

# **E-BANKING AND CUSTOMER SATISFACTION IN NEPELESE 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

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## CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**E-banking and 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 has it 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.

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## REPORT OF RESEARCH COMMITTEE

Mrs. Sangita Paneru has defended research dissertation, “**E-banking and 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 suggestions and guidance of supervisor Prof. Dr. Keshav Raj Joshi and submit the dissertation for evaluation and viva voce examination.

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## APPROVAL SHEET

We have examined the dissertation entitled “**E-banking and Customer Satisfaction in Nepalese Commercial Banks**” prepared by Mrs. Sangita Paneru, 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 dissertation is worthy of acceptance.

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## ABBREVIATIONS

ANOVA	Analysis of Variance
ATM	Automated Teller Machine
CS	Customer Satisfaction
e.g.	Example
E-banking	Electronic Banking
Et al.	And Others
Etc.	Et cetera
FIs	Financial Institutions
H	Hypothesis
ICT	Information and Communication Technology
i.e	That is
MBS	Master of Business Studies
n:	Number of Respondents
RPR	Research Project Report
r.	Regression
Sig.	Significance
SD.	Standard Deviation
SE.	Standard Error
SPSS	Statistical Package for the Social Science
TAM	Technology Acceptance Model
TU	Pokhara University
UK	United Kingdom

## ABSTRACT

This study investigated customer satisfaction with e-banking services provided by commercial banks in Nepal, focusing on factors such as tangibility, reliability, efficiency, security, and responsiveness. It highlighted that most internet banking services in Nepal were unreliable, with limited awareness and accessibility, particularly in rural areas. Illiteracy further restricted internet use to individuals with some level of education. The research aimed to analyze these factors, assess customer understanding, and examine the relationship between e-banking factors and customer satisfaction, considering socio-demographic variables. A descriptive design was employed, utilizing a structured questionnaire distributed to e-banking customers in Kathmandu through convenience sampling. Data were collected from 200 respondents and analyzed using SPSS software, revealing significant findings. The Cronbach's alpha test confirmed the reliability of variables, with all scoring above 0.7. Descriptive and inferential statistics, including correlation and regression analyses, were used to evaluate the data. The study found a positive perception of security protocols among customers, emphasizing the need for banks to maintain and enhance security measures. Mixed responses were observed regarding ATM locations, e-payment services, and transaction safety, suggesting areas for improvement. Significant correlations were found between tangibility, efficiency, and responsiveness, indicating their importance in customer satisfaction. However, reliability, security, and customer satisfaction itself did not significantly impact overall satisfaction in this model. The regression model highlighted responsiveness and efficiency as crucial factors, suggesting that focusing on these areas could enhance customer satisfaction. This study provided valuable insights for Nepalese banks to improve e-banking services, informing future research and alerting bankers to potential challenges. It underscored the importance of customer-centric strategies in the evolving landscape of internet banking in Nepal.

Keywords:- *customer satisfaction, tangibility, reliability, responsiveness, efficiency, and security.*

## ABSTRACT

This study examined customer satisfaction with e-banking services offered by commercial banks in Nepal. It focused on aspects such as tangibility, reliability, efficiency, security, and responsiveness. The research revealed that many internet banking services in Nepal were unreliable, with limited awareness and accessibility, especially in rural areas. Additionally, illiteracy restricted internet usage to individuals with some education. The study aimed to analyze these factors, evaluate customer understanding, and explore the relationship between e-banking factors and customer satisfaction, considering socio-demographic variables. A descriptive design was used, with a structured questionnaire distributed to e-banking customers in Kathmandu through convenience sampling. Data were collected from 200 respondents and analyzed using SPSS software, resulting in significant findings. The reliability of the variables was confirmed by Cronbach's alpha test, with all scores above 0.7. Descriptive and inferential statistics, including correlation and regression analyses, were applied to evaluate the data.

The study found that customers had a positive perception of security protocols, highlighting the importance for banks to maintain and enhance security measures. Mixed responses were observed regarding ATM locations, e-payment services, and transaction safety, indicating areas needing improvement. Significant correlations were found between tangibility, efficiency, and responsiveness, indicating their importance in customer satisfaction. However, reliability, security, and customer satisfaction did not significantly impact overall satisfaction in this model. The regression model highlighted responsiveness and efficiency as crucial factors, suggesting that focusing on these areas could enhance customer satisfaction. This study provided valuable insights for Nepalese banks to improve e-banking services, informed future research, and alerted bankers to potential challenges. It underscored the importance of customer-centric strategies in the evolving landscape of internet banking in Nepal.

*Keywords:- customer satisfaction, tangibility, reliability, responsiveness, efficiency, and security.*

# CHAPTER-I

## INTRODUCTION

### 1.1 Background of the study

Finance is crucial for trade, commerce, and industry, and today, the banking sector serves as the foundation of modern business. A country's development largely relies on its banking system. The word "bank" comes from the Old Italian word "banca" or the French word "banque," both meaning a bench or money exchange table. In the past, European money lenders or money changers would display coins from various countries on benches or tables in large quantities for lending or exchanging. Banks were originally financial institutions where people deposited their valuables for safekeeping. Over time, banks have expanded their range of services to attract and satisfy customers. Nowadays, people do not visit banks solely to deposit and withdraw money; instead, they are drawn by various other services that cater to their diverse needs.

A customer is an individual or business that buys goods or services from another company. Simply put, a customer is a person of a certain type with whom one must interact. According to the DK Illustrated Oxford Dictionary (1998), a customer is A person who buys goods or services from a shop or business (1998). In the context of sales, commerce, and economics, a customer (also referred to as a client, buyer, or purchaser) is the recipient of a good, service, product, or idea obtained from a seller, vendor, or supplier through a financial transaction or exchange for money or another form of valuable consideration. A bank customer is any individual who has or had a banking relationship with a bank. A bank customer is also defined as any person who, as of the closing date, had a deposit account with one of the banks or had an outstanding loan with one of the banks.

Customer satisfaction is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is also defined as the number of customers, or percentage of total customers, whose reported experience with a firm, its products or its services (ratings) exceeds specified satisfaction goals. It is typically defined as a post-consumption evaluating judgment concerning a specific product or service, (Gundersen, 1996). Customer satisfaction has been described as a measure of how services or products supplied by the organization

meet customer expectations. Nowadays, quality has gained more importance through customer satisfaction. Through satisfied customers, a bank can easily measure the effectiveness of the business, its potential and position in the industries and the areas that are needed to polish and improve. Among several factors; Quality, Reliability, Efficiency, Tangibility, Responsiveness, Privacy, etc. are some major factors that affect the satisfaction of the customer. These factors are used for measurement and continuous improvement of customer satisfaction. Customer satisfaction is a business philosophy that focuses on the creation of value for customers, anticipating and managing their expectations and demonstrating ability and responsibility to satisfy their needs. Qualities of service and customer satisfaction are critical factors for the success of any business (Gronroos, 1990).

Technology is making a tremendous impact upon banks in general and the financial services sector is no exception. The application of information and communication technology concepts, techniques, policies and implementation strategies to banking services has become a subject of fundamental importance and concerns to all banks and indeed a prerequisite for local and global competitiveness in the banking industry. As a result of this technological improvement business environment in the financial sector is extremely dynamic and experiences rapid changes and demands banks to serve their customer through the use of the internet.

The 21st Century, shaped by the technological revolution, is the age of globalization. The Internet massively impacts all aspects of the business. In the 21<sup>st</sup> century, electronic business is no longer an option for businesses; it is a necessity (George, 2011). Recently, electronic banking has been adopted in various commercial activities (Mambi, 2010), advancing services such as sell and purchase of items through the use of internet systems. Despite the risks associated with this technology, the market economy, and the need to make the world one village has necessitated commercial and financial institutions to adopt electronic banking to link banking activities or affairs more easily than it was in the past. This is to say with electronic banking it is even easier for a holding bank to control its subsidiary bank allocated at a distance as a result of technological advancement.

Electronic banking means an electronic system for banking transactions (front office computerization) and /or internal accounting and book-keeping (back office computerization), instead of using the traditional manual system of banking. E-

banking also covers the provision of information about a bank and its services via the home page on the world wide webs. More sophisticated E-Banking services provide customer access to accounts; the ability to move their money between different accounts, and making payments or applying for loans via e-channels. Electronic banking is an umbrella term for the process by which a customer may perform banking transactions electronically without visiting the banks. The term refers to one form or another of electronic banking like a personal computer (PC) banking, internet banking, virtual banking, online banking, home banking, remote electronic banking, anywhere/any/time/any branch banking, phone bank and e-remittance. Electronic banking is one of the latest trends in the Nepalese banking scenario. Many banks and other FIS have already implemented or are planning to implement E-Banking because of the numerous potential benefits associated with it. Electronic banking has enabled banks to improve their customer service quality by speeding up most the routine banking transaction and by providing anywhere and anytime banking. A new banking channel has opened up in the form of ATMs, Tele-banking ([www.google.com](http://www.google.com)).

With the advancement in information and communication technology, the banking sector is subjected to this technological change and is embracing new technology-based service options to remain competitive. One of the latest technologies adopted by the bank is electronic banking or e-banking. The term electronic banking refers to the process of performing various banking activities through the use of electronic channels through telephone, mobile phone, internet, etc. In 2008 Bill Gates announced that “banking is essential, banks are not” which reflect that there is a need to adopt e-banking to replace traditional bank branch. Banks mainly focus on promoting the concept of e-banking among their customers since it can provide speedier, faster and reliable services to the customers better than traditional banking (Mohalingam & Janathanan, 2018).

The past two decades have witnessed a significant shift in banking practice and operation towards internet banking. Qureshi, Zafar and Khan (2008) observed this shift and noted that many banks have shifted from traditional arm-chair banking to an online banking system, where customers can use self-service channels such as automated teller machines (ATM) and the internet to satisfy their financial needs. The main reason for this dramatic shift has been its perceived usefulness in terms of ease of transaction, security and privacy provided by online banking. But unfortunately,

despite the importance attached or attributed to online banking in several ways, there seem to be fewer studies about internet banking specially in the Nepalese context.

After the establishment of Nepal Bank Ltd. in 1937, the first bank in Nepal, it took nearly 53 years for the introduction of credit cards by NABIL Bank Ltd. In the early 1990s, with the development of e-banking in Nepal, Himalayan Bank Ltd. took the lead by introducing Automated Teller Machines (ATMs) in 1995 and Telebanking. Internet banking arrived about 65 years after the first bank was established, with Kumari Bank Ltd. being the first to offer this service in 2002 (Mishra, 2008). Despite being introduced over ten years ago, internet banking has not gained widespread popularity in Nepal. Many people still prefer traditional banking methods. Major cities like Kathmandu, Pokhara, and Biratnagar have good internet facilities, and most banks provide internet banking in urban areas, but it remains underutilized. The available e-banking channels in Nepal include ATMs, Point of Sales (PoS), Telephone Banking (Telebanking), Internet Banking, and Mobile Banking (SMS Banking).

Currently, Nepalese customers can withdraw cash and check their balance using PoS terminals. Customers can perform financial transactions via cards, with cash being debited from their accounts. Through tele-banking, they can check their account status and balance, and similar services are available through SMS banking. Internet banking allows customers to transfer funds within accounts (within the same bank), obtain balance statements online, and pay bills. These services are available in urban areas but not in remote regions. However, unless Nepal's two major banks, NBL and RBB, join the e-banking movement, a significant portion of banking customers will miss out on e-banking services. This paper aims to explore customer satisfaction with banks and financial institutions, focusing on managing and retaining e-banking customers in today's competitive environment.

## **1.2 Problem statement**

Today's bank customers seek useful and dependable and reliable technologies. Many banks in Nepal have exponentially embraced the use of information and communication technologies in their service provision causing huge competition in the banking industries.

In response, many financial institutions are directing their strategies towards increasing customer satisfaction and loyalty through improved service quality as it gives a competitive advantage for banks by reducing operational costs and providing the best satisfaction of customer needs. Normally, banks that don't offer electronic banking services may lose their clients to their competitors (Kwarteng, 2015). Customers in Nepal are late adopters of the Internet and its applications with regards to internet banking. However, issues like a machine out of order, lack of sufficient alternative system which substitutes ATM service when the temporary problem happen in the machine, and innovation, resistance to changes in technology among customers and service providers as a result of fear of risk creates doubts in the minds of customers thereby affecting their level of satisfaction. Because of these existing problems, this study intends to fill in the gaps by examining the effects of e-banking on customer satisfaction in the major banks of Nepal.

Though all the banking sectors are doing well, these days accept few. They are increasing their competitiveness. Manually, their activities are appreciable but due to lack of online or net base working activities, they seem to be not performing well. Today Nepalese commercial banks are generally found to have been adopting the services of E-Banking as competitive tools and as a step towards innovative services. In developed countries like the United States of America and the United Kingdom online culture and infrastructure of information technology are becoming a part of social life. Whereas in underdeveloped countries like Nepal it is yet quiet ambiguity for the application of internet banking.

Furthermore, most of the internet banking services provided by the banks in Nepal are usually unreliable with most customers unaware of the content of the internet banking services offered by their bank. Most of the product and services offered by internet banking is not accessible in all part of Nepal especially in the typical rural areas where access to electricity or alternative sources of energy is a problem. Additionally, with the high illiteracy rate among the Nepalese population, the use of the internet is left in the hands of individuals who have gotten some level of education or can read and write. This, therefore, means that education plays a crucial role in determining the usage and satisfaction level of customers who subscribe to internet banking services. Additionally, a majority of the illiterate are the aged, which means that the aged would be left out when it comes to the adoption of internet banking.

The supporting research questions for the study of horizontal fit are highlighted below:

- How do different factors influence the use of e-banking such factors include tangibility, reliability, efficiency, security and responsiveness?
- What is the level of customer understanding of e-banking?
- Is there any significant relationship between e-banking factors and customer satisfaction?

### **1.3 Objectives the study**

The major objective of the study is to explore and examine the customer satisfaction derived from the e-banking services provided by the commercial banks in Nepal. To achieve the primary objective, the following objectives are listed:

- To analyse the various factors influencing the use of e-banking i.e., tangibility, reliability, responsiveness, efficiency, and security.
- To assess the level of customer understanding of e-banking services
- To examine the relationship between factors influencing e-banking and customer satisfaction.

### **1.4 Research Hypotheses**

H<sub>1</sub>: There is a significant relationship between the tangibility of e-banking services and customer satisfaction.

H<sub>2</sub>: There is a significant relationship between the reliability of e-banking services and customer satisfaction.

H<sub>3</sub>: There is a significant relationship between the responsiveness of e-banking services and customer satisfaction.

H<sub>4</sub>: There is a significant relationship between the efficiency of e-banking services and customer satisfaction.

