Understanding and Adoption of Internet Banking: Nepalese Perspective

Binod Ghimire, PhD[1];
Bharat Rai[2],
Rewan Kumar Dahal, PhD[3]

Abstract

The main objective of this study is to ascertain the elements that lead to the adoption of internet banking. By examining customers' viewpoints, this research seeks to provide valuable insights into the fundamental determinants of this technological transition. A questionnaire survey was done among 398 banking customers in the Kathmandu Valley. The banking sector is currently experiencing a notable shift as a result of developments in telecommunications and information technology. These developments are facilitating transformative transformations through the introduction of novel distribution channels and the enhancement of banking value systems. These factors encompass the cost reduction, acceleration of service delivery, expansion of market reach, and enhancement of overall customer service quality. From a consumer's perspective, internet banking has the potential to reduce service prices and provide users with the ability to effortlessly manage their accounts at any time and from any location. The research findings have identified that security and trust as the most influential factors that lead customers' adoption towards internet banking, so bank managers should develop strategies to enhance overall service quality of internet banking services by delivering customized and quick financial services that help in meeting international standards with promising internet banking products and design.

Keywords: *Internet Banking, Customer Satisfaction, Security, Trust, Information Quality*

1 Dr. Ghimire is lecturer of Management at Nepal Commerce Campus, T. U., Minbhawan, Kathmandu

2 Mr. Rai is lecturer of Management at Nepal Commerce Campus, T. U., Minbhawan, Kathmandu. He is the PhD Scholar at the Faculty of Management, T.U.

3 Dr. Dahal is lecturer of Management at Nepal Commerce Campus, T. U., Minbhawan, Kathmandu

Introduction

Understanding and adopting Internet Banking is considered highly important because of the growing needs and demands for innovative services by customers in banking sector. Internet banking is regarded as a backbone of financial institutions in order to create a competitive advantage in today's business world. Since the lifestyle of the people has been changing, they seek virtual banking services that reduce physical barriers, save time, and create convenience along with building trust among the service users.

Internet banking refers to the use of the internet as a delivery channel for banking services, including traditional banking services such as balance inquiries, fund transfers to other accounts, and bill payments. From the viewpoint of banks, internet banking helps them to maintain profitable growth through reducing operation and fixed costs. A simple transaction cost for a non-cash payment at a branch is likely to cost a bank as much as 11 times more than the same transaction over the Internet (Jayawardhena & Foley, 2000). Internet banking has created new ways of banking in the main areas of distribution, production, payment, and trading. In addition, Internet banking enhances marketing and communication, as it serves 24 hours a day, and a customer can be guided through a catalog of products and services (Jayawardhena & Foley, 2000).

In the modern era, customers demand a lot from banking services, especially from internet banking, so in order to create and maintain internet banking customers or to stay competitive, it is vital to provide them with the best services by understanding their needs. For this purpose, it is important for banks to know the factors that are important for internet banking from a customer's point of view. By understanding these factors, banks can make their policies and improve their services accordingly, which will eventually help them in attracting customers.

Internet banking delivers new banking products and services directly to customers through electronic and interactive communication channels. Through a public or private network using the internet, customers, individuals, financial institution, or businesses can assess their accounts, transact business and obtain information on financial products and services. Nowadays, most financial institutions provide internet banking to their valuable customers for opening new accounts, processing customer service inquiries, fund transfers, taking loan applications, opening new accounts, etc. Internet banking is leading toward a paradigm shift in performance in the banking industry. The components like data, hardware, software, network, and people are the essential elements of the system. Banking customers get satisfied with the system when it provides them maximum convenience and comfort while transacting

with the bank. Internet enabled electronic systems facilitate the operation to fetch these results (Singhal & Padhmanabhan, 2008).

