

# **IMPACT OF E-BANKING SERVICES ON CUSTOMER SATISFACTION IN NEPALESE COMMERCIAL BANKS**

A Dissertation submitted to the Office of the Dean, Faculty of Management in partial  
fulfillment of the requirements for the Master's Degree

by

Pratima Byanjankar

Exam Roll No.: 13746/19

Campus Roll No.: 144/075

T.U. Regd. No.: 7-3-39-1503-2018

Shanker Dev Campus

Specialization: Marketing

Kathmandu, Nepal

November, 2024

## CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**Impact of E-Banking Services on Customer Satisfaction in Nepalese Commercial Banks**”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes. The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

.....

Pratima Byanjankar

Date: .....

## REPORT OF RESEARCH COMMITTEE

Ms. Pratima Byanjankar has defended research proposal entitled “**Impact of E-Banking Services on Customer Satisfaction in Nepalese Commercial Banks**” successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidelines of supervisor Sarita Maharjan and submit the thesis for evaluation and viva-voce examination.

.....  
Sarita Maharjan  
Dissertation Supervisor

**Dissertation Proposal Defended Date:**  
.....

**Dissertation Submitted Date:**  
.....

.....  
Asso. Prof. Dr. Sajeeb Kumar Shrestha  
Chairperson, Research Committee

**Dissertation Viva Voce Date:**  
.....

## APPROVAL SHEET

We, the undersigned, have examined the thesis entitled “**Impact of E-Banking Services on Customer Satisfaction in Nepalese Commercial Banks**” presented by Pratima Byanjankar, a candidate for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

.....

Sarita Maharjan  
Dissertation Supervisor

.....

Internal Examiner

.....

Internal Expert

.....

External Expert

.....

Asso. Prof. Dr. Sajeeb Kumar Shrestha  
Chairperson, Research Committee

.....

Joginder Goet  
Acting Campus Chief

## ACKNOWLEDGEMENT

This thesis entitled “**Impact of E-Banking Services on Customer Satisfaction in Nepalese Commercial Banks**” has been prepared for the partial fulfillment of the requirement for the Degree of Master of Business Studies.

I extend my deep sense of indebtedness to my respected supervisor Sarita Maharjan for her precious guidelines, inspiration and suggestion thoroughly during the period of this research. Without her valuable insight, I would not think of accomplishment of this dissertation. I would like to express my gratitude to my honorable research department head Asso. Prof. Dr. Sajeeb Kumar Shrestha of Shanker Dev Campus and Shanker Dev Campus Library who provided the reference and reading materials during the period of research. I also like to thank to my respectable teacher for guiding and inspiring me to complete this thesis.

I am deeply indebted to my respected teachers and friends for helping me during the period of research.

Pratima Byanjankar

## TABLE OF CONTENTS

	<b>Page No.</b>
<i>Title Page</i>	<i>i</i>
<i>Certification of Authorship</i>	<i>ii</i>
<i>Report of Research Committee</i>	<i>iii</i>
<i>Approval Sheet</i>	<i>iv</i>
<i>Acknowledgements</i>	<i>v</i>
<i>Table of Contents</i>	<i>vi</i>
<i>List of Tables</i>	<i>viii</i>
<i>List of Figure</i>	<i>ix</i>
<i>Abbreviations</i>	<i>x</i>
<i>Abstracts</i>	<i>xi</i>
<b>CHAPTER – I INTRODUCTION .....</b>	<b>1</b>
1.1 Background of the Study.....	1
1.2 Problem Statement .....	3
1.3 Objective of the Study.....	5
1.4 Research Hypothesis .....	6
1.5 Rationale of the Study .....	6
1.6 Limitations of the Study .....	7
<b>CHAPTER – II LITERATURE REVIEW.....</b>	<b>8</b>
2.1 Theoretical Review .....	8
2.1.1 Theories of Electronic Banking Services and Customer Satisfaction .....	8
This chapter discusses a few of the theories which are as follows; .....	8
2.1.1.1 Theory of Reasoned Action .....	8
2.1.1.2 Contrast Theory .....	9
2.1.1.3 Innovation Diffusion Theory .....	10
2.1.1.4 Assimilation Theory.....	12
2.1.1.5 The Comparison Level Theory .....	12
2.1.2 Concept of Electronic Banking.....	13
2.1.3 Components of E-Banking .....	14
2.1.3.1 Mobile Banking .....	14

2.1.3.2 ATM.....	15
2.1.3.3 Internet Banking.....	16
2.1.3.4 Electronic Fund Transfer at Point of Sale.....	16
2.1.4 Relationship between Electronic Banking and Customer Satisfaction .....	17
2.2 Empirical Review .....	18
2.3 Research Gap.....	32
<b>CHAPTER – III RESEARCH METHODOLOGY .....</b>	<b>33</b>
3.1 Research Design.....	33
3.2 Population and Sample and Sampling Design .....	33
3.3 Nature and Sources of Data, and Instrument of Data Collection.....	35
3.4 Method of Analysis .....	35
3.4.1 Descriptive Statistic .....	36
3.4.2 Inferential Statistics .....	37
3.5 Research Framework and Defination of Variables .....	38
<b>CHAPTER – IV RESULTS AND DISCUSSION .....</b>	<b>41</b>
4.1 Results .....	41
4.1.1 Demographic Profile.....	41
4.1.2 Reliability Test .....	44
4.1.3 Descriptive Statistics Analysis .....	45
4.1.4 Summary of Descriptive Analysis .....	50
4.1.5 Correlations Analysis .....	51
4.1.6 Regression Analysis .....	52
4.2 Major Findings .....	54
4.3 Discussion .....	56
<b>CHAPTER V 58SUMMARY AND CONCLUSION .....</b>	<b>58</b>
5.1 Summary .....	58
5.2 Conclusion.....	59
5.3 Implications.....	60

**References**

**Appendices**

## LIST OF TABLES

<b>Table No.</b>	<b>Title</b>	<b>Page No.</b>
Table 1	Summary of Empirical Review.....	27
Table 2	Name of Commercial Banks along with the Number of Respondents .....	34
Table 3	Gender Specification.....	41
Table 4	Age Description of Respondents .....	42
Table 5	Marital Status .....	42
Table 6	Education Level of the Respondents.....	43
Table 7	Annual Income Description of Respondents .....	43
Table 8	Occupation Status .....	44
Table 9	Years of Using Electronic Banking .....	44
Table 10	Cronbach's Alpha Coefficients.....	45
Table 11	Reliability of E-Banking Services .....	46
Table 12	Accessibility of E-Banking Services .....	47
Table 13	Convenience of E-Banking Services .....	48
Table 14	Security of E-Banking Services .....	49
Table 15	Customer Satisfaction .....	50
Table 16	Summary of Descriptive Analysis .....	50
Table 17	Pearson Correlation Coefficients of Study Variables .....	51
Table 18	Model Summary.....	52
Table 19	Analysis of Variance (ANOVA).....	53
Table 20	Regression Coefficient of Independent Variables on Customer Satisfaction.....	53

## LIST OF FIGURE

<b>Figure No.</b>	<b>Title</b>	<b>Page No.</b>
Figure 1	Research Framework of the Study.....	38

## ABBREVIATIONS

%	:	Percentage
&	:	And
ACC	:	Accessibility
CON	:	Convenience
CS	:	Customer Satisfaction
e.g.	:	Example
i.e.	:	That is
IBM	:	International Business Machine Corporation
MS. DO	:	Microsoft Disk Operating System
No.	:	Number
REL	:	Reliability
Res	:	Respondents
SEC	:	Security
SEM	:	Structural Equation Modeling
SPSS	:	Statistical Package for Social Sciences
T.U.	:	Tribhuvan University
WHO	:	World Health Organization
www	:	World Wide Web

## ABSTRACT

The main purpose of the study is to investigate impact of e-banking services on customer satisfaction in Nepalese commercial banks. The study is used descriptive and casual research design. This study used descriptive statistic, correlation analysis and regression analysis for data analysis. The study found that the majority of respondents believed that security and convenience of e-banking services have a significant impact on banking customers' satisfaction and that their own satisfaction is high. The correlation analysis shows that there is a significant positive association between customer satisfaction (CS) and reliability of e-banking services (REL). Similarly, accessibility of e-banking services has significant positive association with customer satisfaction. Further, there is a significant positive correlation of convenience of e-banking services with customer satisfaction (CS). Lastly, there is a significant positive correlation between security of e-banking services and customer satisfaction. The regression result reveals that reliability, accessibility, convenience and security of e-banking services have significant positive impact on customers' satisfaction in banking industry of Kathmandu Valley. Therefore, this study concluded that the impact of electronic banking on customer satisfaction is significant in Nepalese commercial banks.

**Keywords:** *Customer satisfaction, accessibility, convenience, reliability and security*

## **CHAPTER - I**

### **INTRODUCTION**

#### **1.1 Background of the Study**

Banks have a big say in how financially and economically a country develops. A country's economic prosperity is greatly impacted by an effective banking system in a variety of ways. For bankers, the global economy poses a multitude of complex challenges. Banks need to adopt the newest information technology systems and have a greater awareness of their clients' changing demands in order to compete with international enterprises (Malhotra & Mukherjee, 2004). Building a strong and devoted client base has become increasingly important for banks in order to withstand challenging economic times and fiercer competition. In order to thrive in the current fiercely competitive banking landscape, the majority of banks want to provide their clients with convenient banking options. These include using an automated teller machine (ATM), sending and receiving money, banking on a mobile device, etc. Even while other banks can essentially replicate these services, the focus right now is on the caliber of the services offered. One of the most effective ways to meet and interact with consumers is to provide them with high-quality services that are linked with consumer items. In order to obtain a competitive edge, banks are focusing more on service quality because many of them provide identical products in a market with competitors. Banks that excel in providing excellent customer service might obtain a competitive advantage in terms of increased income, client retention, and loyalty (Kumar et al., 2010).

Electronic banking is financial institution device which gives banking clients an edge to carry out banking transactions, either through financial or non-financial banks website. Customers can now electronically interact with financial institutions using more sophisticated technology, even when they are not physically present at their premises, thanks to technological advancements. The following criteria should be taken into account while developing online banking services, in addition to the needs, preferences, experiences, and expectations of the clientele: High reliability, quick accessibility, more convenience and more security and privacy with other technology

services are four essential requirements for electronic banking services (Khanal, 2023).

E-banking is the term used to describe the electronic way that banks provide their customers with financial services and products. Another tool that banks use to manage client contacts and deliver services more swiftly and effectively is information and communication technology (ICT). Internet and phone banking are both included in e-banking. As several banks have found, providing e-banking services enables them to better serve their clients and foster stronger bonds with them. Using e-banking is seen to be a novel approach to grow the clientele and offset the assertive practices of conventional banks. Customers that use electronic banking have access to the internet for most banking operations, including as paying bills, transferring money between accounts, and checking account balances. Thus, e-banking refers to systems that enable financial institutions, customers, individuals, and businesses to access accounts, do business, and obtain information on financial goods and services via public or private networks (Addai et al., 2015).

Customer satisfaction is viewed as a key differentiator in a competitive market where firms battle for customers, and it has progressively become an essential component of corporate strategy (Gitman & Carl, 2005). To understand the economic challenges and choices banks face, it is useful to consider banks as firms and apply the general principles of microeconomics, which define the environment in which all firms operate. However, banks are distinct types of companies due to the services they provide as well as the staff and way in which those services are provided (John, 2003). Consumers now days are very dissatisfied with the satisfaction and services provided by banks. Studies have shown that a significant portion of the world's internet users share national behaviors and preferences (Masukujjaman & Akter, 2010). Other academics have looked at the internet within national borders, but within traditional cultural frameworks. User preferences for e-banking have been examined by certain studies. Some have examined the issues surrounding the growth of online banking and the factors that make various e-delivery channels in the banking industry successful (Sohail & Shanmugham, 2003).

Another way to define customer satisfaction is the judgment made by the customer once they find out whether the particular service they are receiving lives up to their expectations. Alkhaibaria et al. (2023) explained satisfaction is the result of comparing a product or service's apparent performance to one's own expectations and using that evaluation to determine one's subjective level of contentment or discontent. Emotions that someone experienced following the use of a certain item or service at a particular point in time may be linked to contentment. Pre-consumption expectation evidence is what most studies affirm when it comes to the satisfaction factor. This explains why a product's performance rate was previously recorded by a customer before use. In terms of consumption, comparisons of customer satisfaction help determine the expected performance level of the product, and consumers' familiarity with the product facilitates this assessment.

Today's consumers look to their banks for a variety of benefits, including first-rate customer service, reduced transaction costs, complaint resolution, a badge of pride, and early access to new products through non-traditional channels. As a result, banks are under pressure to come up with creative ways to please clients before other financial institutions or banks do (Winer, 2001). Thus, in order to boost a company's performance and become more competitive in the market, particularly a service provider business, it is important to concentrate on several factors that affect customer satisfaction. When these elements are managed well, a firm may please its clients and win their loyalty and retention, which helps it achieve its goals. On this regard this research aims to investigate the effect of electronic banking service factors (reliability accessibility, convenience and security) on customer satisfaction in commercial banks in Nepal.

## **1.2 Problem Statement**

In order to impact their clients' behavioral intentions, service providers must measure and track customer happiness and service quality (Saha & Theingi, 2009). Customers are becoming more conscious of their options when it comes to services and service providers in the current competitive market. As a result, customers have higher expectations and are more demanding when it comes to service quality.

Customer satisfaction is a highly sought-after phenomena in today's globalized and intensely competitive industry. Consumers of today seek for useful, dependable, and dependable technologies above and beyond those with the best deals. Information and communication technology is now used far more often in financial services. The deployment of self-service and virtual banking services has required large financial investments in an effort to raise the standard of customer care. The growth of e-commerce has been hindered by a number of factors, including the quality, cost, and accessibility of communications infrastructure; a dearth of skilled workers; a low internet penetration rate; a low bank account; and the delayed delivery of tangible items (Paul et al., 2016).

The environment in which banks operate today is rapidly changing due to factors such as fiercer competition, quick innovation in financial instruments, goods, and services, shifting customer preferences, and the explosive rise of information technology. A period of informative commoditization of financial services has been ushered in by technological innovation, and banks who perform well on all fronts will survive. The main problem, though, is that banks have to provide clients with what they want, when they want it, and how they want it. However, under these conditions, particularly in Nepal, customers' expectations are not met by the banks' perceived level of service quality. The issue of the lack of professionally competent and well-trained banking staff serves as proof that this is true for all overall services as well as for all metrics of service quality in general. Insensitive and unprofessional conduct displayed by bank employees while interacting with current and prospective clients, Inadequate infrastructure and tools needed to deliver contemporary financial services; excessively drawn-out procedures in meeting client demands; Poor branch locations and a lack of infrastructure have been cited as issues at both public and commercial banks (Toor et al., 2016). Finding the variables that affect customer happiness therefore depends on keeping up to date information about the degree of customer satisfaction with regard to the caliber of services provided by banks generally and Abyssinia bank specifically.