H<sub>5</sub>: There is a significant relationship between security e-banking services and customer satisfaction.

### **1.5 Rationale of the study**

First, the study was beneficial for Nepalese banks by highlighting the effects of e-banking on customer satisfaction compared to traditional brick-and-mortar banking.

Second, it provided insights into customer attitudes towards e-banking and recommended actions for banks to capitalize on opportunities and address challenges. Third, the research can serve as a reference for future studies in this area or as reading material for interested individuals. Finally, it alerted bankers to potential future problems, helping them achieve customer satisfaction in a service that is still in its early stages in Nepal.

### **1.6 Limitations of the study**

The study was include the following limitations:

- (i) Access to reading materials, data or information may be a major constraint in the study. The study was consider limited e-banking variables that determine customer satisfaction.
- (ii) The data collection process might face challenges such as incomplete responses, biases in self-reported data, or difficulties in reaching certain customer segments.
- (iii) Differences in the technology infrastructure and E-Banking platforms across various banks might affect the consistency of the study's results. Variations in software, security features, and service quality could influence customer satisfaction differently.
- (iv) The pace of technological advancements in E-Banking may mean that the study's findings could become outdated as new technologies and features are introduced.
- (v) Customers who are more satisfied or dissatisfied with E-Banking services might be more inclined to respond, potentially skewing the results and not accurately reflecting the broader customer sentiment.
- (vi) Cultural attitudes towards technology and economic conditions in Nepal could impact customer satisfaction and may not be fully accounted for in the study.
- (vii) The study might focus on specific aspects of E-Banking services, such as online transactions or mobile banking, without considering the full range of digital banking services offered by commercial banks.
- (viii) If the study is cross-sectional, it may not capture changes in customer satisfaction over time or how evolving banking trends affect satisfaction.



## CHAPTER - II

### LITERATURE REVIEW

The prior chapter outlined the study's background, stated the research problem and objectives, formulated research questions, and described the study's scope and limitations. This section now delves into the related literature and conceptual framework. The literature review explores the study's variables from both historical and contemporary perspectives, establishing a foundation for understanding the topic and justifying the need for further research. The conceptual framework subsequently clarifies the logical relationships between the dependent and independent variables.

#### **2.1 Conceptual Definition**

This section attempt has been basically focused on the review of theoretical concepts on E-Banking. This includes the historical background of banking in Nepal, types of electronic banking, customer satisfaction, service quality dimension, and electronic service quality and customer satisfaction. Here are the brief definitions of terms used in the research paper:

**Customer:** A customer is a person who maintains an account with the bank. One view of this question is that a person does not become a bank customer unless and until he opens an account with a bank (Adebayo, 2013). Based on this study, a customer is defined as any person who seeks banking services or products from the banks.

**Customer Satisfaction:** Customer satisfaction is defined as the number of customers, or percentage of total customers, whose reported experience with a firm, its products or its services (ratings) exceeds specified satisfaction goals (Farris, Bendle, Pfeifer, & Reibstein, 2010). Customer satisfaction is a person's feelings of pleasure or disappointment resulting from comparing a product's perceived performance or outcome concerning his or her expectations (Mussime, Biyaki, & Mahmood, 2010). Based on this study, customer satisfaction will be defined as the measure of how a product or service given to a customer meets the expectations of that particular customer.

**Electronic Banking:** Timothy(2012) electronic banking refers to the use of the Internet as a remote delivery channel for providing services, such as opening a deposit

account, transferring funds among different accounts and electronic bill presentment and payment. This can be offered in two main ways. First, an existing bank with physical offices can establish a Website and offer these services to its customers in addition to its traditional delivery channels. The second is to establish a virtual bank, where the computer server is housed in an office that serves as the legal address of such a bank. Virtual banks offer their customers the ability to make deposits and withdraw funds via ATMs (Automated Teller Machines) or other remote delivery channels owned by other institutions, for which a service fee is incurred. Based on this study, electronic banking can be defined as the means of transferring cash from an electronic terminal device or medium to another.

**Internet Banking:** Arunachalam(2007) contented that Internet banking is where customer can access his or her bank account via the internet using a PC or mobile phone and web-browser. Ongkasuwan andTactichattanon(2002) defined Internet banking service as a banking service that allows customers to access and perform financial transactions on their bank accounts from their computers with an Internet connection. Based on this study, internet banking is defined as an electronic payment system that enables customers of a financial institution to conduct financial transactions on a website operated by the institution, such as a retail bank, virtual bank, credit union or building society. According to this study, it is online banking that gives 24 hours a day, seven days a weekaccess to customers.

**Automated Teller Machines (ATMs):** According to (Lovelock & Wirtz, 2011), Automated Teller Machines (ATM) reduces the workload of bank staff – ATMs reduce the work pressure on bank`s staff and avoid queues in bank premises. The customer can obtain the exact amount. There is no human error as far as ATMs are concerned.

Using ATM, a customer can withdraw cash up to a certain limit during any time of the day or night. Based on this study, ATM is an electronic service that provides a 24 hours service to customers.

**Telephone Banking:** Telephone Banking (Telebanking) can be considered as a form of remote or virtual banking, which is essentially the delivery of branch financial services via telecommunication devices where the bank customers can perform retail

banking transactions by dialing a touch-tone telephone or mobile communication unit, which is connected to an automated system of the bank by utilizing Automated Voice Response (AVR) technology (Balachandher, Santha, Norhazlin, & Rajendra, 2001). A good example of this form is the mobile money services like M-paisa, Tigopesa, EzyPesa, Halo Pesa and Airtel Money. Based on this study, telephone banking can be defined as an e-banking transaction that can be performed by any person, day and night using his or her mobile phone

**Branch Networking:** Networking of branches can be depicted as the computerization and associating of geographically diverse stand-alone bank branches, into a framework of Wide Area Network (WAN) for making and sharing of solidified client data (Abor, 2005). It provides quick inter-branch transactions and hence the effect of time and distance are eliminated. Regardless of where a customer opened his or her accounts, he or she can access it anywhere. Based on this study, branch networking is a money transaction service whereby a customer can have access to his or her bank account any in the country or even outside countries provided that these banks are connected in a WAN. A good example of this form in Tanzania is the UMOJA SWITCH and the VISA CARDS.

**Mobile Banking:** Literally, this is banking conducted through the use of a mobile phone. A mobile banking transaction can be an account inquiry that does not involve a payment such as checking account balance, checking credit limit, looking up transaction history or that involve payment transaction such as mobile payment, a mobile purchase, a mobile money transfer. This system uses short text messaging system to inform customers of their accounts. Based on this study, mobile banking is whereby customers access their bank accounts using their mobile phones. A good example of this form is the NMB Mobile service.

### **2.1.1 Electronic Banking:**

Electronic banking is considered as a new revolution in digital technology and traditional banking services which implies the provision of banking products and services through electronic delivery channels such as the internet, the telephone, cell phone, etc. (Worku, Tilahun, & Tafa, 2016). On the other hand, E-banking gives

customers access to almost any type of banking transaction at a click of a mouse, except for cash withdrawals (Nupur, 2010). Therefore, the use of Information and Communication Technology by banks provide e-banking services and manages customer relationship more quickly and most satisfactorily than traditional banking (Addai, Ameyaw, Ashalley, & Quaye, 2015).

The following table lists some of the common retail and wholesale E-Banking services offered by financial institutions.

Table 1  
*Common E-Banking Services*

Retail Services	Wholesale Services
Retail Services	Account Management
Account Management	Cash Management
Bill Payment and Presentation	Small Business Loan Applications
New Account Opening	Approvals, or Advances
Consumer Wire Transfer	Commercial wire transfer
Investment/Brokerage Services	Business to business payment
Loan Application and Approval	Employee benefit/pension
Account Aggregation	Administration

Source: [www.bankingnews.com](http://www.bankingnews.com)

Worku, Tilahun, and Tafa (2016) highlighted that ATM, mobile banking, internet banking, and Point of Sale (POS) are the most commonly used features of e-banking, available 24/7. E-banking offers significant time savings and cost reductions for customers (Salehi & Alipour, 2010). From the perspective of banks, e-banking enhances branding, market responsiveness, and profit maximization opportunities (Salehi & Alipour, 2010). Despite its numerous advantages, there remains a significant segment of customers who hesitate to adopt these services due to concerns about security, privacy, and uncertainty (Kuisma, Hiltunen, & Laukkanen, 2007).

Timothy (2012) discussed the utilization of the Internet as a remote platform for delivering services, such as opening deposit accounts, transferring funds between accounts, and electronic bill presentation and payment. These services can be provided through two primary methods. Firstly, an existing bank with physical

branches can create a website to offer these services alongside its traditional channels. Alternatively, a virtual bank can be established, with its computer server located in an office that serves as the bank's legal address. Virtual banks allow customers to deposit and withdraw funds through ATMs or other remote channels provided by external institutions, typically charging a service fee for these transactions. According to this study, electronic banking can be defined as the process of transferring money electronically from one terminal or medium to another.

### **2.1.2 History of E-Banking in Nepal**

Virtual banks enable customers to deposit and withdraw funds through ATMs or other remote channels offered by external institutions, usually imposing a service fee for these transactions. As per the study, electronic banking refers to the electronic transfer of money from one terminal or medium to another.

The history of banking and electronic banking in Nepal is not much longer. Nepal started a modern banking service in 1937 establishing Nepal Bank Limited. The first joint venture (JV) Nabil Bank Limited contemporarily Nepal Arab Bank Limited established in 1984. After the establishment of the JV bank, it brought a revolution in banking industries and they grew tremendously in Nepal.

Initially, Nabil Bank Limited introduced the Credit Card system in 1990, followed by Mercantile Office Systems establishing Nepal's first Internet Service Provider (ISP) in 1994. Himalayan Bank Limited then launched Nepal's first Automated Teller Machine (ATM) in 1995 and introduced Tele-banking services in 1997. In 2000, Nepal formulated its Information Technology (IT) policy to streamline banking services. The establishment of joint venture (JV) banks played a crucial role in advancing Nepal's banking sector. Subsequently, Kumari Bank Limited was founded in 2001 by Nepalese promoters and made significant strides by introducing Internet Banking services in 2002 and SMS-Banking (mobile banking) two years later. The Government of Nepal revised the Electronic Transaction and Digital Signature Act in 2005, although its implementation is still pending.

### **2.1.3 Types of Electronic Banking**

According to the current electronic banking services available, the channels of electronic banking are as follows:

**a) Automated Teller Machines (ATMs)**

According to Lovelock and Wirtz(2011),the ATM reduces the workload of bank staff, avoids queues on bank premises,providesthe exact amount of money instantly and makes safe to both bank and customers from human errors.

Using ATM, a customer can withdraw cash up to a certain limit atany time. Based on this study, ATM is an electronic service that provides a 24 hours service to customers.

**b) Telephone Banking**

Telephone Banking (Telebanking) can be considered as a form of remote or virtual banking, which is essentially the delivery of branch financial services via telecommunication devices where the bank customers can perform retail banking transactions by dialing a touch-tone telephone or mobile communication unit, which is connected to an automated system of the bank by utilizing Automated Voice Response (AVR) technology (Balachandher, Santha, Norhazlin, & Rajendra, 2001). A good example of this form is the mobile money services like *M-Paisa*, Tigopesa, EzyPesa, Halo Pesa and Airtel Money. Based on this study, telephone banking can be defined as an e-banking transaction that can be performed by any person, day and night using his or her mobile phone.

**c) Point of Sales (POS)**

The POS means a retail shop, a checkout counter in the shop, or the location where a transaction occurs. More specifically, the point of sale often refers to the hardware and software used for checkouts the equivalent of the electronic cash register. Points of sales systems are used in supermarkets, restaurants, hotels, stadiums and casinos as well as almost any type of retail establishments.

**d) Branch Networking**

Networking of branches can be depictedas the computerization and associating of geographically diverse stand-alone bank branches into a framework of Wide Area Network (WAN) for making and sharing of solidified client data (Abor, 2005). It provides quick inter-branch transactions and hence the effect of time and distance are eliminated. Regardless of where a customer opened his or her accounts, he or she can

access it anywhere. Based on this study, branch networking is a money transaction service whereby a customer can have access to his or her bank account any in the country or even outside countries provided that these banks are connected in a WAN. A good example of this form in Tanzania is the UMOJA SWITCH and the VISA CARDS.

#### **e) Mobile Banking**

This study examines a mobile banking service system operated via mobile phones. Mobile banking transactions can include non-payment activities like checking account balances, verifying credit limits, or reviewing transaction histories. They also encompass payment-related actions such as mobile payments, purchases made via mobile, or mobile money transfers. The system utilizes SMS notifications to update customers about their account statuses.

#### **f) Internet Banking**

Arunachalam (2007) acknowledged that specialists on the subject of Internet banking have described it in various ways. Most of them agreed that internet banking is a banking process where a customer can access his or her bank account via the internet using a personal computer, mobile phone or Web browser. Partially, internet banking offers several types of services through which customers of the banks can request for getting information and also can carry out most of the banking transactions through their smart devices and computers (Suriya, Mahalakshmi, & Karthik, 2012).

Ongkasuwan and Tactichattanon (2002) defined, "Internet banking service as banking service that allows customers to access and perform financial transactions on their bank accounts from their computers with an Internet connection. Based on this study, internet banking is defined as an electronic payment system that enables customers of a financial institution to conduct financial transactions on a website operated by the institution, such as a retail bank, virtual bank, credit union or building society. According to this study, it is online banking that gives 24 hours a day, seven days a week access to customers.

#### **2.1.4 Customer Satisfaction**

Customer refers to an entity that provides payment for products either goods or services that are produced by an organization to fulfill customer's needs and provide

satisfaction. In this connection, Tsafarakis, S., Kokotas, T., & Pantouvakis, A. (2018). viewed that customers are considered the most important stakeholder of an organization, without customers businesses will simply be unable to sustain themselves. Therefore, an organization must select products that not only attract customers but also satisfy their needs and wants. Satisfaction refers to a person's feelings of pleasure or disappointment, it is determined by comparing a product's actual performance or perceived performance against their expected performance. i.e. satisfy customer's need.

When put together customer satisfaction, Ha, J., & Jang, S. S. (2010).referred that to an outcome of a comparison process between a product's perceived or expected performance against the actual performance and if the actual performance of a product exceeds expectation; satisfaction occurs, while if the actual performance of a product is below expectation; dissatisfaction occurs. Thus, customer satisfaction can be defined as the pleasure derived by someone from the consumption of goods or services offered by another person or group of people; or it can be the state of being happy with a situation. Whereas, some authors have also defined customer satisfaction (CSAT) as a metric used to quantify the degree to which a customer is happy with a product, service, or experience.