In a digital era of competitive pressures, many financial institutions are focusing their efforts on maintaining a satisfied customer base, so banks provide many online services, which are extremely convenient for banking customers. Internet Banking makes it possible for banks and their customers to do business from anywhere in the world. This greatly increases the bank's potential client base. Nevertheless, the global approach to banking that e-banking permits make it extremely difficult for regulatory authorities to enforce finance laws (Shrestha, 2016).

With the advent of technology and its advancement, customers are willing to get quick, customized, and secured services from the bank. So, it is important to understand the customer's satisfaction level with digital services on banks. The aim of this research is to examine the understanding and adoption of internet banking in Nepal.

Literature Review

Electronic or internet banking is the latest delivery channel to be offered by retail banks in many developed countries, and there is wide agreement that this channel will have a significant impact on the market. Electronic Banking is a higher-order construct that consists of several distribution channels. It should be noted that electronic banking is a bigger platform than just banking via the internet. However, the most general type of electronic banking in our times is banking via the internet. In a very simple form, it can mean the provision of information or services by a bank to its customers via a computer, television, telephone, or mobile phone.

Kaleem (2008) studied that electronic distribution channels provide alternatives for faster delivery of banking services to a wider range of customers. Internet technology is rapidly changing the way personal financial services are being designed and delivered. Now, commercial banks are trying to introduce internet-based e-banking systems to improve their operations and reduce costs. Despite all efforts aimed at developing better and easier internet banking systems, these systems remained largely unnoticed by the customer and certainly were seriously underused in spite of their availability.

Haque (2016) showed that only protected transactions have a significant impact on consumers' perception of e-banking security, followed by service quality and regulatory framework issues. Faullant (2017) studied the acceptance of internet banking to investigate the role of internet trust as a specific form of technology trust in the context of internet banking. Furthermore, the integration of propensity to trust within the hierarchical structure of personality and its applicability to technological systems are investigated. The results confirm the influence of internet

trust on risk perception and consumer attitudes towards internet banking. Propensity to trust is a determinant not only for interpersonal relationships but also for trust in technological systems.

Smith (2006) indicated that psychological barriers are higher determinants of resistance than usage and value, which are constructs related to ease-of-use and usefulness determining acceptance in the traditional technology acceptance model. Moreover, the findings highlight the role of self-efficacy in bank customers' risk perceptions of internet banking. Hawanga and Thao (2013) identified the main barriers the internet users had organizational weaknesses, poor IT infrastructure, mistrust of the internet system, and legal issues. While the benefits positively contributed to the service and social bonds, the barriers negatively impacted the development of these bonds. The interactional benefits play a major role in increasing switching costs. Trust appears as a key variable that reduces perceived risk.

Kawamala (2021) revealed that internet banking is perceived more favorably by banks that offer it compared to those that do not. Government support, availability of the equipments, customers' satisfaction with their needs, competition with other banks, perceived ease of use and perceived usefulness, trust, and security aspects are deemed crucial factors to explain internet banking adoption in Tanzania.

Theoretical Framework

The framework of this research shows several factors affecting customer satisfaction towards internet banking.