Lama (2021) found a significant positive correlation between convenience, service, and accessibility and client satisfaction in Nepalese commercial banks. Lamsal (2022) revealed a strong positive relationship between loyalty, service quality, and customer

satisfaction. Thakuri et al. (2023) showed relative advantage and cost had an insignificant effect on customer satisfaction, while responsiveness, convenience, security, and cost had a major impact. Ghimire and Dhakal (2023) mentioned that elements including cost, convenience, security, and responsiveness were significantly positively correlated with customer satisfaction with Nepal's commercial banks. Belbase and Paudel (2023) found that four characteristics and customer satisfaction had a positive relationship.

Ayer (2023) found that reliability, convenience, and ease of use all had a positive impact on consumer satisfaction. Khanal (2023) indicated that simplicity of use and privacy/security have a major positive impact on client awareness of Nepalese commercial banks. Although the previously given empirical evidences relate to other countries, none of them are relevant to Nepal, specifically the Kathmandu Valley, and the present scenario. Additionally, this analysis included accessibility, convenience, and security as explanatory variables; these components were not present in a single study, though. Its goal is to fill in the context gap that was previously mentioned. So, the study aims at answering the following research questions;

- What is the level of customer satisfaction of commercial banks in Nepal?
- Is there any relationship between e-banking service factors (reliability accessibility, convenience and security) and customer satisfaction in Nepalese commercial banks?
- What is the impact of reliability accessibility, convenience and security on customer satisfaction in Nepalese commercial banks?

### **1.3 Objective of the Study**

The main objective of the study is to analyze impact of e-banking services on customer satisfaction in Nepalese commercial banks. The other specific objectives are;

- To analyze the level of customer satisfaction of commercial banks in Nepal.
- To measure the relationship between e-banking service factors (reliability accessibility, convenience and security) and customer satisfaction in Nepalese commercial banks.

- To examine the impact of reliability accessibility, convenience and security on customer satisfaction in Nepalese commercial banks.

#### **1.4 Research Hypothesis**

The following hypotheses are created in light of the study's objectives and a review of the theoretical and empirical literature on the effect of e-banking services on customer satisfaction in Nepalese commercial banks.

1. H<sub>1</sub>: Reliability of e-banking has significant impact on customer satisfaction in commercial banks of Nepal.
2. H<sub>2</sub>: Accessibility of e-banking has significant impact on customer satisfaction in commercial banks of Nepal.
3. H<sub>3</sub>: Convenience of e-banking has significant impact on customer satisfaction in commercial banks of Nepal.
4. H<sub>4</sub>: Security of e-banking has significant impact on customer satisfaction in commercial banks of Nepal.

#### **1.5 Rationale of the Study**

Since Nepalese commercial banks currently provide excellent domestic, international, and specialty banking services to their esteemed and valued clients, this kind of research will be carried out to support the bank's various goals by providing the information that will be most useful in making decisions regarding the improvement of service quality. The study will provide other researchers a head start on their in-depth assessment of the factors impacting customer satisfaction in Nepalese commercial banks, and it also helps the bank make the required improvements based on suggestions. Businesses and trade expand more quickly when happy customers share the word about them. Therefore, it is crucial to please the customers. When they are not happy, bankers and marketers need to find out why they are not happy and then work to address the issue as best they can. Bank employees must support clients who visit the bank with complaints. Every complaint from customers must be given careful consideration, and action must be taken to satisfy them. It is crucial for both lenders and consumers in this context as well.

## 1.6 Limitations of the Study

The major limitations of the study are as follows;

- The study focuses on the effect of e-banking on customer satisfaction in all 20 commercial banks in Nepal.
- This study is limited inside Kathmandu Valley and requires areas where targeted responses would be available, so it might not represent the overall consumer's view of Nepal.
- The data analysis section has relied on primary data to greater extent, and the accuracy of the data depends upon the reliability of the opinions of the respondents.
- The sampling method of the study is convenience. Thus, it may have some errors resulting from the sampling method.
- Out of 500 distributed questionnaires, 406 questionnaires collected but only 384 questionnaires usable. So, the sample size only 384 which is not represents the whole customers.
- Among various factors of customer satisfaction only four factors (reliability accessibility, convenience and security) are considered for the study.
- This study used descriptive statistics, correlation and multiple regression analysis for data analysis.

## **CHAPTER - II**

### **LITERATURE REVIEW**

This chapter attempts to assess relevant literature in order to gain an academic understanding of the concept of customer satisfaction with the e-banking service. The objectives and research questions are primarily mentioned in the literature. There are reviews of several books on the subject. This chapter includes a theoretical review, an empirical review, and a research gap.

#### **2.1 Theoretical Review**

##### **2.1.1 Theories of Electronic Banking Services and Customer Satisfaction**

This chapter discusses a few of the theories which are as follows;

###### **2.1.1.1 Theory of Reasoned Action**

The ultimate objective of the Theory of Reasoned Action (TRA) is to enhance comprehension of the connections that exist between attitudes, behaviors, and intentions. Among the most significant ideas developed to describe human behavior is this one. People's subjective criteria and perceptions of such activities explain behavioral intents to use technology. Success in a number of industries has been connected to providing excellent services. Many retail and service companies are searching for profitable ways to differentiate themselves from their rivals as a result of deregulation and increased competition (Caruana, 2011). Over the past ten years, service quality has drawn more attention as a research topic due to these factors, which also include greater customer retention, higher cross-sell ratios, better revenues, and altered purchasing habits and market share (Kaynak, 2015). To remain competitive in today's market-driven world, the banking sector recognized the value of offering first-rate customer service. Taking everything into account, the service sector is very varied, so what holds true in one sector might not hold true in another. Because of this distinction, services in this industry cannot be standardized; additionally, they are intangible and cannot be observed or contrasted. The concepts of customer satisfaction and service quality are related.

The level of customer service delivery, the predominance of electronic banking, and the degree of consumer happiness are all changing the technical environment. One example of information technology is digital banking, which significantly lowers costs while improving services. Pleasure is positively connected with client loyalty, mutual understanding, and trust between the customer and the bank. Because of their reputation, customers hold higher regard for banks that provide these services to a larger degree. E-banking is crucial to ensuring customer satisfaction because it closes the gap between perceived and expected service quality, which is determined by the organization's service quality and consumer expectation levels.

### **2.1.1.2 Contrast Theory**

Hovland et al. (1987) developed contrast theory. Contrast theory was defined by Dawes (1972) as the tendency to draw attention to the differences between one's own attitudes and the attitudes expressed in opinion statements. Contrary to assimilation theory, contrast theory offers an alternative perspective on consumers' post-use assessment process since judgments made after consumption result in differing expectations regarding the degree to which pleasure will be influenced. Compared to the previous method that only permitted cash withdrawals at the counter, automated teller machines provide consumers with easier, 24/7 access to their account funds. To improve client satisfaction, a bank has to invest heavily in ATM networks or join pre-existing local or international networks, like Mastercard or Visa.

According to the assimilation theory, customers would attempt to reduce the difference between what they expected and what they received; however, the contrast theory contends that a surprise effect would occur, causing the mismatch to become more intense or noticeable. Any difference between experience and expectations was magnified in the direction of the difference, according to the contrast hypothesis. If a customer's experience falls short of the high standards set by the company's marketing, the product or service will be dismissed as completely inadequate. On the other hand, overly optimistic advertising that underpromises and overdelivers will inflate positive disconfirmation. This idea states that commercial banks ought to always be introducing new products that meet the needs of their clients and raise the level of customer satisfaction.

### **2.1.1.3 Innovation Diffusion Theory**

This theory by Roger (1983) describes why people use technology to finish traditional tasks in a different way. Trialability, observability, complexity, compatibility, and proportional advantage are significant determinants of an innovation's broad acceptability. Several banks have discovered that integrating ICT into their operations may lead to increased efficiency. The creation of mobile applications and user-focused websites is how this is accomplished. Customers can thus access their accounts from anywhere in the world as long as they have an internet connection. This theory focuses on the process by which a new technical idea, product, method, or a novel application of an already-existing one goes from creation to usage. According to IDT, social system members use certain routes to spread technical innovation throughout time.

A technological innovation passes through the following stages: decision (adopting it), knowledge (being made aware of its existence and functions); persuasion (forming a positive attitude); implementation (using it); and confirmation (reinforcement based on positive outcomes from it) (Arnaboldi & Claeys, 2008). Security threats and fraud have also enhanced internet banking. Higher education levels, elevated social status, increased openness to interpersonal and mass media communication, and increased frequency of interaction with change agents are common characteristics of early adopters. Mass media channels are more important during the knowledge stage, whereas interpersonal channels are more important during the persuasion stage.

Innovators, early adopters, early majority, late majority, and laggards are among the several types of adopters. Diffusion can take many different forms, and it is greatly influenced by the nature of adopters as well as the innovation-decision-making process. Adopters are classified according to innovativeness, which is defined as the degree to which an individual accepts a fresh concept. According to this hypothesis, which Roger created in 1983, people prefer to use technology to complete everyday tasks. Relative advantage, resemblance, intricacy, trial ability, and perceptibility are the essential elements that center on the generalization of advancement. It is concerned with the process by which a novel and inventive thought, an outmoded approach or procedure, or a fresh usage of an old one is brought to fruition. The theory proposed by (IDT) states that individuals of a social framework eventually share mechanical growth through certain routes. The stages of a mechanical

advancement are as follows: information (its existence and capabilities are presented), influence (a positive mental attitude is created toward it), choice (there is a duty to select it), execution (using it), and affirmation (positive outcomes from it are supported).

Early adopters tend to be more educated, wealthier, more receptive to a wide range of interpersonal interactions, and more likely to interact with change agents. While interpersonal channels are more crucial during the influence stage, broad communications channels are more crucial during the information stage. Development decisions can be made using one of three methods: power-based (where a decision is imposed by someone else or an organization that has essential force, status, or specialized ability), aggregate (where a decision is made by consensus among the participants from a framework), or discretionary (where an individual or organization has the actual opportunity to accept or reject the idea).

Important traits include the adaptability to try new things in moderation, the capacity to observe and analyze outcomes, the complexity of the development (difficulty of understanding and application), similarity (consistency with existing qualities, past encounters and needs), and relative advantage (the extent to which it is perceived to be superior to anything that it supersedes). The types of adopters that are distinguished are as follows: trailblazers (bold); late lions (dubious); slow pokes (traditional); early adopters (respected) (Arnaboldi & Claeys, 2008).

Prior adopters do not appear older; rather, they are typically better educated, more financially stable, and more socially adept. Some of their other noteworthy characteristics include having higher goals, engaging in more interpersonal interactions, presenting themselves in an impressive way in both broad and interpersonal correspondences, managing abstractions well, being observably rational and intelligent, being able to adapt well to uncertainty and risk, and having a propensity to work in larger organizations. They also tend to show low dogmatism, strong empathy, and notable intelligence.

The development process involves three key players: opinion leaders, who usually exert a more indirect influence on others' behavior; change operators, who act as a go-between for the change organization and the pertinent social framework and strongly

influence advancement decisions; and change associates, who assist change specialists by interacting with customers more intently and with less skill believability but greater accuracy or reliability validity (Arnaboldi & Claeys, 2008).

A few of the capabilities of the change operator include developing a customized change requirement for each customer, setting up a data exchange relationship, assessing customer problems, motivating the customer to make the change, deftly interpreting this expectation, striking a balance between acceptance and discontinuance, and moving the customer from reliance on the change specialists to confidence.

#### **2.1.1.4 Assimilation Theory**

Assimilation theory is based on dissonance theory (Ahasanul, 2009). The dissonance theory states that consumers cognitively contrast how well a product works as it is observed with their expectations for it. This viewpoint of the consumer post-usage evaluation was introduced to the literature on satisfaction by assimilation theory. According to Al-Sukkar (2005), customers attempt to avoid cognitive dissonance by altering their perceptions of a certain product in order to make it more in line with their expectations. Customers can also minimize the stress that results from a mismatch between expectations and product performance by changing expectations to match observed product performance or by decreasing the relative severity of the disconfirmation experienced.

#### **2.1.1.5 The Comparison Level Theory**

The Expectancy-Disconfirmation paradigm has drawn criticism from a number of academics for presuming that business reports, manufacturers' predictions, or anonymous sources are the main factors influencing customer happiness (Yi, 1990). For example, La Tour and Peat (1979) argued that the EDP ignores other sources of expectations, such as the individual's past experiences and the experiences of others who have similar conceptions. They recommended changing the Theory of Comparative Levels (Thibaut & Kelley, 1959). The Comparison Level Theory states that a product's comparison level is primarily determined by three factors: (1) consumers' past experiences with similar products; (2) situationally produced expectations, or expectations resulting from advertising and promotion; and (3) the

experiences of other consumers acting as referents. The Expectancy-Disconfirmation paradigm, on the other hand, uses situationally-produced or predictive expectations as the benchmark for comparison.

LaTour et al. (1979) discovered that assessments of customer satisfaction may be compared using norms or standards based on experience when they applied the Comparison Level Theory to evaluate the confirmation/disconfirmation process. They found that situationally driven expectations had the least impact on customer satisfaction, whereas expectations based on prior experiences had the most. This study suggests that customers may place less weight on information supplied by manufacturers if they are aware of pertinent information about other customers' experiences in addition to their own (Yi, 1990).

### **2.1.2 Concept of Electronic Banking**

Electronic banking was defined by Pikkarainen et al. (2004) as a "internet portal, through which customers can use different kinds of banking services ranging from bill payment to making investments". When using internet banking, users can virtually do any kind of financial transaction with just a mouse click, with the exception of cash withdrawals. Actually, as globalization and more intense competition have taken root, using the internet as a new alternative channel for the supply of financial services has grown increasingly crucial, surpassing its initial use as a tactic to gain a competitive edge. Since online banking is one of the least expensive ways to deliver financial services, banks employ it.

Since e-banking has the power to build or break electronic commerce, its importance is only growing. Additionally, it provides clients with a more dynamic information flow experience, which is revolutionizing the way businesses operate (Kumbhar, 2011). Instead of being physically traded for cash, cheques, or other negotiable instruments, monies are transmitted electronically between financial institutions in this sort of banking. Through secure middlemen who are not physically present, customers can obtain bank services. It involves the use of modern technology to offer clients a range of financial services immediately, continuously, and at all times.

The process by which banks provide their customers with information and services through a range of delivery platforms that can be utilized with a variety of terminal devices, such as a personal computer, a mobile banking app with a browser or desktop software, a digital television, or a phone, is known as electronic banking (PC). The main alternative channel that offers ease, accessibility, time and money savings, worldwide access, information transparency, alternatives for comparison and selection, and personalized services for each consumer is electronic banking (Lee & Chung, 2009). By visiting the bank websites at their convenience, customers who use electronic banking find it easier to access their accounts and perform transactions online.