Customer satisfaction has been gaining increasing attention from researchers and practitioners as a recognized field of scholarly study and is a fundamental tool used by financial institutions for enhancing customer loyalty and ultimately organizational performance and profitability (Mohsan, Nawaz, Khan, Shaukat, & Aslam, 2011). In businesses where the underlying products have become commodity-like, the quality of service depends heavily on the quality of its personnel. This is well documented in a study (Leeds, 1992). The study also found that approximately 40% of customers' switched banks because of what they considered to be poor service. Leeds further argued that nearly three-quarters of the banking customers mentioned teller courtesy as a prime consideration in choosing a bank. The study also showed that increased use of service quality and professional behaviors (such as formal greeting) improved customer satisfaction and reduced customer attrition. Additionally, satisfied customers may look for other providers because they believe they might receive better service elsewhere.

Papasolomou-Doukakis(2002) further proposed that product differentiation is impossible in a competitive environment like the banking industry. Banks everywhere

are delivering the same products. For example, there is usually only a minimal variation in interest rates charged or the range of products available to customers. Bank prices are fixed and driven by the market price. Thus, bank management tends to differentiate their firm from competitors through service quality. Service quality is an imperative element impacting customers' satisfaction levels in the banking industry. In banking, quality is a multi-variable concept, which includes differing types of convenience, reliability, services portfolio, and critically, the staff delivering the service.

Customer service delivery is ensuring customers' satisfaction through the use of a product or service. The facility must ensure clients' expectations, preferences and perceptions are met. Customer service happens when a commercial facility is offering a service to the client, which includes purchases or returning a product. Customer service can happen through in-person interactions, making phone calls, the customer making self-services or any other means. The process is essential in retaining a client and the relationships with the financial firms (Tandelilin W., 2007).

### **2.1.5 Service Quality**

Service quality has become a significant focus since the 1980s, especially regarding products and services. Although marketers have defined and measured the quality of tangible goods, the quality of services remains largely unexplored and undefined. Yarimoglu, E. K. (2014) sought to address this gap by examining service quality across various service industries and creating a model to better understand it.

Service quality was defined as adherence to specifications. Services were considered performances, often conducted in the presence of customers. These services varied between firms and situations, with quality being divided into technical and functional aspects. Crosby (2008) stated that technical quality was about what was delivered, whereas functional quality was about how it was delivered. Service quality measured how well the offered service matched customer expectations. Gronroos (2009) explained that service quality involved the customer in the service process, emphasizing the importance of the service experience over the outcome. Similarly, Parasuraman described service quality as the customer's judgment of overall excellence, based on the difference between their expectations and the perceived service.

Lovelock and Wirtz (2011) noted that the term "quality" varies in meaning depending on the context, and due to the unique nature of service quality, a distinct approach is necessary to identify and measure it. Since services are intangible and complex, evaluating their quality is more challenging compared to physical products. Because customers are often involved in producing services, it is important to differentiate between the service delivery process and the actual outcome of the service, known as technical quality. Other researchers have suggested that perceived service quality results from a process where customers compare their perceptions of service delivery to their expectations. Service quality is generally seen as providing excellent or high-value service to customers, ideally exceeding their expectations (Tahar, 2008). As a result, service quality remains a significant topic of research for scholars, marketers, and researchers.

Baron (2009) highlighted that service quality is a major focus in service marketing research. Even today, service organizations, marketers, and researchers strive to understand customer preferences to enhance service quality, gain a competitive edge, and retain customers. Similarly, Lovelock and Wirtz (2011) pointed out that poor service quality can put a firm at a disadvantage by leading to customer dissatisfaction. This dissatisfaction often causes customers to switch to competitors, reduces the likelihood of repeat business, and spreads negative word of mouth.

According to Zeithaml (1988) the interaction between customers and service organizations shapes customers' perceptions of quality. The behavior of service providers also acts as an indicator of quality for customers. Burke, Graham, and Smith (2005) noted that purchasing a service differs from buying a product. When buying a product, there is no direct contact between the organization selling the product and the consumer. As a result, the consumer's perception of product quality is influenced by advertisements, recommendations from previous users, or their own past experiences with the product. In contrast, consumers' impressions of a service are influenced by their interactions with the service provider, making the provision of service both a personal and psychological experience (Schneider & Bowen, 1985).

Athanassopoulos, Gounaris and Stathakopoulos (2001) suggested a summary of the literature about the criteria customers used to measure the quality of services. The general conclusion is that the criteria used are complex and difficult to determine exactly due to the factors listed below;

- services are intangible
- services are heterogeneous indicating that their performance often varies from provider to provider, from customer to customer, and from context to context
- services cannot be placed in a time capsule and thus be tested and retested over time
- production of services is likely to be inseparable from their consumption

Gronroos and Kotler cited in (Athanassopoulos, Gounaris, & Stathakopoulos, 2001) intimate that customers generally evaluate service quality by its outcome, the process of the service delivery and the context. Parasuraman, Berry and Zeithaml(1991) note that quality is meeting the needs and the expectations of customers. Therefore, the yardstick for determining service quality is the expectations of customers and not the policy of the bank. This view has been corroborated by Ting(2004) and Jamali(2007). Similarly, Coetzee, Zyl, and Tait(2013) stated that the success of service-oriented firms is largely dependent on bettering of service quality because a higher level of service quality creates value for the business, and also leads to satisfaction in customer, repeat purchase and, ultimately, customer loyalty which in turn leads to competitive advantage in highly globalized and competitive markets. Thus, service organizations should meet the requirements of their customers whilst sustaining a competitive advantage. Felix (2017) noted service quality to be a common but critical prerequisite and determinant of competitiveness for establishing as well as sustaining a satisfying relationship with customers. Further, studies performed by other researchers also suggest that service quality is an important indicator of customer satisfaction

### **2.1.6 Service Quality Dimensions in Banking Industry**

Service quality is likely the most essential component of customer experience. Therefore, organizations consistently evaluate service quality and satisfaction to enhance customer retention. Service quality relies on the idea that it can be assessed by comparing customer expectations with the service actually provided. The difference between expectation and actual service is measured across important service dimensions. This process involves assessing both customer perceptions and expectations of service along key service quality dimensions. Examining the differences between the desired level of service and the service actually delivered

reveals areas where improvements are needed in the service mix. Initially, Parasuraman, Zeithaml, and Berry (1988) identified ten key components of service quality. These include reliability (consistent performance and dependability), responsiveness (willingness and readiness to serve), competence (having the necessary knowledge and skills), access (ease of approach and contact), courtesy (politeness, consideration, and friendliness of staff), communication (keeping customers informed and listening to them), credibility (being trustworthy and having the customer's best interests at heart), security (freedom from danger and risk), customer knowledge (understanding needs and providing personalized attention), and tangibles (facilities and physical features).

The service quality dimensions can be divided into five categories tangibles, reliability, responsiveness, assurance and empathy. (Parasuraman, Zeithaml, & Berry, 1988).

- **Reliability**

The dependability of a service provider is crucial, as it involves delivering services as promised, including resolving problems effectively. Customers prefer to engage with companies that keep their commitments, particularly regarding service outcomes and core service attributes. According to Arasli, Katircioglu, and Mehtap-Smadi (2005), providing reliable services increased policyholders' confidence, enhanced loyalty, promoted word-of-mouth recommendations, and positively impacted customer satisfaction. Consequently, by offering superior service quality through knowledgeable employees and dedicated agents with high levels of expertise, insurance providers can foster better relationship quality between customers and the company (Yu & Tung, 2013).

- **Responsiveness**

Responsiveness referred to the speed and eagerness of a service provider to assist customers and deliver prompt service. It highlighted the importance of being attentive and quick in addressing customer requests, inquiries, complaints, and issues. This also included the ability to adapt services to meet customer needs. Responsiveness was crucial as it made customers feel valued, which led to higher satisfaction levels. According to Vencataya et al. (2019), a high level of responsiveness resulted in greater customer satisfaction. Therefore, service providers needed to listen to customer queries and make necessary improvements through appropriate

communication channels. This approach facilitated the establishment and maintenance of long-term relationships with policyholders (Yu & Tung, 2013).

- **Assurance**

Assurance is the level of confidence that customers have in the quality of service provided. It highlights employees' expertise, politeness, and the ability of both the company and its staff to instill trust and confidence in customers. This, in turn, helps maintain good customer relationships by delivering high-quality service, leading to customer satisfaction (Ahearne, Jelinek, & Jones, 2007). Assurance was crucial in influencing consumers' decisions to use the service.

- **Tangibility**

Tangibility refers to the physical aspects of service facilities, equipment, personnel, and communication materials. These elements provide tangible representations of services that customers use to assess quality. Since services are intangible, customers often judge service quality based on tangible factors such as office layout and equipment. Jamal and Naser (2002) and Kumar et al. (2010) emphasized the importance of these tangible elements in influencing customer satisfaction. Policyholders are satisfied when service centers are comfortable, the surrounding atmosphere is pleasant, and additional services are provided, enhancing interactions between customers and the company (Yu & Tung, 2013).

- **Empathy**

It is the sympathizing of a service employee showing an understanding of the customer's situation. It's defined as the individualized attention or the caring that a firm, provides to its customers. Greater the level of this understanding is always better. However, some situations require more empathy than others and vice versa. In the service sector, employees are expected to be more empathetic towards customers (Donthu & Yoo, 1998). Hence, according to Gronroos(1982), to establish a successful and long-lasting relationship, an agent must be empathetic; have the ability to understand the customer and make most of the relationship.

SERVQUAL provides a basic framework for measuring and understanding customer satisfaction which can be adapted to fit the characteristics of research needs of a specific company. The expectations and perceptions format of the SERVQUAL model encompasses all of the five service quality dimensions; assurance, reliability, responsiveness, tangibility and empathy(Parasuraman, Zeithaml, & Berry, 1988).

Thus, for a service-oriented industry like insurance, SERVQUAL is a good measurement instrument

### **2.1.7 Electronic Service Quality and Customer Satisfaction**

E-service quality is about overall assessment and discernment by the customer regarding the eminence and quality of e-service delivery (Santos, 2003). Endurance in today's competitive banking environment is dependent on providing excellent service and products to customers (Wang & Lo, 2003). E-banking has attained the status of essential service in attaining customers' loyalty in the banking sector by ensuring customer satisfaction and healthy relations.

Satisfaction can be illustrated as an "evaluation of the perceived discrepancy between prior expectations and the actual performance of the product" (Oliver R. L., 1999). Satisfaction has an intimate link with service quality. Online banks need to become more concerned about customer's perception of the online banking services' quality as it is fairly easier for the customers to assess the advantages of competing services (Santos, 2003).

Researchers have verified that the provision of quality service to customers makes them stay with an organization, also catches the attention of new ones, augment corporate image and assures endurance and profitability of an organization (Negi, 2009)(Ladhari, 2009). Customer pleasure is the contributor of absolute gains of a quality revolution, which is majorly contingent on customer's cognizance of overall service quality (Husnain & Akhtar, 2016). This is the reason that why it is very crucial to recognize how consumers perceive service quality and how it will affect their satisfaction level, through which banks can identify the gaps in service quality delivery to take essential curative actions to improve upon their activities.

Parasuraman, Berry, and Zeithaml (1985) developed a model (SERVQUAL) for measuring service quality based on the study on four service sectors; retail banking, credit card services, repair and maintenance of electrical appliances, and long-distance telephone services. The model initially consisted of ten dimensions which were reduced to five as some of them were overlapping.

Dimensions of SERVQUAL Model

- i. Reliability Capability to deliver service as promised
- ii. Responsiveness Prompt delivery of services to customers

- iii. Assurance Knowledge and civility of employees, ensuring safety & delivering trust
- iv. Tangibles Outlook of physical equipment's and communication resources
- v. Empathy providing customer care with an individualistic approach

SERVQUAL model is considered as an appropriate scale to measure service quality in various industries. Dimensions of the model fit a particular service to guarantee dependable and valid results (Ladhari, 2009).

In the Banking sector, all these dimensions have been identified as vital in determining service quality. Rahimuddin and Bukhari(2010) while researching e-banking in Pakistan identified that a bank's performance is not dependent on the mean it is using to deliver the service i.e. manual or online. Therefore customers prefer to perform the required banking transactions while sitting at home rather than going to the bank, thus saving their time and money.

Gaining customer's trust in electronic channels is the imperative element for the triumph of internet banking. Swift delivery of innovations can be made possible by providing improved infrastructural amenities (Stewart, 1999). Liébana-Cabanillas, Muñoz-Leiva, and Rejón-Guardia(2013) in their study concluded that accessibility, ease of use, trust and usefulness has a significant effect on customer satisfaction in the context of e-banking services. Website's user-friendliness is an imperative feature that needs to be considered when evaluating electronic banking users' satisfaction and positive word of mouth in general. Convenience and access are identified as the most crucial factors in enhancing the performance of e-banking services (Kaur & Kiran, 2015).

Service quality is defined as the difference between service expectation and service performance (Parasuraman, Zeithaml, & Berry, 1988). Similarly, perceived service quality is the result of an evaluation between the services a customer expects against the actual services a customer receives (Gronroos, 1982), while customer satisfaction is defined as a person's feelings of pleasure or disappointment which are determined through comparison of a product's actual performance or perceived performance against their expected performance. I.e. satisfy customer's needs(Kotler P. , 1997).

Many types of research were conducted to understand the relationship between customer satisfaction and service quality, and the findings of these researches illustrate; service quality being the only service factor that contributes to customers'

satisfaction judgments (Cronin & Taylor, 1992). Andreassen(1999) mentioned that customer satisfaction can be viewed as an assessment where the difference between the perceived expectations of a product and the experience of a product is assessed, and service failure is a state where the service delivery is not on the level of customer expectations, leading to dissatisfaction. Thus, service delivery aims to either make customers satisfied or to move customers from a state of dissatisfaction to a state of satisfaction which often starts with a customer complaint and ends with service recovery. Furthermore, Suda and Sarunya(2005) found that customer satisfaction to be a multidimensional construct with each of those dimensions being impacted in different ways by different components of service quality.

Kouthouris and Alexandris (2005) studied the service quality, customer satisfaction and behavioral intentions in the tourism industry. Their study revealed that customers have higher quality expectations with the assurance dimension followed by the reliability and empathy dimension whereas the tangibility dimension had the low-quality expectation. Further, they observed that the service quality offered a very low contribution to the prediction of behavioral intentions of the customers while the satisfaction offered a very high and significant contribution to the prediction of behavioral intentions of customers.