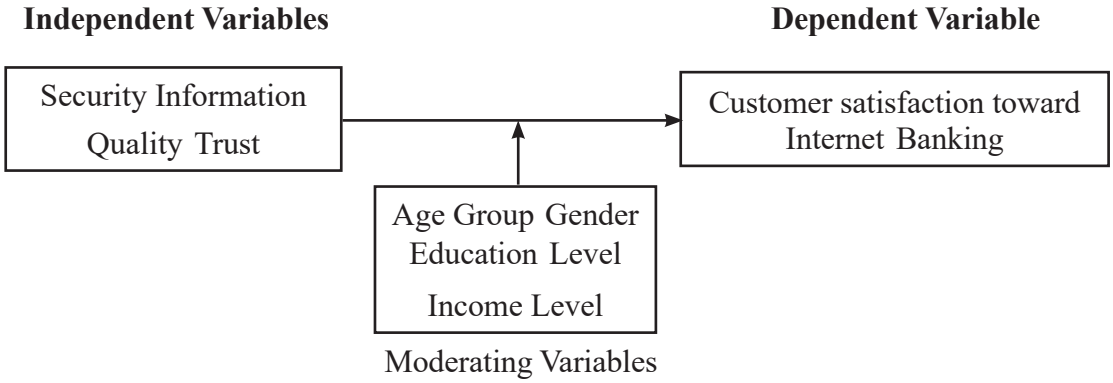

Figure 1: Conceptual Framework of the Proposed Research

The conceptual framework helps in establishing a relationship between the independent and dependent variables that will be used in the research. The research seeks relationships between different factors influencing customers, which are independent variables such as security, information quality, trust, and privacy, while

customer satisfaction towards internet banking is a dependent variable. Demographic characteristics such as age, gender, education level, and income have been taken as moderating variables.

Security

Security plays a vital role in the growth of trust in internet banking because when customers process financial information and know that their information processing will be highly secure, they feel comfortable, and gradually confidence in the bank will increase. Singh (2004) reported that customers often need to have full control of their financial behaviors, especially since they know that online information and services grow rapidly, and so the level of risk is high.

Information Quality

Hoffman and Novak (2006) stated that information quality is an important factor in the IS success model, which determines users' trust in financial transactions. Because internet banking does not involve face-to-face contact, high system quality and information quality are critical to ensure users' trust. Internet banking services transform how banks develop and sustain their customer relationship and with the proper information and communication.

Trust

It is vital for a bank to design proper internet banking strategy that can build customers' trust in internet banking. Customers' trust would be heightened if they felt that they had a high degree of control of their banking transactions. Ibbotson & Moran (2006) have reported that the maintenance of future earnings and consumers' trust can be achieved via building deep relationships with customers. Yap & Majhyar (2011) proposed a conceptual model to identify the antecedents of trust in Internet banking and the impact of trust on customers' intentions to adopt internet banking.

Research Methods

This study is conducted in the context of Nepalese commercial banks. The research is a descriptive type as it investigates the understanding and adoption of internet banking among customers. The sample unit was an account holder of a commercial bank drawn as a sample from random sampling method. To get a better response from customers about their understanding and adoption level, this research is mostly focused on getting a response from respondents who had frequent transactions with the banks. According to the quantitative research approach, the survey technique was the most appropriate to select participants for the study. Data was collected from the respondents inside Kathmandu valley.

A Structured questionnaire was designed to collect the required information for primary data. The questionnaires were distributed to 500 internet banking service users. Out of them, there were 398 respondents from Kathmandu Valley. It was selected through the non-probability sampling method using judgmental sampling.

Descriptive analysis was carried out in accordance with the objectives of the study by the use of SPSS program that assisted in generating frequency distributions, mean, standard deviation, correlation, and tables. The goodness of measure was done through testing of reliability and validity. Reliability was done by testing for both consistency and stability. The association of demographic variables of internet banking was assessed through the independent t-test and one way ANOVA.

Results and Analysis

The main objective of the questionnaire was to identify the most important factor that customers consider while adopting internet banking. After the questionnaires from the respondents were collected, relevant information was drawn regarding different dimensions of internet banking and customer's perspectives. Then, SPSS software was used for coding, reliability test, analysis and presentation of collected data.

Table 2

Results of respondent's profile

Dimension / **Gender**	**Frequency**	**Percent (%)**
Male	204	51.25
Female	194	48.74
Total	**398**	**100**

Age		
20-25	112	28.1
26-30	122	30.6
31-35	92	23.1
36-40	40	10
Above 40	32	8
Total	**398**	**100**

Education		
Diploma	93	23.3
Bachelor's Degree	175	43.9
Master's Degree	130	32.6
Total	**398**	**100**
Level of Income Per month (Rupees)		
Upto 10000	80	20.1
10000-20000	83	20.8
20000-30000	77	19.3
30000-40000	42	10.5
Above 40000	116	29.1
Total	**398**	**100**