Although the term "e-banking" has several definitions, they all refer to the same thing. Some of these definitions are given instances in the section that follows. Instead of trading cash, checks, or other negotiable instruments, payments are made between financial institutions using an electronic signal exchanged through e-banking, often known as electronic financial transfers (EFT). It is simply the practice of transferring funds electronically between accounts without the need for checks or currency. The phrase "e-banking" refers to online or internet banking, which uses the internet to provide financial services remotely (Addai et al., 2015).

### **2.1.3 Components of E-Banking**

Customers can access banking services through a variety of electronic banking distribution methods. In that order, the most popular ones are online banking, mobile banking, ATMs, and point-of-sale systems.

#### **2.1.3.1 Mobile Banking**

"Mobile banking," often referred to as "M-Banking," is the process of checking account balances, making payments, applying for loans, and carrying out other financial tasks via a mobile device, such as a smartphone or personal digital assistant (PDA). Text message banking, or SMS banking, was the original type of mobile banking. Many underdeveloped and disadvantaged parts of the world, particularly in isolated and rural areas, employ mobile banking. In nations where banks are only found in large cities and are several kilometers away, this particular facet of mobile

commerce is quite popular. The services that could be provided include tools for managing accounts, access to personalized data, and bank and stock market activities (Tiwari & Buse, 2007).

Mobile banking customers can use short text messages (SMS) for a range of financial operations, including cash transactions and account queries. The practice of utilizing a mobile device, such as a PDA or smartphone, to check account balances, make payments, apply for loans, and do other financial operations is known as "m-banking," often known as "mobile banking." The first form of mobile banking was text message banking, or SMS banking. Since mobile banking offers "anytime, anywhere" access to financial services, it is a wireless channel for service delivery that enhances user value (Lee & Chung, 2009).

#### **2.1.3.2 ATM**

An automated teller machine (ATM) is a general electronic device that is linked to a data system and associated hardware. Bank customers can use ATMs to access financial services without entering the banking hall. Customers may use it to access a variety of banking services, including transfers, withdrawals, checks, balance inquiries, account statements, check books, direct deposits, foreign currency, and more (Fenuga, 2010). An ATM card and a pass code, often known as a PIN (Personal Identification Number), are required in order to use an ATM.

The Automated Teller Machine (ATM) is a cutting-edge method of delivering financial services through an electronic interface. Among the many services it provides are cash withdrawal, transfers, deposits, checkbook requests, payment of utility and credit card bills, and other financial inquiries. Customers can almost always access banking services (Khan, 2010). An ATM card and a personal identification number (PIN) are needed for online banking. Khan (2010) stated that perceived convenience/ease of use/presence at all times and places, efficiency, security and privacy, reliability, and response are the primary factors that determine the quality of ATM services. Automated teller machines, sometimes referred to as "24-hour Tellers," are electronic terminals that let users bank virtually anywhere, at any time. In addition to being used for bill payment, foreign exchange, cash

withdrawals, money transfers, deposits, small-scale statement and balance queries, and pin modifications, they can also be used for other purposes.

### **2.1.3.3 Internet Banking**

The initial step in the online banking process is to go directly to the bank's website. Physical banks are allowed to remain open later than usual because internet banking users have access to a wide range of online services. Financial institution clients can handle their own money transactions on a secure website by using internet banking. Online banking may be accessed on a computer or smartphone with an internet connection (Arbar & Timothy, 2012).

Customers of the bank can transact business with the bank from personal computers at home, at work, or from any location with a network connection by using this web-based electronic home banking system. Using their identity and personal identification number (PIN), which has been issued by the bank, customers can access the bank's website. The user's identity is authenticated by the banking system, which also grants access to the desired services. The range of products and services offered by online banks is rather diverse. With the exception of cash withdrawals, users of Internet banking may access nearly all financial operations with a single mouse click (Pikkarainen et al., 2004).

### **2.1.3.4 Electronic Fund Transfer at Point of Sale**

At the point of sale, sometimes known as the point of purchase (POP) checkout, a transaction takes place. A point-of-sale (POS) terminal, or more broadly, the hardware and software utilized for checkouts, is referred to as a "checkout". Consider it to be similar to an electronic registry. Using an interface that salespeople can utilize, a point-of-sale terminal monitors the selling process. The receipt can be created and printed using the same system (Okoro, 2014).

Consumers can pay for retail goods at the point of sale with check cards, which are essentially debit cards under a different name. There are a few key distinctions between this card and a credit card. Both the store's and the debit card holder's accounts get the money for the purchase right away (Saravanan & Leelavathi, 2020).

A transaction happens at the point of sale (POS), also known as the checkout or point of purchase (POP). The term "checkout" refers to the process of utilizing a point-of-sale (POS) terminal, or more broadly, the hardware and software used at checkouts. This is similar to opening an online banking account or using an electronic cash register. Salespeople can utilize a point-of-sale (POS) terminal's interface to handle the sales process.

#### **2.1.4 Relationship between Electronic Banking and Customer Satisfaction**

It is undeniable that technology is important and that banks are adopting it, regardless of the underlying logic. Some regard it as a means of raising the caliber of services provided, while others view it as a novel, affordably priced instrument for service provision. Additionally, it is critical to evaluate the degree to which various technologies such as point-of-sale terminals, ATMs, mobile devices, and the Internet can satisfy the needs of actual customers.

Hasan et al. (2013) found that the majority of the criteria were reliable measures of overall satisfaction with e-banking. The study set out to assess the relationship between several soft service quality parameters and customer happiness. Nonetheless, a key component analysis's findings show that crucial elements influencing consumer satisfaction with digital banking include perceived value, brand perception, cost effectiveness, ease of use, convenience, problem-solving skills, security/assurance, and responsiveness. Reactivity, cost-effectiveness, convenience of use, and compensation are a few factors that influence how well e-banking and effective fulfillment predict brand perception. Perceived value in e-banking can be predicted by a number of factors, such as remuneration, problem-solving capabilities, convenience of use, cost effectiveness, and security assurance. Bankers and designers of e-banking services should take these variables into account in order to tailor the services to the expectations and present needs of users. It will help to elevate the bar for e-banking service quality and customer satisfaction.

Shah and Siddiqui (2006) found that senior client satisfaction was low overall. The bank might address this by raising the caliber of its IT-based services. The investigation revealed a relationship between the IT-based services provided by the

banking sector and the characteristics of its online banking customers. Those who adopted technology sooner in particular were better educated, employed in stable positions, and wealthy. The poll also found that customers' perceptions of online banking services are influenced by their personal encounters with modern banking technology. Additionally, banks may see an increase in customer satisfaction by leveraging contemporary technologies. Since customer satisfaction is mainly determined by how well services operate in comparison to expectations, technology by itself cannot ensure success.

Polotoglu and Ekin (2010) argued that internet banking is especially useful for banks and clients since it provides information about promotions, institutions, banks' contact information, special offers, job announcements, and more. It works similarly to an electronic brochure. Nonetheless, a 2011 Kumbhar study on the E-banking services provided and customer satisfaction levels of ICICT Bank in Chennai, India, considered several aspects. An empirical study on aims service found that the cost-effectiveness of the service a critical component of service quality had a substantial impact on consumers' overall satisfaction with commercial banks' ATM services. However, the factors study's conclusions demonstrate that cost-effectiveness, usability, security, and responsiveness also had an impact on consumer satisfaction. Banks should concentrate their efforts on those areas in order to satisfy their customers and offer better ATM service going forward.

## **2.2 Empirical Review**

Addai et al. (2015) administered electronic banking and customer satisfaction: empirical evidence from Ghana. The primary aim of the research was to examine the impact of electronic banking, or e-banking, on consumer satisfaction in Ghana. Using a purposive non-probability selection technique, 150 e-banking clients of Trust Bank Ghana Limited, Ecobank Ghana Limited, and Barclays Bank Ghana Limited (50 from each bank) were chosen as the sample size. SPSS Statistics version 21 was used to analyze the source data. Multiple regression analysis was used to determine how the availability of e-banking services affects customer satisfaction at the selected institutions. This study showed that e-banking's accessibility, dependability, and convenience are positively correlated with customer satisfaction. It is advised that

banks offer dependable, easy-to-use, and consistent online banking services to attract and keep consumers.

Paul et al. (2016) analyzed impact of service quality on customer satisfaction in private and public sector banks. This study evaluated Indian private and public sector banks in order to investigate the influence of several service quality indicators on total customer satisfaction. The authors demonstrate how various factors have both positive and negative effects on consumer satisfaction using forward stepwise regression. The writers received information from 500 Indian respondents in all; 250 of them were private sector bank customers and 250 of them were consumers of public sector banks. Of the writers, sixty-five percent replied. The study's findings show that, when it came to private sector banks, attributes like product expertise, attentiveness to needs, problem-solving skills, timely service, timely connection to the right person, and initiatives to reduce wait times were positively connected with overall satisfaction. Customer assistance, follow-up, and appearance are all inversely connected with customer happiness. However, when it comes to public sector banks, the only criterion that is adversely connected is appearance, while product knowledge and rapid service are positively correlated. The public and private sectors' banks had different positively associated components of service quality.

Toor et al. (2016) examined e-banking's effect on customer satisfaction: Pakistani banking industry data. The purpose of this study was to determine how factors associated with online banking affected the satisfaction levels of Pakistani clients. A quantitative research design is applied in this investigation. 264 E-banking customers from various Pakistani cities participated in an informational survey employing a pre-tested questionnaire. The results of the survey indicated that there was a substantial correlation between customer satisfaction and the quality of the services provided by Pakistani online banks; reliability, assurance, and responsiveness received better ratings than the other three categories. Based on this study, banks can get a competitive advantage in the current market by offering better services to their clients, as happier consumers are a direct result of superior e-banking services.

Janahi and Mubarak (2017) examined the impact of customer service quality on customer satisfaction in Islamic banking. The main purpose of this study was to add

to the body of knowledge on Islamic banking by analyzing the effects of several customer service quality indicators on satisfaction levels. Multiple regression analysis was performed in this study to examine the data. The findings indicated that every hypothesis was validated and found to be statistically significant, implying that the quality of customer care offered by Islamic banks had a favorable influence on customer satisfaction. All operationalized parts of this study compliance, assurance, reliability, tangibility, empathy, and responsiveness in the context of Islamic banking transactions demonstrated how crucial it is to include service quality components in order to achieve a high level of customer satisfaction.

Iluno et al. (2018) analyzed impact of the electronic banking products and services on the customers' satisfaction: a case study of Kaduna State, Nigeria. The main objective of the research was to find out how customers' satisfaction (CS) and electronic banking (EB) relate in Kaduna State, Nigeria. The link between online banking products and services (EBS and EBP) and customer satisfaction (CS) is the main subject of the study. In this paper, a survey research design is used. A structured questionnaire was distributed to a sample of 400 respondents in the research regions; 360 of them successfully completed and returned the 360 sets of questionnaires. Structured questionnaire administration, unstructured interviews, and focus groups were used to gather both quantitative and qualitative data. The data from the respondents were presented and analyzed using a frequency distribution table and multiple regression analysis. The results showed that electronic banking products and services (EBS and EBP) greatly increase customer satisfaction (CS) in Kaduna State, Nigeria. In light of the findings, the Central Bank of Nigeria (CBN) is recommended to develop a policy framework that will enhance E-banking operations by placing a strong emphasis on customer satisfaction through customer-oriented regulations. Information technology suppliers and banks should work together to develop more user-friendly, risk-free, straightforward, and efficient service delivery technologies in order to increase client satisfaction.

Lamichhane (2018) looked on the impact of customer satisfaction and service quality in Nepalese commercial banks. This study looked into bank clients' perceptions of the elements of service quality that affect customer satisfaction. This study used the SERVQUAL approach together with a descriptive and regression research

methodology to look at the variables connected to service quality that impact customer satisfaction. In a 2017 study, data from bank customers in the Kathmandu Valley was gathered using a standardized questionnaire. Only 175 of the 250 questionnaires that were given to bank customers were returned in an appropriate manner, indicating a 70% response rate. The results of the study show that customer satisfaction is influenced by bank service quality factors. Ultimately, the results of this study showed that the degree of customer satisfaction is influenced by the perceptible, responsive, assured, and reliable components of bank service quality. Tangible, assurance, and empathy are powerful and have a stronger explanatory power for client happiness in Nepalese commercial banks.

Wilson and Christella (2019) analyzed an empirical research of factors affecting customer satisfaction: a case of the Indonesian e-commerce industry. The purpose of this study was to investigate the impact on consumer satisfaction in the Indonesian e-commerce business of website design, dependability, time savings, product diversity, and delivery performance. The questionnaire is the tool used to gather the data. Out of the 200 samples collected for the study, 185 were judged appropriate and used for this analysis; 15 samples need to be discarded since the questionnaires were not completed in full. The PLS-SEM Method was used to evaluate the data. According to the study's findings, customer satisfaction is positively and significantly impacted by delivery performance, dependability, time saved, and product variety, with the latter having the most impact. However, the results of this study showed that there was no meaningful connection between customer satisfaction and website design. According to this study, e-commerce businesses should constantly strive to provide their customers with better products and services because this will make them more likely to make repeat purchases from the company.

Saravanan and Leelavathi (2020) examined how consumer attitude and satisfaction were affected by e-banking services, with a focus on the Chennai district. The purpose of this study was to look at how consumers felt about three financial service technologies: automated teller machines (ATMs), mobile banking, and internet and mobile banking. In the preliminary stages of the inquiry, regression and correlation were used to examine valid replies from a convenience sample of bank clients. The study's conclusions showed a strong correlation between customer happiness and

service quality metrics in Chennai District e-banking. This study showed how excellent e-banking services satisfy customer needs and wants and how banks can obtain a competitive edge in the contemporary banking market by providing their customers with exceptional services. The findings demonstrated that the variables gauging the caliber of the online banking service had a substantial impact on customer satisfaction with online banking. Seventy percent of online banking customers are satisfied because of interactions, efficiency, privacy, fulfillment, system availability, and response. The study employs actual data to demonstrate the significance of these aspects in fulfilling consumer needs, as all the attributes of superior online banking services are positively connected with customer satisfaction.

Gazi et al. (2021) investigated an empirical study of determinants of customer satisfaction of banking. The goal of this study was to determine the factors that affect customer satisfaction in Bangladesh's banking sector because the stability and advancement of a nation's economy are reliant on the health of its banking system. The study makes an effort to investigate and quantify how customer happiness in the banking sector is affected by service quality. A sample of 382 respondents, who were customers of 32 selected commercial banks in Bangladesh, provided the data. A pre-structured questionnaire was used to collect the required data and information. The data were assessed using the OLS regression model and descriptive statistical methods. The study's findings showed that service quality such as tangibility, reliability, and empathy has a statistically significant influence on customer satisfaction. The results also show that, in Bangladesh's banking sector, customer happiness and service quality metrics have a positive association. The current study discovered that the characteristics of service quality tangibility, dependability, and empathy had a considerable beneficial impact on customer satisfaction in the domestic banking industry. The findings of this study indicate that ensuring the highest level of customer satisfaction should be a top priority for the Bank Supervisory Authority, the Central Bank of Bangladesh, and bank management.