### **2.1.8 Internet banking and customer satisfaction**

Today's economy is very competitive and with the customer getting more and more aware, customer satisfaction is considered to be the core of success and online technology can be used to improve service quality for customer satisfaction (Jamal & Naser, 2002). This rapid technological development has led the online channel the best for the provision of banking products and services to their customers as this establishes, extends and retains the relationship (Robinson, 2000). It is a strategic advantage for banks to maintain great relationships with their customers for success. Consistent customer-oriented behavior is essential for enhancing service quality, as many banks now prioritize customer needs over products (Jamal & Naser, 2002). Several studies affirm the connection between online banking and customer satisfaction (Saha & Zhao, 2005; Casalo, Flavian, & Guinaliu, 2008). Raman, Stephenaus, Alam, and Kuppusamy (2008) provided empirical evidence supporting this relationship, highlighting a direct correlation between internet banking usage and

customer satisfaction. Zeithaml, Berry, and Parasuraman (1996) noted that loyalty and retention are crucial indicators of customer satisfaction. Similarly, Casalo, Flavian, and Guinaliu (2008) argued that better website usability increases customers' emotional commitment to the site and correlates directly with their satisfaction from previous interactions with financial services websites. Al-Hawari and Ward (2005) also found a positive link between internet banking usage and customer satisfaction and retention. Khalil and Pearson's (2007) study concluded that trust significantly influences attitudes towards accepting online banking, emphasizing the need for banks to build trust in their technology to encourage online banking adoption.

Some of these studies including a work by Ishengoma(2011) conducted a study on the analysis of mobile banking for financial inclusion in Tanzania. The study employed a TAM to explain the concept of customer perception of usefulness (benefits of electronic banking) and customer perception of ease of use. The findings show that the perceived risk of use affected the usage behavior of the customers; however, the customer perception of benefits pushed the customers to use them-banking services. The study did not take into account the totality of electronic banking products, which in turn leaves the question of electronic banking impacts to customers of other alternatives (ATM, Internet banking) unanswered.

Amoako (2012) found that ICT played a positive role in improving banking services and fostering growth in the Ghanaian banking sector. The research highlighted that e-banking was still in its early stages in Ghana. Recommendations included developing easy-to-use systems and applications for the public, enhancing ICT infrastructure with government and bank support, providing incentives like tax reductions, and ensuring affordable access to PCs for all Ghanaians. Financial institutions were advised to educate customers about ICT security and introduce more electronic products to streamline customer transactions from homes and workplaces.

Nguli (2016) revealed a positive link between product differentiation by commercial banks and customer satisfaction. It emphasized that innovative technologies accompanying product innovations significantly influenced customer satisfaction. The study concluded that even a small change in product differentiation could lead to a notable increase in customer satisfaction.

Vershinina (2017) conducted a study to understand customers' perceptions of a bank, aiming to support the company's future growth. The research utilized a quantitative approach through a questionnaire, which gathered responses from 100 bank customers. Findings indicated that overall customer satisfaction was rated above average but not outstanding. The study suggested that the bank should prioritize customer satisfaction within its workforce and undertake initiatives to improve service quality further. Recommendations included enhancing employee training, introducing customer-friendly programs, and implementing new service features.

Okhankhuele (2016) conducted research to assess the duration customers spent at bank counters before and after the implementation of Internet Banking Services (IBS) in two banks. The study used a survey design and employed systematic and purposive sampling techniques to select 138 respondents, who were customers of these banks. Data were collected using a 10-item questionnaire. Descriptive statistics, including mean averages, and t-tests were utilized to analyze the data and test the hypotheses. The findings indicated that the introduction of Internet Banking significantly reduced customers' waiting time at bank counters in both banks. The study recommended the continued adoption of modern ICT facilities to further minimize customer service times.

## **2.2 Theoretical Reviews**

The foundation of this study is based on the theories of Planned Behavior, Technology

Acceptance Model and Disconfirmation theory

### **2.2.1 Theory of Planned Behavior**

The Theory of Planned Behavior (TPB), as introduced by Ajzen in 1985, enhances the predictive capabilities of the Theory of Reasoned Action by incorporating perceived behavioral control (Koger & Winter, 2010). It effectively predicts individuals' acceptance of IT, linking attitudes to behavior. This theory has proven highly effective in various fields including advertising, public relations, advertising campaigns, and healthcare, where it analyzes the relationships among beliefs, attitudes, behavioral intentions, and actual behaviors.

The Theory of Planned Behavior (TPB), proposed by Sniehotta (2009), asserts that individuals' behavioral intentions and actions are influenced by their attitudes toward

the behavior, subjective norms, and perceived behavioral control. This theory provides insights into how people's behaviors can be understood and potentially modified. TPB evolved from Ajzen and Fishbein's Theory of Reasoned Action (Koger & Winter, 2010), incorporating perceived behavioral control to account for situations where behavior may not be entirely voluntary or under complete control. This addition led to its renaming as the Theory of Planned Behavior. Attitude (ATT) refers to people's general feelings of whether a behavior is desirable or undesirable.

Subjective norm (SN) expresses the perceived organizational or social pressure of a person who intends to perform a particular behavior. Perceived behavioral control (PBC) reflects a person's perception of the ease or difficulty of implementing a particular behavior.

Armitage and Conner (2001) analyzed previous studies using the TBP in a meta-analysis study. A review of existing evidence suggests that the residual impact of past behavior is attenuated when measures of intention and behavior are compatible and vanishes when intentions are strong and well-formed, expectations are realistic, and specific plans for intention implementation have been developed. The major conclusion was support for the efficacy of the TPB and the suggestion that more work on new variables is needed to increase the predictability of the model.

### **2.2.2 The Technology Acceptance Model (TAM)**

The Technology Acceptance Model proposed by Davis, Bagozzi, and Warshaw(1992) appears to be the most widely used innovation adoption model. This model has been used in a variety of studies to explore the factors affecting an individual's use of new technology. The sequential relationship of belief–attitude–intention– behavior in TAM enables us to predict the use of new technologies by users. In fact, TAM is an adaptation of the Theory of Reasoned Action (TRA) regarding information systems which notes that perceived usefulness and perceived ease of use determine an individual's attitudes towards their intention to use innovation to serve as a mediator to the actual use of the system. Perceived usefulness is also considered to be affected directly by perceived ease of use.

In the case of system adoption, Hanafizadeha, Keatingb, and Khedmatgozar(2014) used the TAM model. This theory asserts that perceived usefulness and ease of use are fundamental determinants of system adoption and usage (Bankole, Bankole, &

Brown, 2011). Many electro banking adoption studies extend or supplement the original TAM by including additional constructs, such as relative advantage and personal innovativeness, perceived risk, perceived cost of use, compatibility with lifestyle, and perceived security (Hanafizadeha, Keatingb, & Khedmatgozar, 2014). In fact, TAM provides the provision to add external variables as the determinants of perceived usefulness and perceived ease of use (Davis, 1989).

Additionally, TAM assumes that potential consumers are free to act and choose without limitation. Consumers may come up with some constraints in practice that may prevent them to act freely such as the rationalization of traditional banking channels which is why many of them tend to adopt mobile banking over the past decade (Hanafizadeha, Keatingb, & Khedmatgozar, 2014). Additionally, Yousafzai, Foxall, and Pallister(2005)indicated that TAM is superior to the other models and highlighted the importance of it understanding online banking behavior.

### **2.2.3 Disconfirmation Theory**

Disconfirmation theory argues that „satisfaction is related to the size and direction of the disconfirmation experience that occurs as a result of comparing service performance against expectations. Henard and Szymanski(2001) found in the Meta-analysis that the disconfirmation paradigm is the best predictor of customer satisfaction (Gardachew, 2010). Fang, Tian and Tice(2011) cited Oliver’s updated definition ofthe disconfirmation theory, which states Satisfaction is the guest’s fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under-or over-fulfillment.

### **2.3 Review of Related Studies**

Research conducted in Pakistan by Toor, Hunain, Hussain, Ali, and Shahid (2016) utilized a quantitative research approach to explore the influence of e-banking factors on customer satisfaction. They found that higher service quality in e-banking correlates with increased customer satisfaction. This suggests that banks can enhance their competitive edge by delivering superior service quality to their customers.

Worku, Tilahun, and Tafa (2016) conducted a study to explore the impact of electronic banking (e-banking) on customer satisfaction compared to traditional brick-

and-mortar banking services in Gondar city. The research aimed to investigate how demographic factors such as age, occupation, and education influenced this relationship. They gathered data from 402 completed questionnaires filled out by e-banking customers and conducted interviews with staff from four branches of two commercial banks offering e-banking services. Methodologically, the study utilized tables and percentages to present descriptive statistics, chi-square tests to analyze demographic associations with e-banking adoption, independent t-tests to assess changes in branch visits before and after e-banking adoption, and regression analysis to identify variables influencing customer satisfaction in e-banking. The findings indicated that e-banking users were predominantly young, educated, salaried individuals, and students, with limited participation from business owners. E-banking was found to significantly enhance customer satisfaction by reducing the need for physical bank visits and waiting times, although some customers were unaware of associated fees. Overall, the study highlighted substantial opportunities for expanding e-banking services within the city.

Ejigu (2016) aimed to investigate the impact of E-Banking service quality on customer satisfaction in state-owned banks within Debre Markos town, Ethiopia. Data were gathered via questionnaires from 190 bank customers selected through simple stratified sampling from both Woreda and zonal levels of E-Banking users. Statistical analysis using SPSS version 20 included measures such as mean, standard deviation, correlation, and multiple regression. The findings revealed that, with the exception of assurance, the dimensions of E-Banking service quality (tangibility, reliability, responsiveness, and empathy) significantly influenced customer satisfaction. Particularly, customers expressed highest satisfaction with the responsiveness dimension. Moreover, these service quality dimensions collectively explained 79.2% of the variance in customer satisfaction levels in state-owned banks. Recommendations included enhancing staff training in E-Banking usage and optimizing the placement of E-Banking facilities for accessibility. Key terms for the study encompassed state-owned banks, E-Banking, service quality, customer satisfaction, and Ethiopia.

Sleimi, Karam, and Qubbaj (2018) aimed to investigate the impact of E-banking service quality on customer satisfaction, with a focus on the moderating role of

customer trust. Using a quantitative research method, 500 questionnaires were distributed randomly among E-banking customers at all Arab Bank branches in Amman City to gather responses. A total of 300 completed questionnaires were analyzed using SPSS software. The research found a strong positive relationship between E-banking services and customer satisfaction. Additionally, it identified that customers rated insurance, empathy, reliability, tangibles, and responsiveness highly in Arab Bank's E-banking services. Importantly, the study revealed that customer trust mediates the relationship between E-banking service quality and customer satisfaction. Key findings underscored the significance of ser

Hammoud, Bizri and Baba (2018) aimed to explore the relationship between various dimensions of E-Banking service quality and customer satisfaction, identifying which dimension most significantly influences customer satisfaction. To achieve this, a survey was administered to clients of banks in the Lebanese banking sector, and the collected data were analyzed using structural equation modeling with SPSS and Amos (20). The analysis revealed that dimensions such as reliability, efficiency, and ease of use; responsiveness and communication; and security and privacy all significantly affected customer satisfaction. Among these, reliability had the strongest impact on customer satisfaction. The findings underscored that E-Banking, when effectively implemented, could enhance customer satisfaction and provide banks with a competitive edge. Understanding the relative importance of these service quality dimensions allows the banking industry to focus on the factors that most effectively satisfy customers.

Solanki (2018) conducted on the Indian banking industry's technological advancements, the primary objective was to evaluate the impact of technology adoption on banking operations in India. The study aimed to assess the progress in digital banking services, improvements in technological infrastructure, enhancements in customer service, and overall efficiency gains resulting from technology integration. Utilizing secondary data and analytical methods, the research examined trends, challenges, and opportunities within the sector. The findings highlighted the significant transformative effects of technology, revealing substantial progress in digital services, better infrastructure, and improved customer interactions. The study underscored both the advantages and the hurdles faced by banks in integrating technology, offering insights into the evolving landscape of Indian banking.

Ikya (2019) aimed to explore the substantial market potential among Nigeria's economically disadvantaged population and provide insights into their socio-economic conditions. The study's objectives were to identify barriers exacerbating financial exclusion, inequality, and poverty, and to propose actionable recommendations for practitioners and policymakers. The methodology involved a comprehensive review of socio-economic data, focusing on households at the lower economic strata. Findings indicated significant untapped market opportunities at the base of the economic pyramid, highlighting the need for targeted interventions to address structural and institutional barriers hindering financial inclusion and exacerbating socio-economic disparities in Nigeria. The study recommended strategic initiatives aimed at enhancing access to financial services, reducing inequality, and alleviating poverty among the country's marginalized populations.

Sharon, Akintola, Francis, and Dorcas (2019) aimed to assess the impact of ethical behavior on sustainability disclosure quantity and quality in Nigerian commercial banks. The study employed a cross-sectional research design, focusing on a sample of fourteen commercial banks listed on the Nigerian Stock Exchange during the financial years from 2008 to 2017. The objectives included evaluating the relationship between ethical behavior and sustainability disclosure practices, as well as identifying the factors influencing the quality and quantity of sustainability reporting. Methodologically, the researchers collected data from annual reports and sustainability disclosures of the selected banks, using quantitative analysis to measure the extent and quality of sustainability reporting. The major findings highlighted a positive correlation between strong corporate ethical cultures and enhanced sustainability disclosures, emphasizing the role of ethical behavior in promoting transparent and socially responsible corporate practices. The study recommended that corporate directors and stakeholders prioritize fostering a robust ethical culture to improve sustainability reporting practices, benefiting both the reporting entities and wider society.

Unyathanakorn and Rompho (2017) conducted a study to explore the indirect impact of information provision and customer awareness on customer satisfaction through perceived quality and perceived value in the banking sector. The study aimed to

investigate how emphasizing service quality, convenience in fund transfers within and across banks, a diverse range of bill payment options, and accurate service with clear assistance channels influence the perceived value of banking services. Methodologically, the researchers employed a quantitative approach, gathering data through structured questionnaires distributed to bank customers. Statistical analyses, including regression models, were used to examine the relationships between information provision, perceived quality, perceived value, customer satisfaction, and loyalty. The findings indicated that customer expectations regarding service quality and value significantly influenced their satisfaction and loyalty levels, highlighting the crucial role of perceived quality and value in shaping customer perceptions and behaviors in the banking sector.

Santouridis, Trivellas, and Reklitis (2018) aimed to evaluate customer satisfaction and the quality of electronic banking services in Greece by examining the impact of SERVQUAL model dimensions—specifically assurance, responsiveness, and reliability—on customer satisfaction. To achieve this, they employed the SERVQUAL model as a framework to assess electronic banking services, collecting data through surveys distributed to banking customers. Their analysis involved statistical techniques to measure how each SERVQUAL dimension influenced customer satisfaction. The study's major findings revealed that reliability had the most significant and positive effect on customer satisfaction, highlighting the importance for banking sectors to focus on improving aspects that did not significantly contribute to customer satisfaction.

