of all clients since customers desire fast service.
6. RECOMMENDATIONS

Even though this research provides fruitful insights, it faces some constraints as well. First, the data collected is from the customer who uses technology based banking services like online banking, internet bank & electronic cash deposit machines only showing similar lifestyles and more or less similar preferences. However, people belonging to different backgrounds, geographic regions and demographics might exhibit variant stance and viewpoint towards Technology based banking service. Moreover, data was collected by using convenience sampling technique that is somewhat comparable to a random sample. Therefore, for future research, it is suggested that data should be collected from individuals belonging to various regions of the country or the world which will provide a more detailed outcome. Additionally, in future, researchers can adopt other techniques to have in-depth analysis. Second, this study incorporates a second-order factor and might be ignoring some other variables which could impact the e-satisfaction of customers, thus, it is recommended to incorporate other variables like product characteristics or incentives. Additionally, prospective researchers may examine certain online service classifications, such as the amount of sales or the type of products purchased. It also recommends future research can focus on another background like technological speediness, interface quality, perceived usefulness, compatibility and their relation with the customers, decision to use internet banking and building trust is also important to adopt online banking through the exposure of the wireless networks. Furthermore, a research is also required to study the human values in the context of the electronic banking system, to meet the increased demand so banks are expected to increase their spending Technology based banking services.

REFERENCES