Lama (2021) examined how customer satisfaction was impacted by internet banking in Kathmandu. This study explored into how online banking in Kathmandu affects consumer satisfaction. The happiness of the buyer is the dependent variable. The independent variables include accessibility, convenience, and service security. The

primary data for the study was provided by 123 respondents from Kathmandu city. Likert scale items were utilized to collect cross-sectional data from the survey, which employed a structured questionnaire. Regression and correlation analysis were used to determine the influence of the independent variable on customer satisfaction. The outcome showed that there was a positive association between customer satisfaction and convenience, meaning that happier clients would be with more easy online banking. There was a favorable correlation between service security and customer happiness. It suggests that enhanced online banking service security will lead to higher levels of customer satisfaction. There was also a positive association between accessibility and customer happiness. It was concluded that the accessibility regression result was not statistically significant.

Claude (2022) conducted a research on the effect of electronic banking on customer satisfaction in Rwanda, especially at the Bank of Kigali Headquarter. The primary goal of the current study was to investigate the link between customer satisfaction and electronic banking in Rwanda, specifically at the Bank of Kigali. Correlation analysis and descriptive statistics were utilized to ascertain how electronic banking affected customer satisfaction levels. The linear connection between the predictor and outcome variables was examined using regression analysis. As a result, the research came to the conclusion that the regression model could forecast the results based on the study variables and was statistically significant. The results displayed on the side of the model summary indicate that the R-value indicated some basic correlations between our variables. This demonstrated a higher level of correlation between the independent and dependent variables in the study. Similarly, the R square illustrated the connection between customer happiness and the total variance of all dependent variables. This led us to the conclusion that information technology, electronic banking transactions, financial policies, and electronic mobile devices all significantly impacted customer satisfaction.

Lamsal (2022) assessed consumer satisfaction and online banking services in the district of Nawalpur. Using the Nawalpur area as a case study, this study sought to ascertain the impacts of customer happiness and service quality on online banking loyalty. Each of these factors security, effectiveness, responsiveness, usability, and reliability formed the foundation of my inquiry. In addition, the study sought to define

the notion and significance of service quality in general and online banking specifically, as well as the factors affecting service quality. The poll, which employed a quantitative research design, was completed by bank customers who made use of its online services. For this investigation, a sample size of 172 individuals was maintained. A closed, five-point Likert scale questionnaire was used to assess the survey's phenomena. Multiple regression analysis and correlation were used to examine the data in this study. The study's findings showed that among Internet banking users in the Nawalpur district, customer happiness and service quality had a notably positive impact on customer loyalty. As a result, it was recommended that the banking sector in Nawalpur carefully evaluate each component of e-service quality and client happiness.

Yu and Nuangjamnong (2022) investigated the impact of mobile banking services on customer satisfaction using a case study of Chinese commercial banks. Assessing the relationship between mobile banking services and consumer happiness in China's financial industry, along with the effects of relative advantage, transaction speed, accessibility, cost, flexibility, and simplicity of use, was the primary goal of the study. This study's main focus is on the factors that influence consumers' satisfaction with mobile banking services. Ultimately, an examination of the theoretical frameworks of the two previous literary works serves as the foundation for the development of a new theoretical framework. In this study, descriptive analysis and multiple regression were used to examine the data. It has been demonstrated that the speed at which transactions may be done via mobile banking, together with accessibility, affordability, adaptability, ease of use, and relative advantages, all have a significant effect on customer satisfaction.

Angusamy, Yee and Kuppusamy (2022) investigated e-banking: an empirical study on customer satisfaction. The primary objective of this study was to look at the factors that affect consumers' happiness with online banking. This study looks into the link between consumer satisfaction and the timeliness, security, and privacy of online banking. The results will give guidance on how to improve the electronic banking services offered by the banking sector. Convenience sampling is used to get 200 responses in total. Version 27 of the Statistical Package for the Social Sciences (SPSS) is used to examine the data using regression analysis. The results showed that

dependability, security, and privacy were the factors that had a greater impact on customer satisfaction with online banking than ease of use. The results add to our understanding of how satisfied Malaysian consumers are with online banking.

Belbase and Paudel (2023) investigated impact of e-banking on customer satisfaction. The main goal of the study was to look at how customer satisfaction at a Nepalese commercial bank is affected by e-banking. Primary data for the study came from 200 respondents who use financial services and were gathered using standard questionnaire procedures. There is use of both a cause-and-effect and descriptive study design. The data in this study were examined using regression analysis and correlation. The study's findings showed a positive relationship between four traits and customer satisfaction. The results demonstrated that security was the element that most affected customers' satisfaction with online banking.

Ayer (2023) looked on how customer satisfaction in Nepalese commercial banks was affected by e-banking services. The study's primary goal was to find out how customer satisfaction in Nepalese commercial banks was impacted by e-banking services. The study made use of the original 120 respondents' data. Regression models and correlation coefficients are generated to ascertain the effect of e-banking services on customer satisfaction in Nepalese commercial banks. The study's findings showed that convenience had a favorable effect on client satisfaction. Furthermore, reliability raised customer satisfaction. Concurrently, user-friendliness positively impacts client contentment. In the same way, security raised customer satisfaction. Similarly, time savings translate into increased consumer satisfaction. The positive impact of perceived advantage extends to customer satisfaction.

Ghimire and Dhakal (2023) looked into how customer satisfaction in Nepali commercial banks was affected by mobile banking. This study's primary goal is to find out how customer satisfaction in Nepalese commercial banks is affected by mobile banking's affordability, privacy, security, responsiveness, and ease of use. The 201 respondents who had access to the mobile banking services offered by Nepalese commercial banks were requested to complete a structured questionnaire survey as part of the study's quantitative design in order to supply primary data. In the data analysis, a person correlation matrix was utilized. Convenience, cost, security, and

responsiveness have a strong positive correlation with customer satisfaction at Nepalese commercial banks, according to this study. Higher bank management will find this data helpful in creating strategies that work for both client retention and mobile banking services.

Thakuri et al. (2023) evaluated at the factors influencing customers' satisfaction with commercial banks' mobile banking services in the Kathmandu valley. The purpose of this study was to determine the relative significance of the key factors affecting customer happiness and retention with mobile banking. Both descriptive and inferential statistics were used to analyze the data statistically. The data were gathered via convenience sampling, and the 403 replies were analyzed using structural equation modeling (SEM). The results of the study showed that convenience, security, and responsiveness were more important to customers than pricing and relative advantage. Although there is a strong correlation between customer pleasure and loyalty, loyalty is not directly correlated with these traits. The Service Quality Theory may be affected theoretically by this discovery. This study's breadth and depth are restricted to bank customers in the Kathmandu Valley. Future studies could take into account more factors to have a better grasp of the fundamental relationship between customer satisfaction.

Alkhaibaria (2023) investigated the impact of e-banking service quality on the sustainable customer satisfaction: evidence from the Saudi Arabia commercial banking sector. This study set out to assess, within the context of Saudi Arabian commercial banks, how customer satisfaction was impacted by the quality of e-banking services. In the study, both qualitative and quantitative research methodologies were applied. This poll included 308 banking clients as a sample. To collect the necessary data, the researchers have created a self-structured questionnaire. Two techniques for analyzing data include correlation and multiple regression analysis. The results of the study demonstrated that users' satisfaction with e-banking in Saudi Arabian commercial banks was significantly influenced by eight aspects of service quality: transactional efficiency, customer support, ease of use, security, ease of use, performance, satisfaction with service quality, and service content.

Khanal (2023) investigated impact of e-banking services on customer awareness in Nepalese commercial banks. The primary goal of this study is to find out how customers' awareness of Nepalese commercial banks is impacted by e-banking services. To achieve the purpose, explanatory and descriptive research designs were used. Primary data were obtained through surveys and interviews given to customers of all commercial banks. Customer awareness has the highest composite mean value, according to the study's descriptive result, while dependability has the lowest mean value. Security/privacy is also the most consistent factor. All of the dependent and independent variables had a positive and significant relationship, according to the correlation analysis. Furthermore, the R square values of the regression study show that e-banking services which comprise accessibility, reliability, comfort of use, and privacy/security explain 96 percent of the variation in customer awareness. The study's findings show that convenience and privacy/security have a major positive impact on customers' awareness of Nepalese commercial banks.

**Table 1**

*Summary of Empirical Review*

S.N.	Authors	Title	Objective	Methodology	Major Findings
1	Addai et al. (2015)	Electronic banking and customer satisfaction: Empirical evidence from Ghana.	This study investigated into the impact of electronic banking (e-banking) service delivery on customer satisfaction in Ghana.	The relationship between consumer satisfaction and the availability of e-banking services was examined using multiple regression analysis.	This study showed that e-banking's accessibility, dependability, and convenience are positively correlated with customer satisfaction. It is advised that banks offer dependable, easy-to-use, and consistent online banking services to attract and keep consumers.
2	Paul et al. (2016)	Impact of service quality on customer satisfaction in private and public sector banks	The main objective of the study was to investigate the influence of several service quality characteristics on overall customer satisfaction.	This study has applied descriptive and regression analysis to analyze the data.	This study concluded that when it comes to private sector banks, customer satisfaction is positively correlated with product comprehension, responsiveness to needs, problem solving, prompt service, expeditious connection to the appropriate individual, and efforts to shorten wait times. Customer satisfaction is negatively correlated with follow-up, appearance, and customer help.

3	Toor et al. (2016)	The impact of E-Banking on customer satisfaction: Evidence from banking sector of Pakistan.	This research work intends to investigate the impact of E-banking variables on customer satisfaction in Pakistan.	Data collected were analyzed and hypotheses were tested using multiple regression.	The survey's findings showed a strong relationship between customer satisfaction and the quality of services offered by Pakistani online banks; responsiveness, assurance, and dependability were rated higher than the other three categories.
4	Janahi and Mubarak (2017)	The impact of customer service quality on customer satisfaction in Islamic banking.	The purpose of this study was to contribute to the Islamic banking literature by examining the impact of different factors of customer service quality on customer satisfaction.	Data collected were analyzed and hypotheses were tested using multiple regression.	The results showed that all hypotheses were supported and statistically significant, suggesting that customer satisfaction with Islamic banks was positively impacted by the caliber of customer service provided. In order to attain a high degree of customer satisfaction, all operationalized aspects in this study namely, compliance, assurance, reliability, tangibility, empathy, and responsiveness showed how important it is to integrate service quality features.
5	Iluno et al. (2018)	Impact of social media on consumer behavior.	This study examined the impact of electronic banking (EB) on customers' satisfaction (CS) in Kaduna State, Nigeria.	To present and analyze the data from the respondents, frequency distribution table and multiple regression analysis were used.	The findings indicated that in Kaduna State, Nigeria, electronic banking services (EBS) and products (EBP) significantly improve customers' satisfaction (CS). The Central Bank of Nigeria (CBN) is advised to create a policy framework that will improve E-banking operations by emphasizing customer satisfaction through customer-oriented policies, in light of the findings.
6	Lamichhane (2018)	Service quality on customer satisfaction in Nepalese commercial banks.	This study analyzed bank customers' perception in relation to the service quality factors explaining customer satisfaction.	This study has applied descriptive and regression research design using SERVQUAL approach to analyze service quality factors affecting customer satisfaction.	The study's findings demonstrated that aspects of bank service quality had an impact on customer satisfaction. In the end, this study's findings demonstrated that the observable, responsive, assured, and dependable aspects of bank service quality have an impact on how satisfied customers are. Tangible, assurance, and empathy are powerful and had a stronger explanatory power for client happiness in Nepalese commercial banks.
7	Wilson and	Effect of social media on Nepal	This study examines the effect of website	The data were analyzed using PLS-SEM	The results of this study showed that delivery performance, dependability, time saved, and

	Christel la (2019)	consumer purchase decision.	design, reliability, time saved, product variety, and delivery performance towards customer satisfaction	Method.	product variety all had a positive and significant impact on customer satisfaction, with product variety having the most effect. However, the results of this study showed that there was no meaningful connection between customer satisfaction and website design.
8	Saravanan and Leelavathi (2020)	Impact of E-Banking services with customer attitude and satisfaction with special reference to Chennai district.	The purpose of this study was to give an examination of client attitudes and satisfaction with three financial service technologies: ATMs, mobile banking, and internet banking.	The study began with a correlation and regression analysis of valid replies from a convenience sample of bank clients.	This study showed how excellent e-banking services satisfy customer needs and wants and how banks can obtain a competitive edge in the contemporary banking market by providing their customers with exceptional services. The findings demonstrated that the variables gauging the caliber of the online banking service had a substantial impact on customer satisfaction with online banking.
9	Gazi et al. (2021)	An empirical study of determinants of customer satisfaction of banking.	The aim of this study was to determine the factors that affect customer satisfaction in the banking sector of Bangladesh.	OLS regression model and descriptive statistical tools were used to analyze data.	The results of this study demonstrated that customer satisfaction is statistically significantly impacted by service quality (e.g., tangibility, dependability, and empathy). The results also show that, in Bangladesh's banking sector, customer happiness and service quality metrics have a positive association.
10	Lama (2021)	Impact of internet banking on customer satisfaction in Kathmandu.	This study investigated at how customer satisfaction in Kathmandu was affected by online banking.	This study used regression analysis and correlation analysis for data analysis.	The outcome showed that there was a positive association between customer satisfaction and convenience, meaning that happier clients would be with more easy online banking. There was a favorable correlation between service security and customer satisfaction
11	Claude (2022)	Effect of electronic banking on customer satisfaction in Rwanda: Case of bank of Kigali Headquarter.	The primary goal of the current study was to look at how customer satisfaction in Rwanda is affected by electronic banking.	Regression analysis was performed to examine the linear relationship between predictor and outcome variables.	Consequently, the research came to the conclusion that the regression model could forecast the outcomes based on the study variables and was statistically significant. This showed a stronger degree of connection between the study's independent and dependent variables. This led us to the conclusion that financial policies, electronic banking transactions, electronic mobile devices, and information

---

12	Lamsal (2022)	Internet banking services and customer satisfaction in Nawalpur district.	The purpose of this study was to ascertain how online banking is impacted by customer happiness and service quality.	Multiple regression analysis and correlation were used to examine the data in this study	technology all had a significant impact on consumer satisfaction. The study's findings showed that among Internet banking users in the Nawalpur district, customer happiness and service quality had a notably positive impact on customer loyalty.
12	Yu and Nuangjannon (2022)	The impact of mobile banking service on customer satisfaction: A case study of commercial banks in China.	The major purpose of the research was to investigate the association between customer satisfaction.	In this study, descriptive analysis and multiple regression were used to examine the data.	It has been demonstrated that the speed at which transactions may be done via mobile banking, together with accessibility, affordability, adaptability, ease of use, and relative advantages, all have a significant effect on customer satisfaction.
13	Angusamy, Yee and Kuppasamy (2022)	E-banking: An empirical study on customer satisfaction.	This study's main goal was to look at the variables that influence consumers' happiness with internet banking.	Regression analysis is used to analyze the data using the Statistical Package for the Social Sciences (SPSS) version 27.	The results showed that dependability, responsiveness, security, and privacy had a greater influence on customer satisfaction with online banking than did ease of use. The findings deepen our knowledge of Malaysian customers' satisfaction levels with e-banking.
15	Belbase and Paudel (2023)	Impact of e-banking on customer satisfaction.	The primary objective of the study was to examine at how customer satisfaction was affected by e-banking.	The data in this study were examined using regression analysis and correlation.	The results of this study indicated that four characteristics and customer satisfaction were positively correlated. The findings showed that the factor that had the biggest impact on customer satisfaction with online banking was security.
16	Ayer (2023)	E-banking services and its impact on customer satisfaction in Nepalese commercial banks.	The main objective of the study was to investigate how e-banking services affected customer satisfaction..	Regression models and correlation coefficients are estimated.	The results of the study found that convenience positively impacted customer satisfaction. Additionally, dependability improved client satisfaction. Concurrently, user-friendliness positively impacts client contentment. In the same way, security raised customer satisfaction. Similarly, time savings translate into increased consumer satisfaction.