Ahmad and Al-Zu'bi (2020) aimed to investigate the relationship between electronic banking functionality and its impact on customer satisfaction in Jordanian banks. The study's objective was to assess how variables such as privacy, accessibility, design, convenience, content, and security influence customer satisfaction. Using a random sampling technique, the researchers selected a sample size of 185 customers from various banks in Jordan. Methodologically, they employed surveys to gather data on customer perceptions regarding electronic banking services. Statistical analysis, including regression analysis, was conducted to determine the significant factors affecting customer satisfaction. The findings indicated that privacy, accessibility, design, convenience, content, and security of electronic banking services significantly

contribute to enhancing customer satisfaction in Jordanian banks. These results underscore the importance of improving electronic banking functionalities to meet customer expectations and enhance overall satisfaction levels.

Kawamala (2021) aimed to explore the strategic importance of internet banking in Tanzania, assess its impact on customer-bank relationships, and evaluate the overall customer experience with e-banking services. The study utilized a mixed-methods approach, incorporating both surveys and interviews to collect data from customers of various banks, including those that offered internet banking and those that did not. Participants were chosen based on their usage and familiarity with e-banking services. Data analysis combined qualitative techniques for interview transcripts and quantitative methods for survey responses. The research focused on factors influencing e-banking adoption, including government support, availability of equipment, customer satisfaction, competitive pressure, perceived ease of use, usefulness, trust, security, and demographic factors such as education and income levels. The findings revealed that banks offering internet banking were perceived more positively by customers compared to those without such services. Additionally, the introduction of mobile banking services like M-Pesa and Tigo Pesa significantly improved financial transactions, benefiting both urban and rural areas of Tanzania.

Irabatti (2023) conducted a study to evaluate the service quality of online banking in Pune city, a rapidly growing urban center in Western India. The study aimed to assess efficiency, tangibility, responsiveness, reliability, and privacy dimensions of online banking services. A structured questionnaire comprising 21 questions was utilized for data collection. The sample consisted of 200 respondents, with 100 customers selected from each of the two leading banks using convenience sampling. The study found that ICICI, a pioneer in online banking in India, demonstrated superior performance across quality dimensions compared to SBI initially. However, in recent years, SBI has emerged as a leading public sector bank, significantly enhancing its internet banking services. These findings highlight the evolution and competitive dynamics within the online banking sector in Pune, underscoring the importance of continuous improvement in service quality to meet customer expectations and competitive pressures.

Ayer, (2023) examined the impact of e-banking services on customer satisfaction in Nepalese commercial banks. Specifically, it aimed to analyze how various factors such as convenience, reliability, ease of use, security, time-saving, and perceived benefits influence customer satisfaction. The study utilized a structured questionnaire to gather primary data from 120 respondents. The data was analyzed using correlation coefficients and regression models to determine the significance and importance of these e-banking service factors on customer satisfaction. The findings revealed that all the selected variables positively impacted customer satisfaction. Increased convenience, reliability, ease of use, security, time-saving, and perceived benefits were all associated with higher levels of customer satisfaction in e-banking services offered by Nepalese commercial banks.

Table 2

*Summary of research works reviewed*

Authors/ year	Titles	Objective	Methodolgoy	Result
Santouridis, Trivellas, and Reklitis(2009)	Internet service quality and customer satisfaction: Examining internet banking in Greece	To examine the relationship between internet service quality and customer satisfaction in the context of internet banking in Greece	The authors used statistical techniques like factor analysis and regression analysis to analyze the data collected.	The result of this study proved that all quality dimensions are antecedents of overall customer satisfaction, with reliability having the most significant impact. Further, the quality of information is a crucial dimension driving the customer intentions for internet banking future usage.
Toor, Hunain, Hussain, Ali, and Shahid(2016).	The Impact of E-Banking on Customer Satisfaction: Evidence from Banking Sector of Pakistan	Investigated the influence of e-banking on customer satisfaction in Pakistan's banking sector. Identified the factors that contributed to customer satisfaction in e-banking	Used a quantitative research design. The data were analyzed using descriptive statistics, correlation analysis, and regression analysis.	This study concludes that service quality in E-banking leads to satisfied customers and thus banks can gain a competitive advantage by offering better-quality services to their customers in today's emulous world
Worku, Tilahun and Tafa (2016)	The Impact of Electronic Banking on Customers' Satisfaction in Ethiopian Banking Industry.	The objective of the study was to investigate the impact of electronic banking on customer satisfaction in the Ethiopian banking industry, using Dashen and Wogagen banks in Gondar City as a case study.	The study used a descriptive research design and a quantitative approach.	The results of the study implied that women are not actively using the service of e-banking and there is also a relationship between e-banking and demographic characteristics, e-banking currently provided for saving and current accounts holders only, e-banking has improved customer satisfaction and there is a high opportunity to expand e-banking service in the city.

Ejigu(2016)	E-Banking Service Quality and its Impact on Customer Satisfaction.	To investigate the impact of e-banking service quality on customer satisfaction in state-owned banks in the East Gojjam Zone of Ethiopia.	The study used a quantitative research approach, and a cross-sectional survey design was employed to collect data. The data collected was analyzed using descriptive statistics, correlation, and regression analysis. The Statistical Package for Social Sciences (SPSS)	The results of this study indicated that except for assurance the four service quality dimensions (tangibility, reliability, responsiveness and empathy) have a positive and significant effect on customer satisfaction. The finding of this study also indicates that customers were most satisfied with the responsiveness dimensions of E-Banking service quality.
Unyathanakorn and Rompho (2017)	Factors Affecting Customer Satisfaction in Online Banking Service	To investigate the factors that affect customer satisfaction in online banking services. Specifically, the study aimed to examine the relationship between customer expectations, service quality, value, satisfaction, and loyalty.	The study used a quantitative research design and collected data from 400 online banking customers in Thailand.	The results indicated that customer expectations towards the quality and value of the service affect their satisfaction and loyalty.
Mohalingam and Janathanan (2018)	Impact of Electronic Banking on Customer satisfaction	To investigate the impact of electronic banking on customer satisfaction in Hatton National Bank PLC	The study used a quantitative research approach to collect data from 300 customers of Hatton National Bank PLC who were using electronic banking services.	The study indicated that there is a positive effect of e-banking on Hatton National Bank PLC's customers. The study also indicates that convenience, security and costs are the main factors contributing to satisfy the customers of e-banking in HNB PLC.
Sleimi, Karam and Qubbaj (2018)	The Impact of E-Banking Services Quality on Customers Satisfaction Moderated by Customer Trust: Survey on Arab Bank in Amman, Jordan	To investigate the impact of e-banking services quality on customer satisfaction in the context of Arab Bank in Amman, Jordan.	The study used a survey research design, in which a structured questionnaire was developed and distributed to customers of Arab Bank in Amman, Jordan.	The result of this study indicated that customers are satisfied with insurance, empathy, reliability, tangibles and responsiveness in Arab banks.

Hammoud, Bizri and Baba (2018)	The Impact of E-Banking Service Quality on Customer Satisfaction: Evidence From the Lebanese Banking Sector.	To investigate the impact of e-banking service quality on customer satisfaction in the Lebanese banking sector.	The researchers used a quantitative research design to collect data from customers of Lebanese banks.	This study found that reliability, efficiency, and ease of use; responsiveness and communication; and security and privacy all have a significant impact on customer satisfaction, with reliability being the dimension with the strongest impact.
Solanki (2018)	Impact of Electronic Banking on Customer Satisfaction.	The objective of the study is to investigate the impact of electronic banking on customer satisfaction.	The study used a quantitative research approach to collect and analyze data. The study employed a convenience sampling technique to select the respondents.	This paper concludes that in years to come e-banking will not only be an acceptable mode of banking but a preferred mode of banking.
Ikya (2019)	Banking the unbanked at the bottom of the economic pyramid in Nigeria: Challenges and opportunities.	To identify the challenges and opportunities for profitable growth in banking the unbanked at the bottom of the economic pyramid in Nigeria.	The paper employs a qualitative research approach to analyze the challenges and opportunities for profitable growth in banking	The paper concludes with selected policy recommendations for practitioners and policymakers that are aimed at tackling the deeply rooted socioeconomic structural and institutional barriers that exacerbate financial exclusion, inequality, misery and poverty in Nigeria.
Sharon, Akintola, Francis and Dorcas (2019)	Corporate ethical standard and the quality of sustainability reporting: Empirical evidence from commercial banks in Nigeria.	To investigate the relationship between corporate ethical standards and the quality of sustainability reporting of commercial banks in Nigeria.	This study used a quantitative research approach and collected data from 14 commercial banks in Nigeria through a survey questionnaire.	This study revealed a positive relationship between corporate ethical standards and sustainability disclosure of Nigerian commercial banks.
Ahmad & Al-Zu'bi (2020)	E-banking Functionality and Outcomes of Customer Satisfaction: An Empirical Investigation	To investigate the relationship between the adoption of e-banking and its impact on customer satisfaction, loyalty, and positive word-of-mouth (WOM) among Jordanian Commercial Bank customers.	The study adopted a descriptive and analytical research design.	This research found that the adoption of e-banking had a positive effect on Jordanian Commercial Bank customers' satisfaction, loyalty, and positive WOM.

Kawamala(2021)	E-Banking and Customers' Satisfaction in Bangladesh: An Analysis	To analyze the impact of e-banking on customers' satisfaction in Bangladesh, with a focus on the importance of reliability, responsiveness, and assurance.	The study employs a quantitative research method, where data was collected through a structured questionnaire survey administered to 300 e-banking customers in Bangladesh.	This study explores that reliability, responsiveness and assurance have more contribution to satisfy the customers of e-banking in Bangladesh.
Irabatti (2023)	Customer Satisfaction of Online Banking in SBI and ICICI-A Comparative Study in Pune City	To compare and analyze the customer satisfaction levels of online banking services offered by State Bank of India (SBI) and ICICI Bank in Pune City, India.	The study used a comparative research design, Primary data was collected through a structured questionnaire survey,	This study found that as ICICI is a pioneer bank in India into online banking, it excels in the quality dimensions as compared to SBI bank; however, in the last few years, SBI came out as a leading public sector bank, providing internet services successfully.

The purpose of this review was to understand different aspects of the literature such as theories, methodology and study various findings and suggestions given by researchers.

## 2.4 Research Gap

Although there are abundant studies on customer satisfaction and e-banking worldwide, the focus of those studies was both on customer satisfaction and service quality offered by the banks as well as on the organization. However, this study will mainly address the effects of electronic banking on customer satisfaction in the Nepalese banking industries.

Our methodological approach is to use a questionnaire in order to measure the effects of Electronic Banking efficiency over customer satisfaction in Jordan, and analyze the dimensions of E-Banking services that would affect customer satisfaction. As described in literatures, we identify the six dimensions of E-banking services on client usage; those dimensions are Convenience, Privacy, Cost, Ease of Use, Privatization and Customization and Security. The survey questions are prepared by taking into consideration of these six indicators. Before completing the possible questions that would be asked to clients, we interview about the relevance of six indicators, and the possible benefits and challenges of E-Banking over customer satisfaction with the executives and managers of some banks in Jordan and also the academicians working in some universities in Jordan. Final questions are completed in two parts; which

consist of the general information about the clients and the questions about the six indicators of E-Banking services. Each dimensions of E-Banking cover three questions that represent the satisfaction result of the clients. Five Likert Scale is used in measuring the satisfaction level of the clients; where 1 represents 'Strongly Disagree' while 5 represents 'Strongly Agree'. The questionnaires are sent to total 334 people in kathmandu and total response is taken with 200 people.

## **CHAPTER-III**

### **RESEARCH METHODOLOGY**

This chapter outlined the context of the study, providing the background necessary for assessing the study's findings and drawing reliable and dependable conclusions. It also detailed the data collection process and the methodology used by the researchers to analyze the data. This included the development of the questionnaire that respondents answered. The chapter described the methods and procedures employed for collecting and analyzing the data.

#### **3.1 Research Design**

The chosen research design for investigating the impact of e-banking on customer satisfaction in Nepalese commercial banks is a descriptive and casual comparative research design. This design facilitates a comprehensive and detailed examination of the subject matter, yielding valuable insights and observations. By utilizing a structured questionnaire, researchers can collect standardized data, ensuring consistency and enabling easy analysis. The inclusion of customers' personal details, such as age, gender, and education, adds depth to the study, allowing for the exploration of potential variations across different demographic groups. This approach promotes a thorough understanding of the relationship between e-banking and customer satisfaction. Moreover, the use of a descriptive survey helps minimize biases during data collection, ensuring a more accurate and reliable representation of the impact of e-banking on customer satisfaction in Nepalese commercial banks.

#### **3.2 Population and Sample**

Selection of the sample is a very important part to carry out during research. The population for this study is the customers within Kathmandu. For the result accuracy, only those respondents are selected currently using e-banking services. For this study, unipolar self-administered five Likert scale questionnaires are distributed to respondents and response from respondents is collected.

The customers were selected through a non-probability sampling method that is convenience sampling because it was not possible to get access to the list of e-banking customers to conduct random sampling. The researcher depended on simple random

technique for this study. The researcher distributed 334 questionnaires randomly for e-banking customers in Kathmandu valley with the aim of collecting at least the need number of respondents. 200 questionnaires have been received with a response rate of 60%. This 200 questionnaires have been analyzed by using SPSS software.

### **3.3 Nature and source of data**

Primary data were used for the study through the survey method. A structured questionnaire was prepared and distributed to the respondents electronically as well as through personal visits. The responses were then collected from the respondents, mostly through a personal network. The data collected from the questionnaire were analyzed using mathematical tools and the result was presented in Tables for a clearer understanding. The conclusions were drawn based on the findings from the analysis of research and appropriate recommendations were made accordingly. The two types of data been used while doing this study primary well as secondary data.

Instruments refer to various tools that are used for data collection and the analysis of data collected during the research. This study is descriptive type and data are collected from the bank customer through a self-designed, structured questionnaire. In this study, the primary data collection method is used. Primary data is collected with a questionnaire survey and administered to obtain quantitative data. The electronics survey method is used as the mode of administration. In the paper-based survey, the researcher personally visits and provides a hard copy of the questionnaire to the respondents. In the electronics method, links were sent to respondents using the internet as the medium to conduct the survey. The questionnaire was comprised of the different types of close-ended questions: multiple choices-single response and Likert scale questions.

A structured questionnaire is prepared and distributed to the respondents. The questionnaire contained close-ended questions so that it takes less time when filling the answer. Most of the close-ended questions are measure using unipolar five-points Likert scales to create an easy to answer and unbiased questionnaire. Scores on the scale items vary from a low of 1 (not at all satisfied) to a high of 5 (extremely satisfied). The questionnaire method is used in the current study because respondents can easily answer the question asked, the method is quicker and cheaper than other methods and is also easy to use in case of a large sample. Hence, making questionnaire tools more preferable in this type of research. The questionnaire was

tested using Cronbach's alpha. Processing of data has been done by computer using SPSS version 20.0 and Microsoft excel.