Source: Survery, 2021

Table 2 depicts most of the internet users are male. It portrays that a higher percentage of respondents was male. Male comprised 51.25% of the total respondents, while females comprised 48.74% of the total respondents. It also represents the age group distribution of respondents. The highest percentage of the respondents are of the age group 26 to 30 years of age which is 30.6 % of the total samples, followed by the age group 20 to 25 years of age with 28.1% of respondents, age group 31 to 35 years of age comprise 23.1% respondents, age group of 36 to 40 years of age comprises 10% respondents, and least percentage of respondents is from the age group of above 40 which is 8% of total samples. It shows that 43.9% of total respondents' education level is Bachelor's Degree, followed by Master's Degree, 32.6% and least, i.e., 23.3 % of respondents have Diploma. It also shows that most of the respondents comprise 29.1% of total respondents with income level above Rs. 40000, and the least is 10.5% who have income between Rs. 30,000 to 40,000. A total of 20.8% respondents have an income between Rs. 10,000 - 20,000, 20.1% of respondents have an income of Rs. upto 10,000, and 19.3% of respondents have an income between Rs. 20,000 to 30,000.

Reliability Analysis

The study used Cronbach's Alpha test to measure the internal consistency of the questionnaire, grouping the questions according to the defined independent and dependent variables. Cronbach's Alpha is commonly used to determine whether the items are homogeneous, can measure the response correctly and whether the result can be replicated or not. The value of Cronbach's Alpha greater than 0.7 shows the questionnaire has a relatively high internal consistency. Likert scale was set for

identifying the dependent and independent variables. Cronbach's Alpha test on the reliability statistics is observed, which is presented in the following table.

Table 3

Reliability statistics

Reliability Statistics		
Cronbach's Alpha	No. of items	No. of respondents
0.968	8	398

Table 3 highlights that Cronbach's alpha coefficient for the variables is 0.968, indicating satisfactory levels of internal consistency in terms of reliability. The factors reflected the reliability values above the accepted benchmark of 0.70, which is regarded as very good.

Reliability Analysis of Dependent Variable

Three items were chosen to measure the dependent variable regarding internet banking by bank customers. All three variables are retained from the reliability test. The detail of reliability statistics of the dependent variable is represented in Table 4.

Table 4

Reliability statistics of items

Items	Cronbach"s Alpha
Internet banking saves from monetary loss	.966
Internet banking prevents unauthorized access to the accounts through network attacks	.967
Given information helps me to perform internet banking transactions easily	.966
Information at banks website are accurate	.967
Information at banks website are regularly updated	.966
I trust in safety of online money transfer	.967
My trust in internet banking services is as strong as compared to offline services provided by the bank	.966
I trust the information presented on e-banking websites	.967

Table 4 represents the Cronbach's Alpha of each item of dependent variables and the observed value reflects good reality with an alpha value greater than 0.7.

Descriptive Statistics

Descriptive statistics represents the outcome by considering the collected data. Likert scale questionnaire was relevant to the dimensions regarding internet banking such as security, information quality, and trust. The mean score drawn from the result is obvious that the majority of respondents or internet banking users are positive about the intention of using internet banking. Likewise, the value of Standard Deviation clearly depicts that the extent of items are deviating from the mean.

Table 5

Descriptive statistics regarding various outputs of variables

Variables	Mean	Standard Deviation
Security	**3.6757**	**0.91448**
Information Quality	3.2533	1.0031
Trust	3.6	0.96238

Table 5 shows the mean value of 3.6757 is tending towards the value 4, which correspond to the Likert scale "agree", showing the positive response of consumer towards security. Table 3 represents the mean value of 3.2533 is nearest to the value 3, which corresponds to the Likert scale "neutral' showing the neutral response of respondents towards information quality. Table 4 depicts that concerning trust, the mean is 3.6, which tends to lie near the option of "agree," rounding off to 4 as per the data collected through the questionnaire.