---

17	Ghimire and Dhakal (2023)	Effect of mobile banking on customer satisfaction in commercial banks in Nepal.	This study analyzed the effect of mobile banking in customer satisfaction in commercial banks in Nepal.	In the data analysis, a person correlation matrix was utilized..	This study showed that convenience, cost, security, and responsiveness had a strong positive correlation with customer satisfaction at Nepalese commercial banks, according to this study.
18	Thakuri et al. (2023)	Factor affecting customer satisfaction of mobile banking services of commercial bank in Kathmandu valley.	This study set out to ascertain the relative importance of the major variables influencing mobile banking user satisfaction and retention.	Convenience sampling with structural equation modeling was used to collect the data (SEM)	The results of the study showed that convenience, security, and responsiveness were more important to customers than pricing and relative advantage. Although there is a strong correlation between customer pleasure and loyalty, loyalty is not directly correlated with these traits.
19	Alkhai baria (2023)	The impact of e-banking service quality on the sustainable customer satisfaction: Evidence from the Saudi Arabia commercial banking sector.	The purpose of this study was to evaluate the effectiveness of e-banking service quality on customer satisfaction.	Multiple regression analysis and correlation are two methods of data analysis	The results of the study demonstrated that users' satisfaction with e-banking in Saudi Arabian commercial banks was significantly influenced by eight aspects of service quality: transactional efficiency, customer support, ease of use, security, ease of use, performance, satisfaction with service quality, and service content.
20	Khanal (2023)	Impact of e-banking services on customer awareness in Nepalese commercial banks.	The main purpose of this research is to examine the impact of e-banking services on customer awareness of Nepalese commercial banks.	Correlation and regression analysis were used for data analysis.	The correlation analysis showed that there was a positive and significant link between all dependent and independent variables. Furthermore, consumer awareness is significantly impacted by e-banking services, which include accessibility, reliability, convenience of use, and privacy/security.

---

Source: Author's Construct

### **2.3 Research Gap**

Research gap refers to the gap between previous research and this research. There is gap between the present research and previous researches in terms of data, time and method. This study has analyzed current or recent year data. Now, trend of electronic banking are increasing day by day and customer has given more priority to electronic banking. So, this study may be more useful than previous studies. Then, this study used huge respondents of 384 respondents which is also differ in data. However, there were previous empirical evidences in context of other countries, no such evidences with recent scenario exist in the context of Nepal specially, Kathmandu Valley. Moreover, this study used reliability accessibility, convenience and security are the explanatory variables in this study but these factors were not included in a single study. Further, descriptive analysis, correlation analysis and multiple regression analysis are the major tools in this study which are not used on this topic in previous studies and they only used mean, percentage frequency etc. Therefore, this study is quite different to compare previous researchers' studies.

## **CHAPTER - III**

### **RESEARCH METHODOLOGY**

The procedure of solving an issue by the systematic gathering, recording, analyzing, interpreting, and reporting of data relevant to the numerous aspects of a phenomenon under study is known as research methodology. The actions and techniques used at each stage of the investigation are outlined in the research methodology for this study. This chapter describes research design, population and sample, and sampling design, nature and sources of data, and instrument of data collection, method of analysis and research framework and definition of variables.

#### **3.1 Research Design**

The study is based on descriptive and casual research design. Descriptive research design is used to analyze the level and status of components of electronic banking services and customer satisfaction. On the other hand, casual design helps to determine the relationship between dependent (customer satisfaction) and independent variable (electronic banking services). Further, casual research design is used to examine the impact of electronic banking services on customer satisfaction of banking industry in Nepal.

#### **3.2 Population and Sample and Sampling Design**

The population is the entire set of cases or group that is used for sample collection. The sample is a portion of the general population that has been chosen by the researcher to take part in the study. The entire population is represented in this survey by all 20 commercial banks' customers. A sample is a portion of the whole population, or a subset of it. The study's sample strategy used convenience sampling, which is a non-probability sampling approach. Manual distribution of survey items was done throughout the Kathmandu Valley in order to elicit responses from a range of respondent groups. The participants in this study consented to participate in answering the questionnaire after being solicited when they entered the banking hall for business.

**Table 2***Name of Commercial Banks along with the Number of Respondents*

S. N.	Name of Banks	Questionnaire Distributed	Valid Responses
1	Nepal bank Limited	25	20
2	NMB Bank Limited	25	18
3	Standard Chartered Bank Nepal Limited	25	19
4	Nabil Bank Limited	25	21
5	Global IME Bank Limited	25	20
6	Citizens Bank International Limited	25	17
7	Nepal Investment Mega Bank Ltd.	25	14
8	Machhapuchchhre Bank Limited	25	18
9	Kumari Bank Limited	25	19
10	Prabhu Bank Limited	25	18
11	Rastriya Banijya Bank Ltd.	25	21
12	Siddhartha Bank Ltd.	25	18
13	Agriculture Development Bank Ltd.	25	20
14	Nepal SBI Bank Ltd.	25	22
15	Himalayan Bank Ltd.	25	20
16	Laxmi Sunrise Bank Ltd.	25	22
17	Prime Commercial Bank Ltd.	25	15
18	Sanima Bank Ltd.	25	19
19	NIC Asia Bank Ltd	25	21
20	Everest Bank Ltd.	25	22
Total		500	384

The summary of sample respondents in this study includes the valid 384 respondents of 20 commercial banks. Thus, the study is based on 384 observations.

### **Sample Size and Sampling Design**

The formula has been used by the researcher to determine the sample size when the population is unknown. Cochran (1977) provides the following formula for sample size in an infinite population.

$$n = \frac{Z^2 p(1-p)}{e^2}$$

$n$  = sample size,  $Z=1.96$  from the normal area table, if there is population infinite then put the value of  $p=0.50$ , and  $e$  = error which is 5 percent so the value of  $e$  is 0.05.

$$n = \frac{Z^2 p(1-p)}{e^2}$$

$$= \frac{1.96^2 \times 0.50(1-0.50)}{0.05^2}$$

$$= 384.1458821$$

So, the sample size of the study is 384.

The convenience sampling method was used to contact the study's sample respondent. It is a rapid, low-cost, user-friendly instrument that generates qualitative data, making it appropriate for students. Convenience sampling data analysis is simpler than that of other techniques.

### **3.3 Nature and Sources of Data, and Instrument of Data Collection**

The study uses primary data to examine the effects of electronic banking on customer satisfaction. The primary data, which is gathered directly by the researcher, forms the foundation for addressing the research questions. This data consists of first-hand observations intended to test a hypothesis and provide evidence for the researcher's claims. To collect this primary data, the researcher utilized questionnaires. Respondents were informed about the study's purpose and main objectives before being asked to complete the questionnaires. This method of data collection helped enhance the understanding of customer satisfaction in Nepal's banking sector and its use of electronic banking. The questionnaires were distributed and collected at times that were convenient for both the respondents and the researcher. A questionnaires were formulated by using closed-ended and five-point likert scale questions (to collected quantitative data). The sample respondents were given scenario-based question to which they were asked to mark their response in a range of Likert scale questionnaire from 1 to 5 points where 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree and lastly 5 for strongly agree. Questionnaires distributed through hand to hand and Google (form) survey method such as email, website (link) and social media to all respondents is customers of all commercial banks. However, out of 500 distributed questionnaires, 406 questionnaires collected but only 384 questionnaires usable.

### **3.4 Method of Analysis**

This study employed easily interpretable frequency tables to display the frequency and proportion of each category. In addition to descriptive analysis, regression and correlation analyses were applied to test and validate the hypothesis.

### 3.4.1 Descriptive Statistic

Descriptive statistics are used to explain the customer satisfaction, electronic banking, and demographics of the respondents. Computed mean, standard deviation, frequencies, and percentages were used to characterize the variables.

#### Mean

The mean, which is determined by dividing the total number of values by the number of values, is the arithmetic mean of a range of values or quantities. It makes reference to the average that is looked at or used to ascertain the central tendency of the data. The arithmetic mean is a commonly used and simple to understand measure of central tendency. Add together all the data points for the population and divide the total by the number point to find it. The mean is used in this study to compute the average of the respondents' answers to the various variables in the Likert scale question. For every sample, the mean value of the replies to the Likert scale question is computed.

$$\text{Mean } (\bar{X}) = \frac{\sum X}{n}$$

Where,

$\sum X$  = Value of responses of each independent or dependent variable

$n$  = No. of statements

#### Standard Deviation

The standard deviation, which measures dispersion, may be used to describe how much a collection of data values change or are scattered. One way to put it is the variance expressed as the positive square root. The fact that the standard deviation has the same units of measurement as the data—a useful distinction from variance—is one of its features. If the data points diverge farther from the mean, there is a greater deviation within the data set. Consequently, the standard deviation increases along with the data dispersion. Every sample in this inquiry has its standard deviation computed based on responses on the Likert scale.

$$\text{Standard Deviation (S.D.)} = \sqrt{\frac{\sum (X - \bar{X})^2}{n}}$$

Where,

$X$  = Values of each independent or dependent variable's responses

$\bar{X}$  = Average of each dependent or independent variable's responses

n = No. of responses

### 3.4.2 Inferential Statistics

#### Correlation Analysis

The correlation coefficient shows how one independent variable and one dependent variable are related. It is a method for determining the relationship between these two variables. A correlation coefficient is present when there is a significant correlation between the two variables, meaning that variations in the independent variable's value also affect the dependent variable's value. Correlation is estimated for Likert scale responses in order to ascertain the degree of association between independent and dependent variables for each sample in this study. The correlation coefficient was used to illustrate the link between customer satisfaction and electronic banking.

$$\text{Correlation Coefficient (r)} = \frac{n\Sigma XY - \Sigma X\Sigma Y}{\sqrt{n\Sigma X^2 - (\Sigma X)^2} \sqrt{n\Sigma Y^2 - (\Sigma Y)^2}}$$

Where,

X = The independent variable's value

Y = The dependent variable's value

n = Number of responses

#### Regression Analysis

A statistical technique for determining the strength of the link between one or more independent variables and one or more dependent variables is regression analysis. It encompasses a wide range of methods for evaluating and modeling a sizable number of variables to determine how they relate to one another. Regression analysis is used in this study to determine the direction of the connection between the independent and dependent variables for each sample based on responses on a Likert scale. The following equation represents the theoretical model of the relationship:

$$CS = \beta_0 + \beta_1 RL + \beta_2 ACC + \beta_3 CON + \beta_4 SEC + \varepsilon$$

Where,

CS = Customer Satisfaction

REL = Reliability

ACC = Accessibility

CON = Convenience

SEC = Security

$\beta_0$  = The intercept (constant)

$\beta_1, \beta_2, \beta_3, \beta_4$  = Coefficient of variables

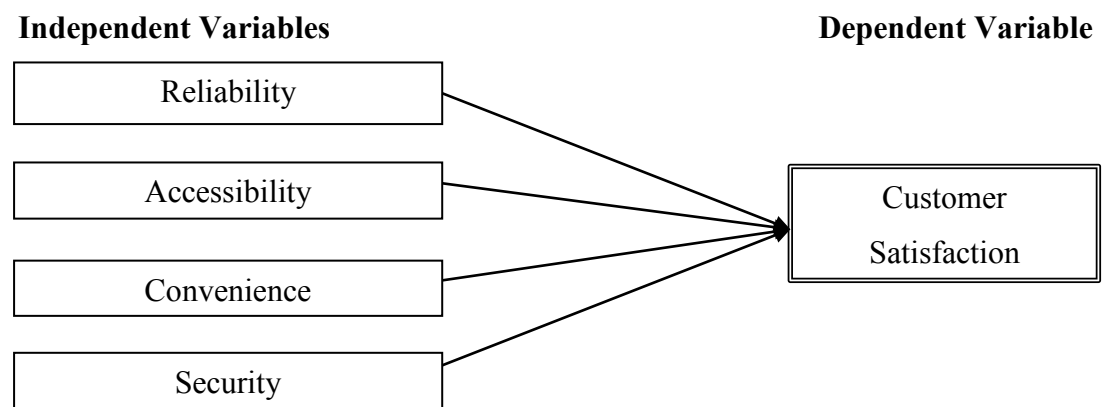
$\varepsilon$  = Error term.

### 3.5 Research Framework and Definition of Variables

Customer satisfaction is the dependent variable, whereas dependability, accessibility, convenience, and security are the independent variables that form the basis of the research.

**Figure 1**

*Research Framework of the Study*



Source: Lama (2021); Lamsal (2022); Khanal (2023); Ayer (2023); Ghimire and Dhakal (2023)

### Definition of Variables

#### Customer Satisfaction

Ayer (2023) defined customer satisfaction as an individual's emotional response to their experience using financial services in comparison to their expectations. Positive first impressions, recurring business, referrals, and satisfaction with the bank's services can all be used to gauge customer satisfaction.

## **Independent Variables**

The independent variables considered while identifying the effect of e-banking on consumer satisfaction are those that impact customer satisfaction. As independent factors, reliability, accessibility, convenience, and security are included in the proposed research on service quality.

### **Reliability**

The term "reliability" describes the sincerity and concern of a bank and its staff in resolving client issues and giving them accurate services the first time. The characteristics of dependability include delivering services on schedule, maintaining a spotless record, keeping your word, and giving them accurate and full information. (Khanal, 2000). Ayer (2023) found that positive and significant effect of reliability on customer satisfaction. Lamsal (2022) stated that reliability of e-banking services had greatly effect on the customer satisfaction.

### **Accessibility**

The ability for anyone to concurrently access information via the internet, irrespective of their technology or personal limitations, is known as accessibility. Lama (2021) defines accessibility as access to information sources in physical way, interface to source and retrieving ability with pertinent information form reflected sources. Khanal (2023) conducted accessibility had significant positive effect on overall customer satisfaction.