Furthermore, the questionnaire format is also divided into three specific sections for the ease of respondents. In the first section, various questions that focus on collecting personal information of the respondents are included; this information is essential in developing minor conclusion based on the demographic factor of the respondents. In the second section, those questions which depict the level of customer understanding are included. In the third section, questions based on unipolar 5-point Likert Scale are used; the respondents mark their response in a range of 5 points, where 5 stands for extremely satisfied, 4 for very satisfied, 3 for moderately satisfied, 2 for slightly satisfied and 1 for not at all satisfied, as the most appropriate response concerning each statement as per the request. The questionnaire from each section is included in the appendix.

For the above cases, convenience, non-probability sampling was used due to the limitation of time and resources. Also in the Nepalese context, it is difficult to find the respondent because of the disinterest and not willingness to share genuine information. Data analysis and management were done using Google docs, SPSS program and Microsoft Excel program. SPSS statistics version 20 was used to analyze the collected primary data from the questionnaire. This software is commonly used by researchers and easily available in business settings. Reliability was assessed using Cronbach's alpha values derived from SPSS 20. Cronbach's alpha was used to test the reliability. The results of Cronbach's alpha value were compared to the published estimates (Nunnally's 0.70) for pre-existing scales used in the study. The calculated value is 0.909 which is greater than the published estimate of Nunnally. It strongly describes the internal consistency estimate of the reliability of the summated scale. Thus, it is claimed that the instruments used in this research are reliable enough. Further, correlation and multiple regression analysis were performed to determine the significance level of the variables for customer satisfaction in e-banking individually as well as a whole.

Table 3

*Reliability Test of variables*

As indicated in this chapter, to ensure that there is internal reliability of the model used, the Cronbach's Alpha Test of Reliability was performed. The results of the test show that each dimension was internally consistent. The table below shows the results of the test performed.

Dimensions	Number of items	Cronbach's Alpha Score
Tangibility	4	0.807
Reliability	3	0.822
Responsiveness	3	0.843
Efficiency	3	0.773
Security	3	0.817
Satisfaction	5	0.722
Aggregate	21	0.909

The Cronbach Alpha score ranges from 0 to 1. A Cronbach Alpha score greater than 0.7 shows high internal reliability of the scaled item. The individual Cronbach's alpha for each of the variables (dependent and independent) shows that all the variables are above 0.7, which shows that all the variables are reliable at 70 percent. As the accounting information, tangibility, reliability, responsiveness, efficiency, security and customer satisfaction have alpha as 0.807, 0.822, 0.843, 0.868, 0.773, 0.817 and 0.722 respectively.

### 3.3.1 Primary Data and Their Sources

Primary data refers to data that is first used to test the working hypothesis and then used as evidence to support a researcher's claim. The sources of the primary data for this study were e-banking customers within Kathmandu valley. The data was collected through a unipolar five-points Likert questionnaire. The 33 questionnaires were distributed to 200 respondents. The result of the study was drawn from the data of 200 respondents

### 3.3.2 Secondary Data and Their Sources

The secondary data were used for supporting the study and to get the findings of other researchers in the area (empirical study). The sources of secondary data are library books, newspapers on business, magazines on business, previous research articles,

annual reports of different banks, internet sources, and other related materials were used.

### **3.4 Method of data analysis**

Statistical analysis is a kind of quantitative research, which seeks to quantify the data, and typically, applies for some form of statistical analysis. Quantitative data involves descriptive data, such as survey data and observational data. Descriptive and inferential statistical tools were used in this study for data analysis. The descriptive statistical tools include frequency distribution, measures of central tendency, etc. Similarly, various inferential statistical tools and Cronbach's alpha test were used in the study. For the analysis of primary data, SPSS version 20.0 and MS-Excel were used.

#### **3.4.1 Descriptive Statistics**

Descriptive statistics are used to present quantitative data in a manageable form. It helps to simplify large amounts of data sensibly (like mean, standard deviations, minimum and maximum values of variables which used to explain the characteristics of sample firms). It helps to describe and understand the basic features of a specific set of data. It provides summaries about the samples and observations taken under study. Frequency and percentage have been used to present the detailed overview of respondents' profiles in terms of gender, age, income and occupation. Tables have been used to make the study more clear.

#### **3.4.2 Reliability**

To ensure the validity of the research design and plan, discussions were held with experts, and comprehensive research instruments were developed and tested before the actual investigation began. The primary goal of this validity and reliability analysis was to assess the trustworthiness of the data. To confirm that the questionnaire, designed in alignment with the study's objectives, effectively matched the study variables and yielded the most accurate results, a reliability test was conducted. Cronbach's alpha was used to evaluate reliability, and the results were compared to the benchmark of 0.70, as established by Nunnally for pre-existing scales used in the study.

### 3.4.3 Correlation Analysis

Correlation analysis involves examining the strength and nature of the relationship between two or more variables using statistical data. It is utilized to identify both the direction and magnitude of this relationship. In this study, correlation analysis was applied to assess the relationship between efficiency, tangibility, responsiveness, privacy, reliability, and customer satisfaction. Pearson's correlation coefficient was used for this purpose. A positive correlation indicates that as one variable increases, the other also increases. Conversely, a negative correlation suggests that an increase in one variable corresponds to a decrease in the other.

### 3.4.4 Regression Model

Regression analysis is a statistical method used to estimate relationships between variables. It helps determine how independent variables influence a dependent variable, both individually and in combination with other variables. The analysis involves various statistical tests, such as the t-test and F-test, to validate the model and check for significance. In this study, efficiency, tangibility, responsiveness, privacy, and reliability were considered independent variables, while customer satisfaction was the dependent variable. Both linear and multiple regression analyses were employed to assess the impact of the independent variables on customer satisfaction. Regression analysis offers insights into the nature and slope of these relationships and aids in making predictions.

The regression equation for the current study is presented below:

$$H = \alpha + \beta_1 H_1 + \beta_2 H_2 + \beta_3 H_3 + \beta_4 H_4 + \beta_5 H_5 + e_t$$

Where,

H= customer satisfaction

$\alpha$ = constant term

$\beta$ = Coefficient of variables

H<sub>1</sub>= efficiency

H<sub>2</sub>= tangibility

H<sub>3</sub>= responsiveness

H<sub>4</sub>= Security

H<sub>5</sub>= reliability

e<sub>t</sub> = error term.

### 3.5 Research framework and definition of variables

In service provision, customers evaluated several factors as benchmarks for appreciating the services provided by banks. These factors included tangibility, reliability, efficiency, security, quality, and responsiveness. Each of these elements played a crucial role in determining customer satisfaction with the e-banking services offered. According to Ramola and Sundaram (2012), customers considered various aspects important for their satisfaction with ATM services. These aspects comprised tangibility, reliability, convenience, assurance, accuracy, safety, ease of use, and responsiveness.

The study emphasized that each factor significantly contributes to customer satisfaction regarding the service provided. For a service to be deemed reliable, it must be consistently available whenever the customer requires it. The research aimed to evaluate the effectiveness of five service quality dimensions in relation to customer satisfaction in e-banking services. The focus was on the dependent variable (customer satisfaction) and the independent variables (tangibility, reliability, efficiency, security, responsiveness), along with the population and sample involved in the study. This study explored the relationships between these five independent variables and the dependent variable.

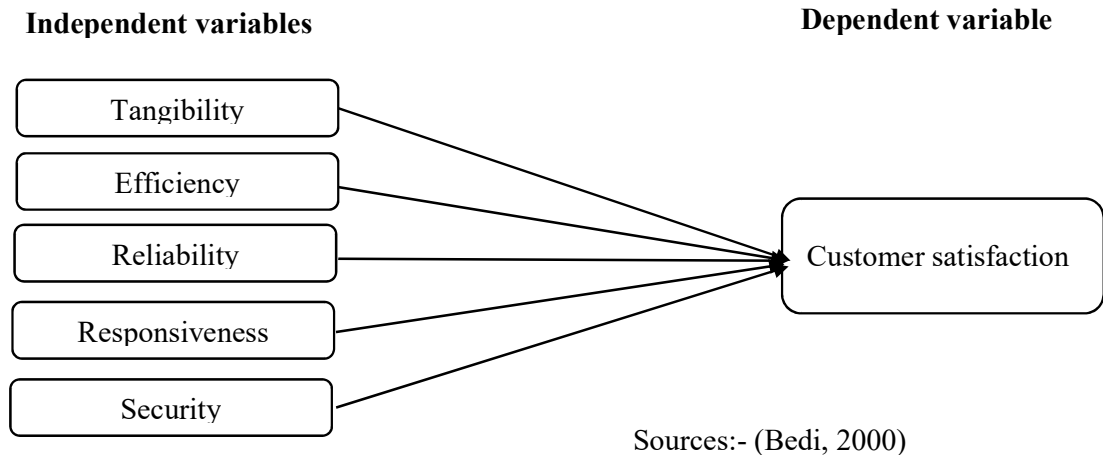


Figure 1: Research framework

#### Definitions of variables

The variables under the study include the dependent and independent variables, in addition to demographic variables. The study deals with the five different types of

independent variables along with their relationship with the dependent variable. Customer satisfaction is regarded as the dependent variable and efficiency, tangibility, responsiveness, security, reliability are considered as independent variables.

**Tangibility:**

Perceived service quality is the consumer's perception of an entity's excellence or superiority. Most theories of human information processing are based on the assumption that information from the environment is received, encoded, and processed Smart Home, (2013). Tangibility refers to the tangible aspects of the E-banking which are a part of the physical environment. Tangibility is significant as it makes the first impression on the minds of the customers. (Raval & Bhatt, A study on impact of E service quality dimensions of online shopping platforms on overall service experience , 2020)

**Efficiency:**

Effectiveness is one of the major factors in attracting consumers to use E-Banking services. Prior researches has found fees effectiveness have a positive relationship with customer service satisfactory and as a critical factor to the use of electronic banking (Cheah et al., 2011). According to Drucker (1985), electronic banking is the answer to cost/fees reduction, sustainability and reaching the very poor. Transaction fees have two categories, the first is regular costs relating to internet access fees and connection payment and the second is the bank fees and charges. There are also promotional offers on products such as credit cards and loans (Hawkins, 2012). The role of fees has been assessed by reasonable cost of electronic banking and lower transaction fees. According to Ming (2003) the level of e-satisfaction is also determined by the quality of e-services, the price level and e-purchasing process.

**Reliability:**

Reliability is defined as the service provider performs the services right the first time and the firm honors its promises (Tran, 2018). It involves in accuracy in billing, keeping records correctly, performing the service at the designated time. An organization being able to perform and accurately achieve its services within proper time dependently and accurately.

**Responsiveness:**

The willingness of service provider to help customers and provide prompt services such as immediate response towards client's queries and their problems. The willingness to help customers and to provide prompt service. The may refer to the help customers get when they bring forward E-banking complaints such as accounts being debited at the same time money has not been dispensed, cards being captured underpayment, lack of certain currency denominations, no receipts being issued and situations where the e-banking is out of service for very long hours and at times days. This is another area which needs attention as customers feel the service is below their expectation

**Security:**

E-Banking services rely heavily on information technology and the internet. With banks storing all their data online, there is a risk of hacking and data breaches. The security factor assesses how well customers' data and funds are protected. This security aspect is evaluated through five key constructs (Bhatt, Banker, & Jadhav, 2020). Numerous banking studies have highlighted the importance of security and privacy for the acceptance of online banking. It was found that concerns about privacy and security were significant barriers to adopting online banking. Research revealed that while people were aware of online banking risks, their understanding of these risks was often insufficient (Raval & Bhatt, 2020). Additionally, even though consumers trusted their banks, they were less confident in the technology used. As online products and services continue to expand, consumers have become increasingly worried about security and privacy issues. The security of a service depends on whether it is free from risks, hazards, defects, or uncertainties.

## CHAPTER- IV

### RESULTS AND DISCUSSION

This chapter deals with analysis and presentation of data. The chapter divided in three sections; Descriptive analysis, inferential analysis and discussion. The chapter initially begins with descriptive presentation of demographic of variables which includes gender, education background and age of the respondents. In next section, open-end question is reported. Then inferential analysis course begins with correlation test and ends with regression analysis.

#### 4.1 Descriptive analysis of data

Descriptive analysis is a statistical method used to summarize and describe the main features of a dataset. It involves organizing, summarizing, and presenting data in a meaningful way to provide insights into the characteristics of the data. Thus, in this study descriptive analysis aids to understand the demographic status of the study, similarly it also helps to assess the responses of respondents by statistical tools; Mean and standard deviation.

##### 4.1.1 Demographic profile of the respondents

**Table 4**

*Demographic profile of the respondents*

		Frequency	Percent	Cumulative Percent
Gender	Male	136	68	68
	Female	64	32	100
	Total	200	62.8	
Age	16-25	3	1.5	2
	26 - 35	28	14	13
	36 – 45	67	33.5	57
	46 – 55	86	43	95
	56 or more	16	8	100
	Total	200	100	
Education	SLC or SEE	4	2	2
	Plus 2	22	11	13
	BACHELORS	88	44	57
	MASTERS OR ABOVE	86	43	100
	Total	200	100	

*Note. Field survey, 2024*

Table 4 shows the demographic profile of respondents, according to the table, in terms of gender, 68% of the respondents were male (136 individuals) and 32% were female (64 individuals), totaling 200 respondents. Regarding age distribution, 1.5% of respondents were aged 16-25 (3 individuals), 14% were aged 26-35 (28 individuals), 33.5% were aged 36-45 (67 individuals), 43% were aged 46-55 (86 individuals), and 8% were aged 56 or older (16 individuals), summing up to 200 respondents. In terms of education levels, 2% of respondents had completed SLC or SEE (2 individuals), 11% had completed Plus 2 (22 individuals), 44% held a Bachelor's degree (88 individuals), and 43% had a Master's degree or above (86 individuals), totaling 150 respondents. These numerical values provide a comprehensive overview of the gender, age, and education distribution among the surveyed respondents in 2024.