Group Statistics of Dependent Variable

This section analyses the position or tendency of internet banking in terms of age, sex, education level, and monthly income. In addition to this, respondents' most common agreement towards services responded has been analyzed in order to know the most applicable agreement of respondents on internet banking.

The mean score of the response is observed, and the standard deviation has been analyzed in the mean response. Following table 6 is presented to analyze the descriptive statistics.

Table 6

Descriptive Statistics of Response to Each Item

Items	N	Mean	Std. Deviation
Internet banking saves from monetary loss.	398	3.58	1.018
Internet banking prevents unauthorized through network attacks access to the accounts.	398	3.77	.908
Given information helps me to perform internet banking transactions easily.	398	3.28	1.177
Information on bank's website is accurate.	398	3.49	.981
Information on banks website is regularly updated.	398	2.99	1.234
I trust in the safety of online money transfer.	398	3.59	1.024
My trust in internet banking services is as strong as compared to offline services provided by the bank.	398	3.55	1.138
I trust the information presented in e-banking websites.	398	3.66	1.054

Since the Likert items are designed with increasing i.e. five is assigned for the strongly agree and 1 strongly disagrees. In such a situation, greater mean values indicate a positive response towards internet banking. Table 5 indicates the positive response towards customer satisfaction towards internet banking with the mean value 2.5, which indicate a positive tendency of customer toward internet banking.

Descriptive Analysis

The correlation coefficient between dependent and independent variables reflects the relationship and association among the variables. The Pearson correlation coefficient was used to measure the degree of linear association between the two categories. The three dimensions of internet banking, namely security, information quality, and trust, are correlated with the dependent variable. The following tables reflect that the marked correlations are significant at $p<=0.01$. Correlation coefficients between internet banking and its variables are presented in table 7.

Table 7

Pearson Correlation Coefficients

Items	Security	Information Quality	Trust
Internet Banking	0.706**	0.699**	0.761**
**Significant at 0.01 level of significant			

The correlation coefficient between security and internet banking has been found to be 0.706, which is significant at one percent level of significance. It shows the positive correlation between security and internet banking among customers. The correlation coefficient between information quality and internet banking is found to be 0.699, which is significant at one percent level of significance. It shows the positive correlation between information quality and internet banking among customers. Similarly, the correlation coefficient between trust and internet banking is found to be 0.761, which is significant at one percent level of significance. It shows the positive correlation between trust and internet banking among customers.

Association of Internet Banking with Demographic Characteristics of Respondents

The study has also made an attempt to examine the impact of demographic characteristics of customers on internet banking. In this connection, the hypothesis was formulated. The following section presents the result of the hypothesis.

Association of Internet Banking with Gender

The test is a parametric technique that was used to find the differences in the perceptions regarding internet banking between male and female.

Table 8

Internet banking by male and female

Gender	N	Mean	Std. Deviation
Male	204	3.6494	1.07319
Female	194	3.7489	.94409

Value of $|t|=0.602$ and p-value>0.05

Table 8 shows Levene's test for equality of independent sample t-test carried out to find whether opinions differ between males and females. Here, the p-value is greater than 0.05. It indicates that the mean of opinions of both males and females are not seen as significantly different. It concludes that there is no significant difference in the opinion toward internet banking between male and female respondents.

Association of Internet Banking across Age Group

This part of the analysis has been focused on examining the situation of internet banking across different age groups. One way ANOVA has been used to examine the association of internet banking across different age groups. Table 9 shows the result of this test.

Table 9

Internet Banking across Age Group

	Sum of Squares	Mean Square	F	p-value
Between Groups	4.166	1.041	1.021	.399
Within Groups	147.911	1.020		

Table 9 reflects the association of age groups on internet banking. Overall (F=1.021; p>0.05) suggests that a significant difference has not been found across the different age groups on internet banking. Result of one way ANOVA test suggests that the internet banking services across different age groups are insignificant at five percent level of significance (p-value>0.05). The data has sufficient evidence for establishing a similar opinion across the different age groups on internet banking.