### **Convenience**

Convenience is the extent to which online payments may satisfy user requirements, such as usability and ease of use. Convenience is a major factor in consumers' satisfaction with mobile banking services. When users see mobile banking services as a helpful tool, they are frequently more satisfied with the overall caliber of the offering (Khanal, 2023). Thakuri et al. (2023) found that convenience had strong impact on customer satisfaction.

### **Security and Privacy**

Security is the most crucial aspect of virtual transactions for clients. It is the protection and security of information. Because of fraud and hacking, information

security and financial security are closely related topics in the field of security. According to Thakuri et al. (2023), customer happiness was significantly positively impacted by security. Lamsal (2022) similarly came to the conclusion that privacy and security had a major positive influence on customer satisfaction.

## CHAPTER - IV

### RESULTS AND DISCUSSION

The primary objective of this study is to explore the impact of electronic banking services on customer satisfaction in Nepalese commercial banks, as outlined in previous chapters. To achieve this, the chapter is organized into three sections: the analysis and conclusions of the topic. The first section presents descriptive and correlation analyses of the research variables. In the second section, the assumptions of the linear regression model are tested and validated. The third section reports the results of the regression analysis. Additionally, for further statistical examination, the ratios of the dependent and independent variables were established, and the data analysis methods for ratio scale measurement were outlined. SPSS version 26 was the statistical tool used to analyze the collected data.

#### 4.1 Results

##### 4.1.1 Demographic Profile

This section covers the demographic analysis and interpretation of primary data collected through survey administration. The age and gender profiles of the respondents are examined in this section. The Kathmandu Valley provides all of the responses.

**Table 3**

*Gender Specification*

Options	No. of Respondents	Response ( percent)
Male	247	64.32
Female	137	35.68
Total	384	100

*Note.* Opinion Survey, 2024

Table 3 presents the distribution of respondents based on gender. A total of 384 responses were collected and analyzed for this study. Of these, 64.32 percent were from male respondents, indicating that men make up the majority of bank customers. In contrast, 35.68 percent of the responses came from female respondents regarding the impact of digital banking on customer satisfaction in Nepalese commercial banks.

These results suggest that male respondents are more likely than female respondents to engage with electronic banking services. Nevertheless, both male and female respondents can be considered key participants in the survey for Nepalese commercial banks.

**Table 4**

*Age Description of Respondents*

Options	No. of Respondents	Response ( percent)
Up to 29	132	34.37
30-39	183	47.66
40 and above	69	17.97
Total	384	100

*Note.* Opinion Survey, 2024

Table 4 shows the age distribution of the respondents. A significant 47.66 percent of respondents fall within the 30 to 39 age range. The least represented demographic group consists of respondents aged 40 and above, with only 17.97 percent falling into this category. Additionally, 34.37 percent of respondents are between the ages of 20 and 29. Overall, these findings indicate that a large proportion—82.03 percent—of Nepalese commercial bank customers are relatively young, active, and likely to be users of internet banking.

**Table 5**

*Marital Status*

Options	No. of Respondents	Response ( percent)
Married	186	48.44
Unmarried	198	51.56
Total	384	100

*Note.* Opinion Survey, 2024

Table 5 illustrates the marital status of the respondents. Of the 384 respondents, the majority, 51.58 percent, are unmarried, while the remaining 48.44 percent are married.

**Table 6***Education Level of the Respondents*

Education	No. of Respondents	Response (percent)
Up to Intermediate	0	0.00
Bachelor	225	58.59
Masters and above	159	41.41
<b>Total</b>	<b>384</b>	<b>100</b>

*Note.* Opinion Survey, 2024

Table 6 presents the education profile of the respondents. According to the data, of the 384 respondents, 225 (58.59 percent) held a bachelor's degree, while 159 (41.41 percent) had a master's degree or higher. Notably, none of the respondents had education up to the intermediate level. These findings suggest that the majority of respondents were well-educated and capable of reading and understanding the questionnaires used in this study, ensuring that they provided accurate and reliable responses.

**Table 7***Annual Income Description of Respondents*

Options	No. of Respondents	Response ( percent)
Up to Rs. 300,000	118	30.74
Rs. 301,000- Rs. 500,000	158	41.14
Rs. 501,000 and above	108	28.12
<b>Total</b>	<b>384</b>	<b>100</b>

*Note.* Opinion Survey, 2024

Table 7 shows the income profile of the respondents. According to the data, 41.14 percent of respondents earn between Rs. 301,000 and Rs. 500,000. The smallest percentage of respondents falls into the highest income category, earning more than Rs. 501,000. The majority of respondents, however, are in the medium-income range. Additionally, 30.74 percent of respondents reported earning up to Rs. 300,000, while 28.12 percent fall into the income bracket of Rs. 501,000 and above.

**Table 8***Occupation Status*

Options	No. of Respondents	Response (percent)
Student	94	24.48
Service (Private/Civil)	142	36.98
Business	124	32.29
Others	24	6.25
Total	384	100

*Note.* Opinion Survey, 2024

Table 8 provides information about the respondents' employment status. The majority of respondents, 36.98 percent, are employed in private or civil service jobs. Following this, 32.39 percent are engaged in business, 24.48 percent are students, and the remaining 6.25 percent have other sources of income.

**Table 9***Years of Using Electronic Banking*

Options	No. of Respondents	Response ( percent)
Less than 1 year	28	7.29
1-2 years	45	11.72
2-3 years	72	18.75
3-5 years	127	33.07
More than 5 years	112	29.17
Total	384	100

*Note.* Opinion Survey, 2024

Table 9 shows the duration for which respondents have been using the bank's electronic banking services. Among the 384 respondents, 127 (33.07 percent) had been using the services for three to five years, and 112 (29.17 percent) had been using them for more than five years. Further analysis revealed that 28 respondents (7.29 percent) had used the services for less than a year, 45 respondents (11.72 percent) for one to two years, and 72 respondents (18.75 percent) for two to three years.

**4.1.2 Reliability Test**

The composite reliability test was employed in the study to evaluate the variables' internal consistency. Internal consistency, according to Saunders et al. (2009), entails comparing each questionnaire question's response to those of other questionnaire questions. Put differently, internal consistency quantifies the degree of uniformity in

the answers provided to either a subset or all of the questionnaire's questions (Saunders, et al., 2009). The degree to which a test consistently measures the items it is supposed to evaluate is known as its reliability. Cronbach's Alpha for this questionnaire is computed for the reliability test. Table 10 displays the reliability test result.

**Table 10**

*Cronbach's Alpha Coefficients*

Variables	No. of Items	Cronbach's Alpha
Reliability (REL)	6	0.911
Accessibility (ACC)	5	0.832
Convenience (CON)	5	0.813
Security (SEC)	6	0.865
Customer Satisfaction (CS)	5	0.811

Source: Appendix-II

Table 10 shows the Cronbach's alpha coefficients for the independent variables reliability, accessibility, convenience, and security and the dependent variable, customer satisfaction. Sekaran (2003) states that a Cronbach's Alpha coefficient of less than 0.6 is considered "poor," higher than 0.6 but less than 0.8 is considered "acceptable," and more than 0.8 is considered "good." In this instance, every variable has a Cronbach's Alpha value greater than 0.8, indicating that they are all equally good. The research's instruments are therefore regarded as being of the highest reliable and dependability.

#### **4.1.3 Descriptive Statistics Analysis**

The data in this study are analyzed using the mean and standard deviation methods. A higher mean value indicates that a greater number of respondents agree that the variable may have a significant effect on customer satisfaction.

#### **Reliability**

Through descriptive analysis, the reliability of e-banking services is displayed in this part. There are five distinct assertions in it. The likert scale used to quantify this concept ranged from 1 (strongly disagree) to 5 (strongly agree). The mean and standard deviation of the responses were calculated to observe the respondents'

opinions. The standard deviation displays the variation from the average mean of the respondents, whereas the mean value indicates the average state of the respondents' feelings. The information shown table 11 illustrates how customer satisfaction in Nepalese commercial banks is affected by reliability of e-banking services.

**Table 11**

*Reliability of E-Banking Services*

Scale Items of Reliability of E-Banking Services	Mean	Std. Dev.
REL1 The use of e- banking is reliable	3.7344	1.14817
REL2 Contents on bank's website are up to date	3.8542	1.08615
REL3 When I have a problem the bank shows a sincere interest in solving it.	3.6693	1.14600
REL4 The bank has employees who give customer personal attention	3.8307	1.08635
REL5 I have high confidence in the E-Banking services in the bank	3.7578	1.09649
REL6 I prefer using E-Banking services instead of visiting the branch	3.7057	1.12153

*Note.* Appendix-I

Table 11 shows descriptive statistics of six different scale items of reliability of e-banking services of banks. Among all scale items, REL1 "Contents on bank's website are up to date" had high score mean 3.8542. It means most of the customers agreed the contents on bank's website are up to date. At the same time, the lowest mean score is 3.7057 for the statement REL6 "I prefer using E-Banking services instead of visiting the branch" which shows that most of the customers agreed less compared to other statements.

### **Accessibility**

This section uses descriptive analysis to examine the state of accessibility of e-banking services. Five statements from accessibility of e-banking services are included in this investigation. A five-point Likert scale is used to measure the variable. 1 being very disagreed and 5 being firmly agreed. The mean and standard deviation of the responses are calculated to observe the respondents' opinions. The standard deviation displays the variation from the average mean of the respondents, whereas the mean value indicates the average condition of the respondents' feelings.

The information shown table 12 illustrates how customer satisfaction in Nepalese commercial banks is affected by accessibility of e-banking services.

**Table 12**

*Accessibility of E-Banking Services*

Scale Items of Accessibility of E-Banking Services	Mean	Std. Dev.
ACC1 E-banking Service of the bank is easy to use.	3.6120	1.03109
ACC2 Easy to get access to all the financial information in the bank's e-banking service	3.7682	.97805
ACC3 Easy to find the policy and notice statements in the bank's website.	3.6484	1.00850
ACC4 Speed to login and logout of the bank website is fast	3.5547	1.07287
ACC5 Website of the bank is properly designed	3.6536	1.04086

*Note.* Appendix-I

Table 12 shows descriptive statistics of five different scale items of accessibility of e-banking services of banks. Among all scale items, ACC2 “Easy to get access to all the financial information in the bank’s e-banking service” had high score mean 3.7682. Scale item ACC4 “Speed to login and logout of the bank website is fast” had the lowest mean 3.5547. It can be concluded that customers believed that there is easy to get access to all the financial information in the bank’s e-banking service. Further, website of the bank is properly designed.

**Convenience**

This section uses descriptive analysis to investigate how convenience of e-banking services affects customer satisfaction in Nepalese commercial banks. Five comments about convenience of e-banking services are included in this research. A five-point Likert scale is used to measure the variable. 1 being very disagreed and 5 being firmly agreed. The mean and standard deviation of the responses are calculated to observe the respondents' opinions. The standard deviation displays the variation from the average mean of the respondents, whereas the mean value indicates the average state of the respondents' feelings. The information table 13 illustrates how customer satisfaction in Nepalese commercial banks is affected by convenience of e-banking services.

**Table 13***Convenience of E-Banking Services*

Scale Items of Convenience of E-Banking Services	Mean	Std. Dev.
CON1 It is easy to use E-banking services	3.8021	1.06076
CON2 I can quickly and easily complete a transaction by using mobile	3.8620	.96908
CON3 It is convenient to transfer funds, between accounts using E-banking.	3.8542	1.05196
CON4 It is convenient to access E-banking services at any time of the day	3.8203	1.00469
CON5 The e-banking service of the bank is user friendly	3.6641	1.08595

*Note.* Appendix-I

Table 13 shows descriptive statistics of five different scale items of convenience of e-banking services of banks. Among all scale items, CON2 “I can quickly and easily complete a transaction by using Mobile” had high score mean 3.8620. Scale item CON5 “The e-banking service of the bank is user friendly” had the lowest mean 3.6641. It can be concluded from the table 12 customers feel they can quickly and easily complete a transaction by using mobile. Respondents also feel it is convenient to transfer funds, between accounts using e-banking.

### **Security**

This section uses descriptive analysis to demonstrate how security of e-banking services affects customer satisfaction in Nepalese commercial banks. There are six distinct statements in it. The likert scale used to quantify this construct ranged from 1 (strongly disagree) to 5 (strongly agree). The mean and standard deviation of the responses were calculated to observe the respondents' opinions. The standard deviation displays the variation from the average mean of the respondents, whereas the mean value indicates the average condition of the respondents' feelings. The information table 14 illustrates how customer satisfaction in Nepalese commercial banks is affected by security of e-banking services.

**Table 14***Security of E-Banking Services*

Scale Items of Security of E-Banking Services	Mean	Std. Deviation
SEC1 E-banking services do not allow others to access my accounts	3.8464	1.02697
SEC2 E-banking service is secured and safe from any fraud or hacking	3.8438	1.06527
SEC3 E-banking services offers secure personal privacy	3.7396	1.02445
SEC4 I feel secure while making transactions through the internet	3.8828	1.00095
SEC5 E-Banking service provides high protection for my banking transactions	3.9036	.90175
SEC6 The bank sends messages & mails during every transaction to alert or notify	3.7500	1.09115

*Note.* Appendix-I

Table 14 shows descriptive statistics of six different scale items of security of e-banking services in Nepalese commercial banks. Among all scale items, SEC5 “E-Banking service provides high protection for my banking transactions” had high score mean 3.9036. Scale item SEC3 “E-banking services offers secure personal privacy” had the lowest mean 3.7396. It can be concluded that customers agreed on e-banking service provides high protection for their banking transactions. In addition, customers feel secure while making transactions through the internet.

### **Customer Satisfaction**

This section uses descriptive analysis to illustrate the state of customer satisfaction. There are five distinct assertions in it. The likert scale used to quantify this concept ranged from 1 (strongly disagree) to 5 (strongly agree). The mean and standard deviation of the responses were calculated to observe the respondents' opinions. The standard deviation displays the variation from the average mean of the respondents, whereas the mean value indicates the average state of the respondents' feelings. The information table 15 illustrates how much customer satisfaction in Nepalese commercial banks.

**Table 15***Customer Satisfaction*

Scale Items of Customer Satisfaction	Mean	Std. Deviation
CS1 I am satisfied with the transaction processing via E-banking	3.6823	1.13713
CS2 I will strongly recommend other to use the E-banking services	3.7448	1.03337
CS3 My satisfaction with the E-banking is high	3.7786	1.06227
CS4 Overall, E-banking service is better than my expectations.	3.6979	1.16179
CS5 I am satisfied with the bank's e-services quality	3.7760	1.05803

*Note.* Appendix-I

Table 15 showed individual scale items of customers' satisfaction. Among five scale items CS3 "My satisfaction with the E-banking is high" scored the highest mean value 3.7786 with standard deviation 1.06227. Then, scale items CS1 "I am satisfied with the transaction processing via E-banking" scored the lowest mean value 3.6823 and 1.13713 standard deviation. It is concluded from the study that the customers think their satisfaction with the E-banking is high. Moreover, consumers are satisfied with the bank's e-services quality.