#### 4.1.2 Reporting of open-end question responses

**Table 5**

*Analysis of responses on open-end questions*

Questions	N	Min	Max	Mean	Std. Dev
Do you know about online banking/internet banking?	200	1.00	2.00	1.0	.08
From how long ago you are dealing with internet banking?	200	1.00	3.00	2.7	.61
How do you grade E-Banking services provided by bank?	200	1.00	4.00	2.6	.68
Which services that you use most in the banks by internet?	200	1.00	4.00	1.1	.60
What are the reasons for the choosing E-Banking Services?	200	2.00	3.00	2.0	.21
Does internet banking create unemployment problem?	200	1.00	3.00	1.5	.65
Do you think E-Banking is working properly in Nepal?	200	1.00	3.00	1.6	.59
Do you think NRB should make electronic banking mandatory?	200	1.00	3.00	1.6	.65
Is the use of E-Banking service expensive?	200	1.00	4.00	1.7	.68

*Note. Field survey, 2024*

Table 5 reporting of responses of openend question by respondents according to the table familiarity with online or internet banking, reflecting a high level of awareness with minimal variation (mean = 1.0, SD = 0.08). On average, respondents reported having used internet banking for approximately 2.7 years, indicating a moderate level

of adoption over time (SD = 0.61). When grading e-banking services provided by banks, respondents averaged a score of 2.6, with some variability in perceived service quality (SD = 0.68). The most commonly used e-banking services were rated at 1.1, suggesting a preference for functionalities such as fund transfers or bill payments (SD = 0.60). Reasons for choosing e-banking primarily centered around convenience and accessibility, consistently rated at 2.0 (SD = 0.21). Opinions on whether internet banking contributes to unemployment were mixed, with a mean score of 1.5 and noticeable variability (SD = 0.65). Respondents generally viewed e-banking as functioning effectively in Nepal, rating it at 1.6 (SD = 0.59), while opinions on the potential mandating of electronic banking by the Nepal Rastra Bank (NRB) were similarly moderate, with an average score of 1.6 (SD = 0.65). Concerning cost, respondents rated the expense of e-banking services at 1.7, indicating varied perceptions on affordability (SD = 0.68).

Overall, these findings provide a complete overview of respondent perspectives on e-banking.

**Table 6**

*Analysis of responses on tangibility*

Questions	SD		D		N		A		SA	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Bank has up - to - date equipment & technology	44	22	69	34.5	44	22	23	11.5	20	10
Convenient location of the bank	41	20.5	63	31.5	46	23	18	9	32	16
Sufficient number of ATM machines	33	16.5	74	37	41	20.5	14	7	38	19

*Note. SD stand for strongly disagree, D stand for disagree, N stand for neutral, A stand for agree and SA stand for strongly agree.*

Table 6 shows the result of Likert scale analysis of customer perceptions regarding the tangibility aspects of a bank's services. The analysis of responses concerning tangibility aspects of the bank reveals valuable insights from the survey data. Regarding the bank's up-to-date equipment & technology, 22% of respondents strongly disagree, 34.5% disagree, 22% are neutral, 11.5% agree, and 10% strongly agree. In terms of the convenient location of the bank, 20.5% strongly disagree,

31.5% disagree, 23% are neutral, 9% agree, and 16% strongly agree. When considering the sufficiency of ATM machines, 16.5% strongly disagree, 37% disagree, 20.5% are neutral, 7% agree, and 19% strongly agree. These responses provide a comprehensive overview of customer perceptions regarding the tangibility factors of the bank, including equipment & technology, location convenience, and ATM availability, reflecting varying degrees of satisfaction or dissatisfaction among the surveyed respondents.

**Table 7**

*Analysis of responses on reliability*

Questions	SD		D		N		A		SA	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Information provided on website	46	23	66	33	43	21.5	11	5.5	34	17
Up to date contents	55	27.5	65	32.5	50	25	22	11	8	4
Wide range of products and services provided	47	23.5	57	28.5	55	27.5	17	8.5	24	12

*Note. SD stand for strongly disagree, D stand for disagree, N stand for neutral, A stand for agree and SA stand for strongly agree.*

Table 7 focuses on evaluating customer perceptions regarding the reliability aspects of a bank's services. According to the table, the analysis of responses concerning reliability aspects of the bank, based on the survey data, provides valuable insights into customer perceptions. Regarding the information provided on the website, 23% of respondents strongly disagree, 33% disagree, 21.5% are neutral, 5.5% agree, and 17% strongly agree. In terms of up-to-date contents, 27.5% strongly disagree, 32.5% disagree, 25% are neutral, 11% agree, and 4% strongly agree. When considering the wide range of products and services provided, 23.5% strongly disagree, 28.5% disagree, 27.5% are neutral, 8.5% agree, and 12% strongly agree. These responses offer a comprehensive overview of customer perceptions regarding the reliability factors of the bank, including website information, content updates, and product/service range, highlighting varying degrees of satisfaction or dissatisfaction among the surveyed respondents.

**Table 8***Analysis of responses on responsiveness*

Questions	SD		D		N		A		SA	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Customer service representative	41	20.5	52	26	69	34.5	11	5.5	27	13.5
Our request handle promptly	30	15	78	39	34	17	10	5	48	24
Quick information	33	16.5	58	29	60	30	19	9.5	30	15

*Note. SD stand for strongly disagree, D stand for disagree, N stand for neutral, A stand for agree and SA stand for strongly agree.*

Table 8 represents the evaluating customer perceptions regarding the responsiveness aspects of a bank's services. According to the table, the analysis of responses regarding responsiveness-related aspects of the bank, as per the survey data, reveals important insights into customer perceptions. In terms of customer service representatives, 20.5% of respondents strongly disagree, 26% disagree, 34.5% are neutral, 5.5% agree, and 13.5% strongly agree. When considering the handling of requests promptly, 15% strongly disagree, 39% disagree, 17% are neutral, 5% agree, and 24% strongly agree. For quick information provision, 16.5% strongly disagree, 29% disagree, 30% are neutral, 9.5% agree, and 15% strongly agree. These responses offer a comprehensive overview of customer perceptions regarding the responsiveness factors of the bank, including interactions with customer service representatives, request handling efficiency, and the speed of information delivery, reflecting varying levels of satisfaction or dissatisfaction among the surveyed respondents.

**Table 9***Analysis of responses on efficiency*

Questions	SD		D		N		A		SA	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Faster login facility	50	25	64	32	45	22.5	18	22.5	23	11.5
Performance of card	40	20	74	37	34	17	16	8	36	18
Fund transfer	37	18.5	57	28.5	65	32.5	12	6	29	14.5

*Note. SD stand for strongly disagree, D stand for disagree, N stand for neutral, A stand for agree and SA stand for strongly agree.*

Table 9 depicts on evaluating customer perceptions regarding the efficiency aspects of a bank's services. The analysis of responses concerning efficiency-related aspects of the bank, based on the survey data, provides valuable insights into customer perceptions. Regarding the faster login facility, 25% of respondents strongly disagree, 32% disagree, 22.5% are neutral, 22.5% agree, and 11.5% strongly agree. In terms of card performance, 20% strongly disagree, 37% disagree, 17% are neutral, 8% agree, and 18% strongly agree. When considering fund transfers, 18.5% strongly disagree, 28.5% disagree, 32.5% are neutral, 6% agree, and 14.5% strongly agree. These responses offer a comprehensive overview of customer perceptions regarding the efficiency factors of the bank, including login speed, card performance, and fund transfer processes, reflecting varying degrees of satisfaction or dissatisfaction among the surveyed respondents.

**Table 10**

*Analysis of responses on security*

Questions	SD		D		N		A		SA	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
ATM security	53	26.5	55	27.5	60	30	15	7.5	17	8.5
Protection of banking transactions	41	20.5	65	32.5	54	27	12	6	28	14
Privacy and confidentiality of the bank	49	24.5	68	34	43	21.5	17	8.5	23	11.5

*Note. SD stand for strongly disagree, D stand for disagree, N stand for neutral, A stand for agree and SA stand for strongly agree.*

Table 10 shows on evaluating customer perceptions regarding the security aspects of a bank's services. Security in this context refers to the measures in place to protect customers' information, transactions, and overall banking experience. It is evident that, customer perceptions of safety measures. Concerning ATM security, 26.5% of respondents strongly disagree, 27.5% disagree, 30% are neutral, 7.5% agree, and 8.5% strongly agree. In terms of the protection of banking transactions, 20.5% strongly disagree, 32.5% disagree, 27% are neutral, 6% agree, and 14% strongly

agree. When considering the privacy and confidentiality of the bank, 24.5% strongly disagree, 34% disagree, 21.5% are neutral, 8.5% agree, and 11.5% strongly agree. These responses offer a comprehensive overview of customer perceptions regarding security factors such as ATM security, transaction protection, and privacy measures, reflecting varying levels of confidence or concern among the surveyed respondents.

**Table 11**

*Analysis of responses on customer satisfaction*

Questions	SD		D		N		A		SA	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
You are satisfied with ATM location of a bank.	42	21	67	33.5	37	18.5	16	8	38	19
You are satisfied with e-payment services of bank.	48	24.1	65	32.7	51	25.6	18	9	17	8.5
You feel safe in the transactions with your bank.	29	14.5	64	32	47	23.5	15	7.5	45	22.5

*Note. SD stand for strongly disagree, D stand for disagree, N stand for neutral, A stand for agree and SA stand for strongly agree.*

Table 11 focuses on evaluating customer satisfaction with specific aspects of the bank's services, including ATM locations, e-payment services, and transaction safety. Customer satisfaction in these areas is crucial for ensuring a positive banking experience for customers, on the basis of table it is evident that responses regarding customer satisfaction aspects of the bank, as per the survey data, offers valuable insights into customer sentiments. In terms of satisfaction with the ATM locations, 21% of respondents strongly disagree, 33.5% disagree, 18.5% are neutral, 8% agree, and 19% strongly agree. Regarding satisfaction with e-payment services, 24.1% strongly disagree, 32.7% disagree, 25.6% are neutral, 9% agree, and 8.5% strongly agree. When considering feelings of safety in transactions with the bank, 14.5% strongly disagree, 32% disagree, 23.5% are neutral, 7.5% agree, and 22.5% strongly agree. These responses provide a comprehensive overview of customer satisfaction levels concerning ATM locations, e-payment services, and transaction safety,

reflecting varying degrees of contentment or concern among the surveyed respondents.

## 4.2 Inferential analysis

Inferential Analysis is a statistical method used to make inferences or generalizations about a population based on a sample of data. The goal is to determine if the findings from the sample can be reliably applied to the larger population. This type of analysis goes beyond merely describing the data (descriptive statistics) and seeks to draw conclusions, make predictions, and test hypotheses.

### 4.2.1 Correlation test

**Table 12**

*Correlation Result*

	CUS	REL	RES	EFF	SEC	TAN
CS	1					
REL	-0.068	1				
RES	.155*	0.007	1			
EFF	.527**	-0.007	0.073	1		
SEC	.142*	-0.083	-0.102	0.070	1	
TAN	.144*	-.208**	0.093	0.123	-0.003	1

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

*Note. TAN refers to tangibility, REL refers to reliability, RES refers to responsiveness, EFF refers to efficiency, SEC refers to security and CS refers to customer satisfaction. and Analyzed by Real stat.*

Table 12 shows the relationships between different factors in the context of a bank's services, including tangibility, reliability, responsiveness, efficiency, security, and customer satisfaction. Correlation values range from -1 to 1, where 1 indicates a perfect positive correlation, -1 indicates a perfect negative correlation, and 0 indicates no correlation.

According to the table, customer satisfaction (CUS) shows a weak negative correlation with reliability (REL) at -0.068. There is a significant positive correlation between customer satisfaction and responsiveness (RES) at 0.155\*, efficiency (EFF) at 0.527\*\*, security (SEC) at 0.142\*, and tangibility (TAN) at 0.144\*. Notably, the correlation between customer satisfaction and efficiency (EFF) is highly significant at the 0.01 level. Additionally, there is a strong negative correlation between reliability

(REL) and tangibility (TAN) at -0.208\*\*, indicating a significant relationship between these two factors. These correlation values provide valuable insights into how different factors are associated with customer satisfaction in the analyzed context.

#### 4.2.2 Regression analysis

**Table 13**

*Result of regression analysis*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.559 <sup>a</sup>	.313	.295	.62135

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.057	5	6.811	17.643	.000 <sup>b</sup>
	Residual	74.898	194	.386		
	Total	108.954	199			

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Acceptance and rejection of Alternative hypothesis ( $\alpha=0.05$ )	
1	(Constant)	.809	.354	2.287	.023	Accepted	
	REL	-.047	.067	-.043	-.696	.487	Rejected
	RES	.117	.057	.125	2.072	.040	Accepted
	EFF	.456	.055	.502	8.330	.000	Accepted
	SEC	.113	.058	.116	1.925	.056	Rejected
	TAN	.060	.059	.062	1.013	.312	Rejected

a. Dependent Variable: CS

*Note. Analyzed by SPSS, TAN refers to tangibility, REL refers to reliability, RES refers to responsiveness, EFF refers to efficiency, SEC refers to security and CS stand for Customer satisfaction.*

Table 13 shows the result of regression analysis which indicates a moderate positive correlation ( $R = 0.559$ ) between the independent variables and customer satisfaction. The model accounts for 31.3% of the variance in customer satisfaction ( $R^2 = 0.313$ ) with an adjusted  $R^2$  of 29.5%. The standard error of the estimate is 0.62135, reflecting the accuracy of the model's predictions.

Similarly, the ANOVA results show that the regression model is statistically significant ( $F = 17.643$ ,  $p < 0.001$ ). The regression sum of squares is 34.057, while the residual sum of squares is 74.898, out of a total sum of squares of 108.954. This indicates that the predictors collectively explain a significant portion of the variance in customer satisfaction.

Furthermore, the coefficients for each predictor in the model. The constant term is 0.809. Among the predictors, efficiency (EFF) has the highest impact on customer satisfaction, with a coefficient of 0.456 and a significant t-value of 8.330 ( $p < 0.001$ ). Responsiveness (RES) also positively influences customer satisfaction with a coefficient of 0.117 and a significant t-value of 2.072 ( $p = 0.040$ ). However, reliability (REL), security (SEC), and tangibility (TAN) do not significantly impact customer satisfaction, as indicated by their coefficients and associated t-values.

### **4.3 Major findings**

On the basis of open-end question response and inferential analysis the study found following major findings.

1. Customers generally agree on the importance of security measures in a bank's services, indicating a positive perception of security protocols.
2. The bank should focus on maintaining and enhancing security measures to build trust with customers regarding e-banking platforms.
3. It is observed that there were mixed responses from customers regarding satisfaction with ATM locations, e-payment services, and transaction safety.
4. Identifying areas of concern and improving service quality can enhance overall customer satisfaction levels.
5. Significant correlations between tangibility, efficiency, and responsiveness in the context of a bank's services.
6. Understanding these relationships can help the bank prioritize efforts to improve the customer experience effectively.
7. The regression model explains a significant portion of the variance in customer satisfaction, with responsiveness and efficiency playing crucial roles.
8. Reliability, security, and customer satisfaction itself do not significantly impact overall customer satisfaction in this model.

9. Focusing on enhancing responsiveness and efficiency can lead to higher levels of customer satisfaction within the bank's services.

#### **4.4 Discussion**

In this section, the findings of previous empirical studies are compared with the findings of this study. Similarities and differences are highlighted, and the reasons behind these similarities and differences are discussed.