Association of Internet Banking Across Education Levels

This part of the analysis has focused on examining internet banking across different education levels of customers. One way ANOVA has been used to examine the respondents holding a different educational degree. Table 10 shows the result of this test.

Table 10

Internet Banking across Education Level

	Sum of Squares	Mean Square	F	p-value
Between Groups	.031	.015	.015	.985
Within Groups	152.046	1.034		

Table 10 reflects that internet banking across the level of education. Overall F = 0.015 and p>0.05 suggests that a significant difference has not been found across the different education levels on internet banking. The result of one way ANOVA test suggests that the respondents' opinion was not significantly different regarding internet banking across different education level. Thus, there is no significant difference across education levels on internet banking.

Association of Internet Banking across Income Level

This part of the analysis has focused on examining internet banking across different income levels of customers. One way ANOVA has been used to examine the respondents with different levels of income. Table 11 shows the association of internet banking across income levels.

Table 11

Internet Banking across Income Level

	Sum of Squares	Mean Square	F	P-value
Between Groups	3.109	.777	.756	.555
Within Groups	148.968	1.027		

Table 11 reflects internet banking across the level of income. Overall F =0.756 and p>0.05 indicate that a significant difference has not been found across the different income levels on internet banking. The result of one way ANOVA test suggests internet banking behavior. The result of one way ANOVA test suggests that internet banking across different income levels is insignificant at five percent level of significance (p>0.05), which suggests that income level does not differentiate internet banking by customers. There is no significant difference across income levels on internet banking.

Discussions and Conclusion

As a matter of fact, people are becoming more and more demanding; internet banking has gradually shown its important role in a way to serve customers by providing a variety of services in fast and convenient manner. The significance of online banking as a strategic tool for enhancing customer satisfaction and improving banking services is undeniable, owing to its diverse functionalities that facilitate simplicity of use and communication with clients.

Based on the study conducted, it can be inferred that there are minimal disparities observed in the replies provided by participants across several demographic variables, including age groups, gender, income level, and education level. In Nepal, users exhibit a high level of awareness regarding internet banking services and accord them a significant level of priority. Security and trust are significant considerations for customers when evaluating and embracing internet banking services in Nepal. This observation aligns with the research conducted by Kolsaker and Payne (2002), who emphasised the significance of security in the context of internet banking. Consequently, many protocols have been developed to ensure the protection of encrypted data packets

in internet security. In a similar vein, the present discovery aligns with other scholarly investigations, such as the study conducted by Kim and Prabhakar (2004), which posited that trust has a favourable influence on users' loyalty towards technology. This loyalty, in turn, manifests as a willingness to engage with the technology on several occasions.

The research findings have identified that security and trust as the most influential factors that lead customers adoption towards internet banking, so bank managers should develop strategies to enhance the overall service quality of internet banking services by delivering customized and quick financial services that help in meeting international standards with promising internet banking products and design. All transactions occur on a secure server of a bank via the internet. The bank must ensure that it has secured software and process to execute the transactions. Security can be assured by providing a privacy statement and information about the security of the shopping mechanisms and by displaying the logos of trusted third parties. Likewise, to boost trust in internet banking and overall improvement in bank customer relationships, bank, and financial institutions can build safe online money transfer services and provide trustworthy websites.

In conclusion, the rising customer expectations have brought to light the crucial role that online banking plays in offering quick and convenient services. As important factors in deciding whether to adopt internet banking, security and trust emerge. As a result, banks should put more effort into providing tailored financial solutions, upholding international standards, and guaranteeing secure transactions through reliable software and procedures. Safe online money transfer services and trustworthy websites can further emphasize the significance of internet banking by fostering client relationships and trust.

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