#### 4.1.4 Summary of Descriptive Analysis

The mean value and standard deviation of each variable are used to determine impact of electronic banking services on customer satisfaction of commercial banks in Nepal. The data that have been gathered have been examined using descriptive analysis, which has helped with data summarization and description. Table 16 summarizes the descriptive analysis's specifics.

**Table 16***Summary of Descriptive Analysis*

Study Variables	N	Mean	Std. Deviation
Reliability (REL)	384	3.7587	.92741
Accessibility (ACC)	384	3.6474	.79393
Convenience (CON)	384	3.8005	.78264
Security (SEC)	384	3.8277	.78878
Customer Satisfaction (CS)	384	3.7359	.82352

*Note.* Appendix-I

Table 16 depicts that summary of descriptive analysis of variables. It shows a high level of customer satisfaction with a mean score of 3.7359. The mean values range from 3.6474 to 3.8277 which show that every aspect of Nepalese commercial banks is performing at a very high level. The mean score for the section on security is 3.8277, higher than the other variables for reliability, accessibility and convenience. The highest mean score of 3.8277 suggests that security of e-banking services is the investigation's main area of interest. In other words, the data indicates that a significant proportion of the participants reported a satisfactory level of customer satisfaction, with the greatest influence coming from security and convenience of electronic services. In the meanwhile, the total mean score for the reliability, accessibility and convenience are 3.7587, 3.6474 and 3.8005 respectively.

#### 4.1.5 Correlations Analysis

Correlation analysis is used in Nepalese commercial banks to assess how electronic banking services affect customer satisfaction. The following tables show the link between the dependent and independent variables, bank and factor customer satisfaction. In this study, correlation analysis was employed to ascertain the relationship between the variables. The researcher calculated the correlation coefficient value in this analysis using the SPSS program. The correlation study focused on the overall relationship between online banking and customer satisfaction with banks.

**Table 17**

*Pearson Correlation Coefficients of Study Variables*

	REL	ACC	CON	SEC	CS
Reliability (REL)	1				
Accessibility (ACC)	.671**	1			
	.000				
Convenience (CON)	.642**	.439**	1		
	.000	.000			
Security (SEC)	.574**	.477**	.532**	1	
	.000	.000	.000		
Customer Satisfaction (CS)	.738**	.630**	.684**	.677**	1
	.000	.000	.000	.000	

*Note.* Appendix-III

Table 17 presents the results of the correlation test for both dependent and independent variables using a correlation coefficient matrix. The correlation analysis shows that reliability of e-banking services has significant positive relationship with customer satisfaction with coefficient value 0.738 and significant value is 0.000. Likewise, accessibility of e-banking services has significant positive association with customers satisfaction with correlation coefficient value is 0.630 and significant value is 0.000. The correlation analysis also shows that convenience of e-banking services has significant positive relationship with customer satisfaction (CS) is 0.684 which has significant value 0.000. Finally, security of e-banking services has significant positive relationship with customer satisfaction (CS) is as 0.677 which has significant value 0.000.

#### 4.1.6 Regression Analysis

It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable (customer satisfaction in Nepalese commercial banks) and independent variables (reliability accessibility, convenience and security).

**Table 18**

*Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837 <sup>a</sup>	.700	.697	.45314

a. Predictors: (Constant), SEC, ACC, CON, REL

*Note.* Appendix-IV

The R square is 0.700. The implication therefore is that, 70.00 percent of the variation in the dependent variable (customer satisfaction) is explained by the independent variables (reliability accessibility, convenience and security). The research's R-score of 0.837 indicates that the variables under examination have a strong association with one another. This implies that the degree of customer satisfaction was significantly impacted by the independent factors. The standard error of estimate has a perfect correlation with regression analysis.

**Table 19***Analysis of Variance (ANOVA)*

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	181.921	4	45.480	221.490	.000 <sup>b</sup>
	Residual	77.823	379	.205		
	Total	259.744	383			

a. Dependent Variable: Customer Satisfaction

b. Predictors: (Constant), SEC, ACC, CON, REL

Note. Appendix-IV

The influence of the dependent variable may be best explained by the largest number of possible combinations of predictor variables, according to an ANOVA analysis (F-value). The customer satisfaction metric has a significant impact, according to the findings. The customer happiness proxy variables, SEC, ACC, CON, REL, have F-values of 221.490 ( $p = 0.000 < 0.05$ ), which clearly show a significant association between the independent variables and the dependent variable, customer satisfaction.

**Table 20***Regression Coefficient of Independent Variables on Customer Satisfaction*

Variables	Coefficients	t-statistics	Sig. or p-value
(Constant)	-.128	-.918	.359
Reliability (REL)	.238	5.870	.000
Accessibility (ACC)	.201	5.040	.000
Convenience (CON)	.291	7.271	.000
Security (SEC)	.296	7.886	.000

a. Dependent Variable: CS

Note. Appendix-IV

Table 20 presents the regression coefficient of independent variables reliability accessibility, convenience and security and the intercept value of dependent variable customer satisfaction. The coefficient of regression ( $\beta$ ) for reliability of e-banking services is 0.238. According to the study, consumer satisfaction would rise by 0.238 units for every unit increase in reliability of e-banking services. Furthermore, the p-value of 0.000 indicates the statistical importance of reliability of e-banking services at the five percent significance level. Hence, this is significant positive effect of reliability of e-banking services on customer satisfaction. The regression coefficient ( $\beta$ ) for accessibility of e-banking services is 0.201. This data indicates that a one-unit

increase in accessibility of e-banking services would result in a 0.201-unit increase in customer satisfaction. Additionally, the p-value of 0.000 for accessibility of e-banking services indicates statistical significance at the five percent significance level. Hence, accessibility of e-banking services has significant positive impact on customer satisfaction.

At the same time, the regression coefficient ( $\beta$ ) for convenience of e-banking services is 0.291. According to the statistics, there is a 0.291-unit boost in customer satisfaction for every unit increase in convenience of e-banking services. Furthermore, statistical significance is shown at the five percent significance level by the convenience of e-banking services p-value of 0.000. Hence, this is significant positive effect of convenience of e-banking services on customer satisfaction. The regression coefficient ( $\beta$ ) for security of e-banking services is 0.296. Based on this data, if every security of e-banking services rise by one, customer satisfaction will improve by 0.296 units. At the five percent significance level, the security of e-banking services is statistically significant, as indicated by its p value of 0.000. Hence, this is significant positive effect of security of e-banking services on customer satisfaction.

## **4.2 Major Findings**

The major findings of the study are as follows;

- This study found that out of 384 respondents, 64.32 percent of responses were from men, indicating that men represent the majority of respondents in banks but only 35.68 percent of respondents were female.
- The age distribution of the respondents, 47.66 percent of them are between the ages of 30 and 39 means the majority of customers are young and the least only 17.97 percent of respondents stated they are 40 years of age or older.
- Out of 384 respondents' majority of them are unmarried which is 51.58 percent of the total respondents and remaining 48.44 percent are married.
- This study also found that among the 384 customers, 225 (58.59 percent) had a bachelor's degree, while 159 (41.41 percent) had a master's degree and above. Additionally, no customers are with up to intermediate. As a result, the respondents were able to give accurate responses.

- The majority of responders, nevertheless, are at a medium income level. Furthermore, of the respondents, 30.74 percent identified as belonging to the income category up to Rs.300,000 and 28.12 percent as representing the income of Rs.501,000 and above.
- The information regarding respondent's status, most of the respondents, 36.98 percent are service (Private/Civil), 32.39 percent are in business, 24.48 percent are student and rest 6.25 percent have other sources of income.
- This study also found that out of total respondents, 127 (33.07 percent) and 112 (29.17 percent) of the customers had been using the services for three to five years and more than five years respectively. Subsequent investigation revealed that of the sample, 28 respondents (7.29 percent) had used the services for less than a year, 45 respondents (11.72 percent) for one to two years, and 72 respondents (18.75 percent) for two to three years.
- The majority of respondents to this survey stated that they were highly satisfied with their own level of satisfaction and that the security and ease of e-banking services had a significant influence on the general satisfaction of banking customers.
- Here, Cronbach's Alpha of all the variables such as reliability accessibility, convenience, security and customer satisfaction are as good, since they are greater than 0.8. Therefore, the instruments used in this research are considered to be reliable and good.
- The correlation analysis concluded that there is a significant positive association between customer satisfaction (CS) and reliability of e-banking services (REL).
- Customer satisfaction and the accessibility of e-banking services also have a significant positive association. Customer satisfaction (CS) and the convenience of use of e-banking services are thus significantly and positively correlated. Finally, there is a strong positive association between customer satisfaction and the security of online banking services.
- The regression result concluded that reliability, accessibility, convenience and security of e-banking services have significant positive impact on customers' satisfaction in banking industry of Kathmandu valley.

- As a result, this study found that electronic banking significantly affects consumer satisfaction.

### **4.3 Discussion**

The main purpose of the study is to analyze the impact of e-banking services on customer satisfaction in Nepalese commercial banks. This study also demonstrates the connection between electronic banking services and customer satisfaction. Research and earlier literature have supported the link between reliability accessibility, convenience and security and customer satisfaction. A substantial amount of research demonstrates that electronic banking has a direct impact on customer satisfaction. This study shows that reliability of e-banking services has positive and significant relationship with customers' satisfaction which is consistent with the finding of Ayer (2023) identified a positive association between reliability of e-banking services and customer satisfaction. This is also consistent with the finding of Lamsal (2022); Khanal (2023); Alkhaibaria (2023). Likewise, there is positive and significant relationship of accessibility of e-banking services and customer satisfaction among consumers in Kathmandu Valley. The result is line with the findings of Khanal (2023) concluded that an accessibility of e-banking services has positive and significant relationship with customer satisfaction. This is also consistent with the finding of Lama (2021).

The correlation analysis also shows that convenience of e-banking services has positive and statistically significant relationship with customer satisfaction. The result is consistent with Ghimire and Dhakal (2023) which observed positive and significant effect of convenience of e-banking services on customer satisfaction. The results are also consistent with Lama (2021); Angusamy, Yee and Kuppusamy (2022); Ayer (2023); Khanal (2023). Moreover, security of e-banking services is found to have positive and significant relationship with customers' satisfaction which is consistent with the finding of Ghimire and Dhakal (2023) which observed that there was a positive association between security of e-banking services and customers' satisfaction. This is also consistent with the finding of Lama (2021); Lamsal (2022); Belbase and Paudel (2023); Khanal (2023); Ayer (2023); Alkhaibaria (2023).

The multiple regression analysis found that reliability of e-banking services has significant positive impact on customers' satisfaction. This is consistent with the finding of Ayer (2023). This result is also similar with the prior study of Addai et al. (2015); Lamsal (2022) mentioned that reliability of e-banking services has significant positive effect on customer satisfaction. However, it is not consistent with the finding of Khanal (2023) mentioned that there was negative and no effect of reliability of e-banking services on customer satisfaction. Similarly, there is significant positive effect of accessibility of e-banking services on customer satisfaction among consumers in Kathmandu Valley. This is consistent with Lama (2021); Yu and Nuangjamnong (2022) mentioned that accessibility of e-banking services has positive influence on customers' satisfaction. However, it contradicts with the finding of Khanal (2023) concluded that accessibility of e-banking services has insignificant negative impact on customer satisfaction.

At the same time, convenience of e-banking services has significant positive impact on customer satisfaction. The result is consistent with Ayer (2023). The results of this study also support the Addai et al. (2015); Khanal (2023) which states that convenience of e-banking services greatly effect on the customer satisfaction. Finally, security of e-banking services has significant positive impact on customers' satisfaction. This result is similar with the prior study of Lama (2021); Angusamy, Yee and Kuppusamy (2022); Belbase and Paudel (2023). This is also consistent with the prior study of Khanal (2023) and Ayer (2023) mentioned that security of e-banking services has significant positive effect on customers' satisfaction but opposite to the finding of Lamsal (2022).

As this study found that there is significant effect of e-banking services as reliability accessibility, convenience and security on customers' satisfaction in Nepalese banking sector. Likewise, the theory of reason action stated the customers usually follows the new technologies for the banking transactions, the findings of this study also relay on this theory that the convenience, accessibility and security of the e-banking services enhances the customer satisfaction in Nepalese banking sector.

## **CHAPTER V**

### **SUMMARY AND CONCLUSION**

In this chapter, the summary of the study has been presented along with conclusions and actionable implications from the study of impact of e-banking service on customer satisfaction in Nepalese banking sector are presented.

#### **5.1 Summary**

Electronic banking is crucial to transforming banks in areas like customer service and goods and services. It is therefore recognized as an essential and effective tool for promoting innovation, growing it, and enhancing banks' competitiveness. It has been demonstrated that information technology improves business efficiency and service quality, which in turn attracts and retains customers. Bank expansion has become easier for banks because to electronic banking. A few of the distribution methods that banks employ to contact their customers are telebanking, PCs, smartphones, automated teller machines (ATMs), and now internet banking. One significant component of these networks is electronic banking. The processes for transferring funds, seeing and verifying savings account balances, paying bills, mortgages, and purchasing financial instruments and certificates of deposit have all been significantly improved by internet banking.

The primary objective of this study is to assess the impact of electronic banking services on customer satisfaction in Nepalese commercial banks. The specific objectives include: analyzing the level of customer satisfaction with commercial banks in Nepal, measuring the relationship between e-banking service factors (such as reliability, accessibility, convenience, and security) and customer satisfaction, and examining how these factors reliability, accessibility, convenience, and security affect customer satisfaction in Nepalese commercial banks.

The study adopts both descriptive and causal research designs. Descriptive research design is used to outline the components of e-banking services, while causal research design helps identify the relationship between the dependent variable (customer satisfaction) and the independent variable (electronic banking). Causal design is

further employed to assess the impact of e-banking services on customer satisfaction within Nepal's banking industry. The population for the study consists of all customers of twenty commercial banks, with a sample size of 384. Convenience sampling is used to select respondents for the study. Descriptive analysis, as well as correlation and regression analyses, are conducted to test the hypothesis. In this study, customer satisfaction is treated as the dependent variable, while reliability, accessibility, convenience, and security are the explanatory variables.

The study found that the majority of respondents believed that security and convenience of e-banking services have a significant impact on banking customers' satisfaction and that their own satisfaction is high. The correlation analysis shows that there is a significant positive association between customer satisfaction (CS) and reliability of e-banking services (REL). Similarly, accessibility of e-banking services has significant positive association with customer satisfaction. Further, there is a significant positive correlation of convenience of e-banking services with customer satisfaction (CS). Lastly, there is a significant positive correlation between security of e-banking services and customer satisfaction. The regression result reveals that reliability, accessibility, convenience and security of e-banking services have significant positive impact on customers' satisfaction in banking industry of Kathmandu Valley. Therefore, this study concluded that the impact of electronic banking on customer satisfaction is significant in Nepalese commercial banks.