Firstly, Toor et al. (2016) found that high service quality in e-banking in Pakistan leads to greater customer satisfaction, providing banks with a competitive advantage. While, this current study aligns with this, showing that responsiveness and efficiency significantly impact customer satisfaction, highlighting the importance of these dimensions. Similarly, Worku, Tilahun, and Tafa (2016) reported that e-banking improves customer satisfaction by reducing waiting times and enhancing account control. While this study verifies the importance of efficiency and responsiveness in driving customer satisfaction.

Furthermore, study conducted by Ejigu (2016) identified tangibility, reliability, responsiveness, and empathy as key dimensions, with responsiveness being the most influential. Similarly, this study found responsiveness to be a significant factor, although tangibility and reliability were not as impactful. Similarly, the findings of the current study align with several previous studies while also highlighting unique insights into customer satisfaction in e-banking. Hammoud, Bizri, and Baba (2018) emphasized the importance of reliability, efficiency, ease of use, responsiveness, communication, and security. While our study confirms the critical role of efficiency and responsiveness, it reveals that tangibility and security have weaker correlations with customer satisfaction. Solanki (2018) predicted that e-banking would become the preferred mode of banking, reflecting growing acceptance. The moderate to high levels of satisfaction and the duration of e-banking usage observed in this study suggest a similar trend in Nepal. Additionally, Ikya (2019) discussed e-banking's potential to improve socio-economic conditions. The positive perception of e-banking's functionality in Nepal implies that it could have a similar socio-economic impact.

Sharon et al. (2019) recommended establishing a strong ethical culture for sustainability, a concept indirectly supported by our study's emphasis on security and privacy, highlighting the need for ethical practices in banking. Unyathanakorn and Rompho (2017) emphasized the role of perceived quality and value in customer satisfaction. Our findings support the importance of efficient and responsive services in enhancing perceived value. Similarly, Santouridis, Trivellas, and Reklitis (2018) identified assurance, responsiveness, and reliability as key factors influencing customer satisfaction. This study's focus on responsiveness aligns well with their conclusions.

The current study's findings both align with and diverge from previous research on the impact of electronic banking (e-banking) on customer satisfaction. The consistent findings include the significant positive impact of e-banking on customer satisfaction, as highlighted by Worku, Tilahun, and Tafa (2016), who emphasized the reduction in waiting times and improved account control. Similar results were observed by Sleimi, Karam, and Qubbaj (2018), who found a strong positive relationship between e-banking service quality and customer satisfaction. Both studies align with the current study's findings that responsiveness and efficiency are crucial for customer satisfaction. Moreover, Ahmad and Al-Zu'bi (2020) identified privacy, accessibility, design, convenience, content, and security as significant influencers of customer satisfaction, resonating with the current study's emphasis on security measures.

However, there are also notable discrepancies. For instance, the current study finds that reliability and security do not significantly impact overall customer satisfaction, which contradicts the findings of Hammoud, Bizri, and Baba (2018) and Santouridis, Trivellas, and Reklitis (2018), who identified reliability and security as key dimensions of e-banking service quality that significantly influence customer satisfaction. Additionally, the mixed responses regarding satisfaction with ATM locations and e-payment services observed in the current study contrast with the generally positive findings from Mohalingam and Janathanan (2018) on the speed and reliability of e-banking services.

The reasons for these consistent and contradictory results could be attributed to several factors. Different geographical regions and cultural contexts might influence customer perceptions and expectations of e-banking services. For example, the study by Solanki (2018) focused on the Indian banking industry, which may have different dynamics compared to other regions. Moreover, variations in the implementation and quality of e-banking services across different banks could lead to differing levels of customer satisfaction. The evolving nature of technology and its adoption over time might also play a role, as earlier studies may have assessed e-banking services at different stages of maturity and customer familiarity. Additionally, methodological differences, such as sample size, data collection methods, and analytical techniques, could contribute to the observed inconsistencies. Overall, these findings suggest that while certain aspects of e-banking consistently enhance customer satisfaction, other dimensions may vary in their impact depending on specific contextual factors.

Ahmad and Al-Zu'bi (2020) highlighted privacy, accessibility, and security as critical dimensions of customer satisfaction. Although security showed weaker correlations in our study, efficiency and responsiveness were identified as pivotal. Kawamala (2021) found ease of use, trust, and security crucial for e-banking adoption in Tanzania. Our study similarly notes the importance of efficiency and security, though security was less significant in terms of customer satisfaction. Lastly, Irabatti (2023) evaluated service quality in Indian banks, noting the role of competition and continuous improvement. The findings here suggest that maintaining customer satisfaction in Nepal also relies on continuous improvements in responsiveness and efficiency.

## **CHAPTER-V**

### **SUMMARY AND CONCLUSION**

#### **5.1 Summary**

This study explored the influence of e-banking on customer satisfaction in the Kathmandu Valley, aiming to identify the factors affecting customer satisfaction. The objective was to assess how satisfied customers were with the services provided by commercial banks by evaluating various factors.

The study was based on the primary data collected through a structured questionnaire. The customers were selected through a non-probability sampling method that is convenience sampling because it was not possible to get access to the list of e-banking customers to conduct random sampling. The researcher depended on simple random technique for this study. The researcher distributed 334 questionnaires randomly for e-banking customers in Kathmandu valley with the aim of collecting at least the need number of respondents. 200 questionnaires have been received with a response rate 60%. These 200 questionnaires have been analyzed by using SPSS software process the primary data collected through a questionnaire to understand various statistical tables, which is used to interpret and the final answer has also been tested by the hypothesis.

The study makes use of mainly qualitative research approaches although the quantitative research approach was partially used for the study. The use of the above approaches meant that both primary and secondary data sources were extensively relied on. The study makes use of a 5 point Likert scale with "1" being Not at all satisfied and "5" being extremely satisfied. The study applied Pearson's correlation, and regression analyses to evaluate the hypothesized relationships.

The findings indicated that tangibility, reliability, responsiveness, efficiency and security were all positively correlated and significant at 1% level. It found that a customer gives the highest importance to the tangibility factor. From Analysis it was found that a customer gives second importance to efficiency. The customer gives the third preference to the security factor. Additionally, the regression analysis also indicated that except for reliability and responsiveness all the variables were significant at 5% levels. This study has important implications for both academics and

Managers of the various banks visited. Finally, based on the findings of this study, it was recommended that there is a need to educate the majority of the banking population on e-banking.

## **5.2 Conclusion**

The research study clearly described the factors affecting customer satisfaction. Various elements influence the level of customer satisfaction, including tangibility, reliability, responsiveness, efficiency, and security. Customer satisfaction was evaluated based on these five dimensions. The study's findings are based on a quantitative survey conducted within the Kathmandu Valley. This study was conceptualized using available literature reviews on customer satisfaction in banks. It investigated several variables that influence customer satisfaction. The results and analysis indicate that banks create a positive impression and satisfy their customers through the quality of their services. The analysis revealed the impact of e-banking on customer satisfaction. The data collected showed that positive service quality can increase customer satisfaction, positively affecting the overall satisfaction of bank customers.

Service quality of banks was measured using a descriptive-analytical method. This descriptive survey provided an in-depth explanation of various conditions and reduced the bias that can occur during data collection. For this study, unipolar, self-administered, five-point Likert scale questionnaires were distributed to respondents, and their responses were collected. Customers were selected using a non-probability sampling method, specifically convenience sampling. Data was collected using a unipolar, five-point Likert scale questionnaire. The study's results were derived from the data of 200 respondents. A question about e-banking and customer satisfaction within Kathmandu was included in the same questionnaire. The final research questionnaire consisted of 11 demographic questions in Group A and 5 questions to measure the research variables in Group B. The sample size for the research was 200 bank customers in the Kathmandu valley who were currently using e-banking services. Reliability was assessed using Cronbach's alpha values calculated with SPSS 20. Data processing was performed using SPSS version 20.0 and Microsoft Excel.

Based on previous literature, hypotheses were created and tested. The findings from the test revealed that there is a significant relationship between the tangibility of e-banking services and customer satisfaction, there is a significant relationship between the efficiency of e-banking services and customer satisfaction and there is a significant relationship between the security of e-banking services and customer satisfaction. Hence, hypotheses H1, H4 and H5 were accepted whereas, H2 and H3 were rejected. Additionally, the study also indicates socio-demographic variables and level of customer understanding of e-banking. It found that a customer gives the highest importance to the tangibility factor. It includes various criteria like the bank has up-to-date equipment & technology, convenient location of the Bank, sufficient number of ATMs, and materials associated with the bank's office are visually appealing at the bank's office. From Analysis it was found that a customer gives second importance to efficiency. It includes various criteria like faster log-in facility, the performance of plastic cards and transfer of funds. The customer gives the third preference to the security factor. It includes various criteria like security for ATMs, protection of banking transactions, and privacy/confidentiality of the bank. However, both reliability and responsiveness are worth consideration in enhancing customer service quality experience, with the supreme importance of tangibility, efficiency and security inside the Kathmandu valley of Nepal.

Based on an objective analysis of the data and a discussion of the results, the following are the major findings and conclusions of the study:

1. The average score exceeded 2, indicating that respondents were generally satisfied with their banks' features. Most respondents agreed with the statements, reflecting their satisfaction with various banking services.
2. There was a significant relationship among the variables as a whole. The Cronbach's alpha coefficient confirmed the reliability of the data, resulting in a positive outcome. It was concluded that all service quality factors, including tangibility and reliability, are crucial for enhancing customer satisfaction in Nepalese banks.
3. The tangibility factor of e-banking services had the strongest positive association with customer satisfaction ( $r = 0.668$ ), making it the most important motivating factor for customers. Therefore, the tangibility factor should be transparent and affordable for customers.

4. Analysis of the data using tools such as correlation, regression, and Cronbach's alpha reliability yielded positive outcomes. The overall data showed a positive correlation among the variables, with the research being 90.9% reliable. All variables had a positive association with customer satisfaction regarding services provided by banks in Nepal. These results suggest that increases in each factor are likely to lead to increased customer satisfaction.

### **5.3 Implications**

This study holds significant implications for both academics and managers of the visited banks. Given the insignificant values obtained for the reliability and responsiveness of e-banking services, it is recommended that banks critically reassess these variables. Improving these aspects is crucial, as they can impact profitability and influence customers' intent to switch banks. A significant portion of the banking population needs to be educated about internet banking. Many customers who received the questionnaires declined to answer because they were unfamiliar with the services or had limited knowledge of internet banking. To promote the widespread use of mobile banking, campaigns should have been launched to highlight the benefits of the technology.

Further research should be conducted with a larger sample size to generalize the study's findings. Additional service quality factors that impact customer satisfaction can be included in future studies. Furthermore, security is a crucial concern for internet customers. Therefore, banks should develop a robust security system that customers can trust. Improving the quality of services to enhance customer e-satisfaction is also beneficial, as the reliability dimension is significant in supporting service quality.

Customers are very concerned about tangibility, efficiency, and security. Banks should raise awareness and ensure they keep their promises regarding these factors. The study strongly recommends that banks take more time to activate, develop, and innovate new techniques to encourage customers to be more flexible in using e-banking services. Bank managers need to understand that customers are not just customers; they are more important than the banking industry often perceives. Therefore, it is crucial to understand factors like tangibility, reliability, responsiveness, efficiency, and security, which significantly contribute to customer

satisfaction. This paper aims to provide valuable insights for bank managers regarding customer satisfaction in the banking industry.

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## **APPENDICES**

**Dear Respondent,**

I am conducting this questioner survey for discovering "E-banking and customer satisfaction in Nepalese Commerical Banks" Hence, I request you please go through the statements carefully and provide your response as genuinely as possible. Confidentially of your response will be maintained. It will only take a few minutes of yours to fill up the questionnaire. Your participation is greatly appreciated.

Thank You!

Sincerely,

Sangita Paneru

### **Group A**

#### **Socio demographic variables of customers**

Name:

#### **1. Gender**

- A. Male
- B. Female
- C. Others

#### **2. Age**

- A. 16 - 25 years
- B. 26 - 35 years
- C. 36 – 45 years
- D. 46 – 55 years
- E. 56 or more

#### **3. Education**

- A. SEE
- B. Intermediate
- C. Bachelors
- D. Masters or above

#### **Level of customer understanding**

#### **4. Do you know about online banking/internet banking?**

- A. Yes

B. No

**5. From how long ago you are dealing with internet banking?**

A. Just starting

B. Since 1 years ago

C. Since 2 years ago or more

**6. How do you grade E-Banking services provided by bank?**

A. Excellent

B. Good

C. Average

D. Below Average

**7. Which services that you use most in the banks by internet?**

A. Transfer fund

B. Bank guarantee

C. Export finance

D. Any branch banking

E. ATM

**8. What are the reasons for the choosing E-Banking Services?**

A. Fast Service

B. Easy access

C. Cost Saving

D. All of the above

**9. Does internet banking create unemployment problem?**

A. Yes

B. No

C. Somehow

**10. Do you think E-Banking is working properly in Nepal?**

A. Yes

B. No

C. Somehow

**11. Do you think Nepal Rastra Bank should make electronic banking mandatory?**

A. Yes

B. No

C. Don't know

**12. Is the use of E-Banking service expensive?**

- A. Yes
- B. No
- C. Not sure

**Group B**

**Various factor influencing use of e-banking**

Please read the statement given below in questionnaire, assure your level of agreement on given statement and mark on any one option as your agreement level matches our of given options:

1= Not at all satisfied (NS), 2= Slightly satisfied (SS), 3= Moderately satisfied (MS), 4= Very satisfied (VS), 5= Extremely satisfied (ES)

		NS	SS	MS	VS	ES
<b>13.</b>	<b>Tangibility</b>					
1.	Bank has up - to - date equipment & technology					
2.	Convenient location of the Bank					
3.	Sufficient number of ATM machines					
<b>14.</b>	<b>Reliability</b>					
4.	Information provided on website					
5.	Up to date content					
6.	Wide range of products and services provided					
<b>15.</b>	<b>Responsiveness</b>					
7.	Customer service representative					
8.	Quick confirmation					
9.	Our requests are handled promptly					
<b>16.</b>	<b>Efficiency</b>					
10.	Faster log in facility					
11.	Performance of Plastic cards (ATM, Debit/Credit)					
12.	Transfer of Funds (NEFT, RTGS)					
<b>17.</b>	<b>Security</b>					
13.	Security for ATMs					

14.	Protection of banking transactions					
15.	Privacy / Confidentiality of the bank.					
<b>18.</b>	<b>Customer Satisfaction</b>					
16.	You are satisfied with ATM location of a bank.					
17.	You are satisfied with e-payment services of bank.					
18.	You feel safe in the transactions with your bank.					

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