## **5.2 Conclusion**

The study examined into how consumer satisfaction in the banking sector is affected by electronic banking. According to this survey, the majority of respondents believed that security and convenience of e-banking services have a significant impact on banking customers' satisfaction and that their own satisfaction is high.

The correlation analysis concluded that there is a significant positive association between customer satisfaction (CS) and reliability of e-banking services (REL). Likewise, there exists a significant positive correlation between accessibility of e-banking services and customer satisfaction. Consequently, there is a significant and positive correlation between convenience of e-banking services and customer

satisfaction (CS). Lastly, there is a significant positive correlation between security of e-banking services and customer satisfaction.

The regression result concluded that reliability, accessibility, convenience and security of e-banking services have significant positive impact on customers' satisfaction in banking industry of Kathmandu Valley. Hence, this study concluded that the impact of electronic banking on customer satisfaction is significant.

### **5.3 Implications**

The researcher notifies the relevant bodies of the following implications based on the study's summary and conclusion.

- This study found that reliability, accessibility, convenience and security of e-banking services have significant positive impact on customers' satisfaction. The results of the study will be useful to IT policy makers and higher management at banks in developing retention of consumers and electronic banking service strategies.
- Furthermore, Nepal Rastra Bank may find this research useful in identifying the issues that are currently affecting the bank and the technical and non-technical barriers that affect the adoption of mobile banking on customer satisfaction. This will enable the bank to take the appropriate action to remove these obstacles and put in place the necessary policies.
- The study is a great resource for academics and students who want to do additional research on the topic.
- Information technology has been shown to increase customer attraction and retention by improving company efficiency and service quality, especially in light of the significant contribution that electronic banking has made to the growth of banks.
- More services, such as depositing money, ought to be provided through e-banking, and banks ought to seize the opportunity to expand e-banking by getting beyond the challenges. Finally, the banks should pay more attention to the factors that most affect the level of satisfaction of their online banking customers.

## REFERENCES

- Addai, B., Ameyaw, B., Ashalley, E., & Quaye, I. (2015). Electronic banking and customer satisfaction: Empirical evidence from Ghana. *British Journal of Economics, Management & Trade*, 9(3), 1-8, 2015.
- Alkhaibaria, M., Albarqa, A. N., Elrayaha, M., Moustafaa, M. A., & Mohanad M.S. Ghaleba, M. M. S., & Abbas, A. (2023). The impact of e-banking service quality on the sustainable customer satisfaction: Evidence from the Saudi Arabia commercial banking sector. *International Journal of Data and Network Science*, 7(3), 1153–1164.
- Angusamy, A., Yee, C. J., & Kuppusamy, J. (2022). E-banking: An empirical study on customer satisfaction. *Journal of System and Management Sciences*, 12(4), 27-38.
- Arbar, T., & Timothy, A. T. (2012). Electronic banking service and customer satisfaction in the Nigerian banking industry. *International Journal of Business and Management Tomorrow*, 2(3), 71-83.
- Arnaboldi, F. and Claeys, P. (2008). Financial innovation in internet banking: A comparative analysis. *Financial Innovation in Retail and Corporate Banking*, 5(3), 61-82.
- Aslam, R., Shumaila, S., Azhar, M., & Sadaqat, S. (2011). Work-family conflicts: Relationship between work-life conflict and employee retention: A comparative study of public and private sector employees. *Interdisciplinary Journal of Research in Business*, 1(2), 18-29.
- Ayer, R. (2023). E-banking services and its impact on customer satisfaction in Nepalese commercial banks. *Perspectives in Nepalese Management*, 2(1), 289-300.
- Bahia, K., & Nantel, J. (2000). A reliable and valid measurement scale for the perceived service quality of banks. *International Journal of Bank Marketing*, 18(2), 84–91.
- Belbase, N., & Paudel, S. (2023). Impact of e-banking on customer satisfaction. *International Journal of Management and Commerce*, 5(1), 25-31.
- Caruana, K. (2011). Impacts of service quality on customer satisfaction: Study of online banking and ATM services in Malaysia. *International Journal of Trade, Economics and Finance*, 2(1), 41-64.

- Claude, M. J. (2022). Effect of electronic banking on customer satisfaction in Rwanda: Case of bank of Kigali Headquarter. *Scholars Journal of Economics, Business and Management*, 9(1), 14-29.
- Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). New York: John Wiley and Sons.
- Dawes, R. M. (1972). *Fundamentals of attitude measurement*. England: John Wiley & Sons Inc.
- Fenuga, O. J., & Oladejo, R. K. (2010). The effect of electronic payment on customer service delivery in Nigerian banks. *International Journal of Economic Development Research and Investment*, 1(1), 227-239.
- Gazi, A. I., Rahaman, I., Hossain, G. M. A., Ali, J., & Mamoon, J. R. (2021). An empirical study of determinants of customer satisfaction of banking. *Journal of Asian Finance, Economics and Business*, 8(2), 0497–0503.
- Ghimire, B., & Dhakal, A. (2023). Effect of mobile banking on customer satisfaction in commercial banks in Nepal. *Nepalese Journal of Management Science and Research*, 6(1), 121-132.
- Gitman, L. J., & Carl, D. M. (2005). *The future of business: The essentials* (2nd ed.). Mason, Ohio: South Western.
- Gruen, T. (1995). The outcome set of relationship marketing in consumer market. *International Business Review*, 4(4), 447-469.
- Guo, X., Duff, A., & Hair, M. (2008). Service quality measurement in the Chinese corporate banking market. *International Journal of Bank Marketing* 26(5), 305-327.
- Hasan, D., Mohamed, R. M., Mohamed, M. F., & Ali, R. N. (2013). A survey on relationship between customer satisfaction and electronic banking features. A case study of Tejaratbank in Iran. *Management Science Letters*, 6(4), 309-314.
- Hovland, C. I., Harvey, O. J., & Sherif, M. (1957). Assimilation and contrast effects in reactions to communication and attitude change. *Journal of Abnormal and Social Psychology*, 55(3), 244-252.
- Iluno, E.C., Farouk, B. K. U., & Saheed Z. S. (2018). Impact of the electronic banking products and services on the customers' satisfaction: a case study of Kaduna State, Nigeria. *Journal of Good Governance and Sustainable Development in Africa (JGGSDA)*, 4(2), 21-33.

- Janahi, M. A., & Mubarak, M. M. S. A. (2017). The impact of customer service quality on customer satisfaction in Islamic banking. *Journal of Islamic Marketing*, 8(4), 595-604.
- John, J. (2003). *Fundamentals of customer-focused management*. Westport, CT: Praeger.
- Kaynak, E. &. (2015). Consumer value creation in mobile banking services. *International Journal of Technology Marketing*, 1(1), 62-78.
- Khan, M. A. (2013). An empirical study of automated teller machine service quality and customer satisfaction in Pakistani banks. *European Journal of Social Sciences*, 13(3), 19-28.
- Khanal, K. (2023). Impact of e-banking services on customer awareness in Nepalese commercial banks. *Nepalese Journal of Management Research*, 3(1), 1-10.
- Kumar, M., Kee, F. T., & Charles, V. (2010). Comparative evaluation of critical factors in delivering service quality of banks. *International Journal of Quality and Reliability Management*, 27(3), 351-377.
- Kumbhar, V. M. (2011). Electronic banking service and customer satisfaction: Some evidence from Indian banks. *Management Research and Practice*, 3(4), 1-04.
- Lama, P. B. (2021). Impact of internet banking on customer satisfaction in Kathmandu. *International Journals of Multi-Dimensional Research*, 3(1), 1-11.
- Lamichhane, P. (2018). Service quality on customer satisfaction in Nepalese commercial banks. *Management Dynamics*, 21(1), 97-106.
- Lamsal, B. P. (2022). Internet banking services and customer satisfaction in Nawalpur district. *The Journal of Madhyabindu Multiple Campus*, 7(1), 1-10.
- LaTour, S. T. & Peat, N. C. (1979). Conceptual and methodological issues in consumer satisfaction research. *Advances in Consumer Research*, 6(1), 431-437.
- Lee, K. C., & Chung, N. (2009). Understanding factors affecting trust in and satisfaction with mobile banking in Korea: A modified De Lone and McLean's model perspective. *Interacting with Computers* 21(5-6), 385-392.
- Malhotra, N. & Mukherjee, A. (2004). The relative influence of organizational commitment and job satisfaction on service quality of customer-contact employees in banking call centres. *Journal of Services Marketing*, 18(3), 162-174.

- Masukujjaman, M., & Akter, A. (2010). Quality of categorized service and customer satisfaction in banking industry : An empirical study on private commercial banks in Bangladesh. *Journal of Business and Technology*, 5(2), 54-58.
- Okoro, A. S. (2014). Impact of electronic banking instruments on the intermediation efficiency of the Nigerian economy. *International Journal of Accounting Research*, 1(6), 14-21.
- Othman, A., & Owen, L. (2001). Adopting and measuring customer service quality (SQ) in Islamic banks: a case study in Kuwait finance house. *International journal of Islamic financial services*, 3(1), 1–26.
- Panta P. R. (2014). *Social science research and thesis writing*. Kathmandu: Buddha Academic Enterprises.
- Parasuraman, A., Zeithaml, V., & Berry, L. (1985). A conceptual model of service quality & its implications for future research. *Journal of Marketing*, 49(4), 41-50.
- Paul. J., Mittal, A., & Srivastav, G. (2016). Impact of service quality on customer satisfaction in private and public sector banks. *International Journal of Bank Marketing*, 34(5), 606 -622.
- Phillip, L., & Adrian T. (2009). *The selection of the research design* (3<sup>rd</sup> ed.). New York: Pearson Education.
- Pikkarainen, T., Pikkarainen, K., Karjaluoto, H., & Pahnla, S. (2004). Consumer acceptance of online banking: An extension of the technology acceptance model. *Internet Research*, 14(3), 57-63.
- Polatogu, V. N., & Ekin, S. (2010). An empirical investigation of the Turkish consumers' acceptance of internet banking services. *International Journal of Bank Marketing*, 19(4), 156-165.
- Rogers, R. A. (1984). Introduction strategy for new products with positive and negative word-of-mouth. *Management Science*, 30(12), 1389-1404.
- Ross, E. (1995). *Total quality management: Text, cases and readings*. New York: St. Lucie Press.
- Saha, G. C. & Theingi, T. (2009). Service quality, satisfaction, and behavioral intentions. *Managing Service Quality*, 19(3), 350-372.
- Saravanan, N., & Leelavathi, R. (2020). Impact of E- Banking services with customer attitude and satisfaction with special reference to Chennai district. *European Journal of Molecular & Clinical Medicine*, 7(10), 2585-2596.

- Saunders, M., Lewis, P., & Adrian, T. (2009). *Research methods for business students* (5<sup>th</sup> ed.). New York: Prentice Hall Inc.
- Sekaran, U. (2003). *Research methods for business: A skill building approach*. New York: John Wiley & Sons, Inc.
- Shah, M. H., & Siddiqui, F. A. (2006). Organizational success factors in adoption of e-banking at the Woolwich bank. *International Journal of Information Management*, 26(6), 442-456.
- Simon, V. T., & Thomas, A. S. R. (2016). Effect of electronic banking on customer satisfaction in selected commercial banks, Kenya. *International Academic Journal of Human Resource and Business Administration*, 2(2), 41-63.
- Sohail, M. S., & Shanmugham, B. (2003). E-banking and customer preferences in Malaysia: An empirical investigation. *Information Science Journal*, 150(3), 207-217.
- Thakuri, N., Dhakal, A., Danuwar, R. K., Baral, D. K., & Koirala, A. (2023). Factor affecting customer satisfaction of mobile banking services of commercial bank in Kathmandu valley. *Interdisciplinary Journal of Innovation in Nepalese Academia*, 2(1), 34-52.
- Thibaut, J. W., & Kelly, K. H. (1959). *The social psychology of groups*. USA: John Wiley and Sons, Inc.
- Tien, N. H., Anh, D. B. H., Dung, H. T., On, P. V., Anh, V. T., Dat, N. V., & Tam, B. Q. (2021). Factors impacting customer satisfaction at Vietcombank in Vietnam. *Hmlyan Jr Eco Bus Mgn*, 2(4) 44-51.
- Tiwari, R., & Buse, S. (2007). *The mobile commerce prospects: A strategic analysis of opportunities in the banking sector*. Hamburg: Hamburg University Press.
- Toor, A., Hunain, M., Hussain, T., Ali, S., & Shahid, A. (2016). The impact of E-Banking on customer satisfaction: Evidence from banking sector of Pakistan. *Journal of Business Administration Research*, 5(2), 27-40.
- Wilson, N., & Christella, R. (2019). An empirical research of factors affecting customer satisfaction: A case of the Indonesian e-commerce industry. *DeReMa Jurnal Manajemen*, 14(1), 21-44.
- Winner, R. (2001). A framework for customer relationship management. *Callifornia Management Review*, 43 (4), 89-105.
- Yi, Y. (1990). *A critical review of consumer satisfaction*. New York: American Marketing Association.

Yu, J., & Nuangjamnong, C. (2022). The impact of mobile banking service on customer satisfaction: A case study of commercial banks in China. *United International Journal for Research & Technology*, 3(10), 43-64.

# IMPACT OF E-BANKING SERVICES ON CUSTOMER SATISF...

By: Pratima Byanjankar

As of: Nov 17, 2024 2:05:52 PM  
18,571 words - 196 matches - 9 sources

Similarity Index

17%

Mode:

## sources:

1,951 words / 10% - from 25-Jun-2024 12:00AM  
[elibrary.tucl.edu.np](http://elibrary.tucl.edu.np)

353 words / 2% - from 07-Jul-2024 12:00AM  
[elibrary.tucl.edu.np](http://elibrary.tucl.edu.np)

305 words / 2% - from 03-Aug-2024 12:00AM  
[www.coursehero.com](http://www.coursehero.com)

120 words / 1% - Internet from 05-Jan-2023 12:00AM  
[elibrary.tucl.edu.np](http://elibrary.tucl.edu.np)

113 words / 1% - from 03-Aug-2024 12:00AM  
[www.coursehero.com](http://www.coursehero.com)

116 words / 1% - from 22-Apr-2024 12:00AM  
[etd.aau.edu.et](http://etd.aau.edu.et)

106 words / 1% - from 11-May-2024 12:00AM  
[etd.aau.edu.et](http://etd.aau.edu.et)

120 words / 1% - Internet from 12-Dec-2022 12:00AM  
[www.researchgate.net](http://www.researchgate.net)

117 words / 1% - from 30-May-2023 12:00AM  
[uniglobe.edu.np](http://uniglobe.edu.np)

## paper text:

### ABSTRACT

The main purpose of the study is to investigate impact of e-banking services on customer satisfaction

in Nepalese commercial banks. The study is used descriptive and casual research design. This study used descriptive statistic, correlation analysis and regression analysis for data analysis. The study found that the majority of