

IMPACT OF ELECTRONIC BANKING ON CUSTOMER SATISFACTION OF NEPALESE COMMERCIAL BANKS

A dissertation submitted to the office of the dean, faculty of management in partial
fulfillment of the requirements for the Master's Degree

by

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled **Impact of Electronic Banking on Customer Satisfaction of Nepalese Commercial Banks**. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirement for any academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all sources and literature used are cited in the reference section of the dissertation.

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ABBREVIATIONS

ATM	Automated Teller Machine
CCS	Credit Card Service
CS	Customer Satisfaction
DCS	Debit Card Service
E-banking	Electronic banking
EFTPOS	Electronic Fund Transfer at Point of Sale
EFTS	Electronic Fund Transfer services
IBS	Internet Banking Service
ICT	Information and Communication Technology
IT	Information Technology
MBS	Mobile Banking Service
POS	Point of Sale
SMS	Short Message Service

ABSTRACT

This study attempted to investigate how customer satisfaction at Nepalese Commercial Bank was affected by the provision of e-banking services. This study examines several aspects of electronic banking services, including automated teller machines, online and mobile banking, credit and debit card services, electronic fund transfers, and point-of-sale services. The research design used for this study is causal and descriptive. The responses from the primarily structured questionnaire survey were used as the basis for statistical analysis to test the hypothesis. Descriptive analysis, correlation analysis, and regression analysis are used in this study to support the hypothesis on the relationship between customer satisfaction and the impact of e-banking services in commercial banking.

The study found that e-banking services as automated teller machine, mobile banking services, debit card services and electronic fund transfers at point of sales services have significant positive effect on customer satisfaction however internet banking services and credit card services have no significant effect on customer satisfaction although there is positive effect found, concluding that use of internet banking service and credit card service are not as famous as other variables of the study. In summary, the utilization of e-banking services can enhance customer happiness, decrease wait times for bank services, and help clients better manage their account transactions.

Keywords: Customer Satisfaction, Automated Teller Machine, Internet Banking Services, Mobile Banking Services, Credit Card Services, Debit Card Services, Electronic Fund Transfers at Point of Sales Services

CHAPTER- I

INTRODUCTION

1.1 Background of the Study

The modern world is seeing a tremendous improvement in technology, which has brought forth a lot of new systems in every element of life and the economy as a whole. The usage of internet technologies, which were first employed by numerous businesses worldwide for postal communication and advertising campaigns in the early 20th century, has allowed science to become more global in recent times. The technological revolution shaped the 21st century, which is known as the globalization era. The Internet has a significant impact on every facet of business. Businesses in the twenty-first century must use electronic commerce; it is no longer an option (Wisdom, 2012).

Customers are vital to the survival and prosperity of any organization, and the banking sector is no different. Therefore, it is essential to both satisfy and retain clients in order to maximize money and increase bank performance. In the modern era, technology affects everyone's life, and internet banking is now the technology that is changing banking practices the fastest. Online banking is rapidly replacing traditional banking for consumers due to a number of advantages, including time and cost savings. These days, technology has a qualitative and quantitative impact on people's life (Adhikari, 2020).

The swift advancement of information technology has significantly transformed the worldwide business and economic terrain, impacting the lives of millions of people. Technological developments in banking have accelerated client transactions and communication. It is defined as a bank that provides online services or information to its customers. It is regarded as an auxiliary channel that is used in conjunction with other channels to provide the convenience of banking whenever and from anyplace, free of the costs associated with branch visits, such as parking or waiting in line (Das & Ravi, 2021).

Time restraints, geographical restrictions, and physical boundaries on banking services are eliminated with online banking (Abor, 2004). In the early 1990s, credit card, ATM,

and phone banking were the three main ways that e-banking services were used. Financial services have varied degrees of integrated databases, information systems, and other technology throughout the last ten years. Local banks have been providing secure websites for e-banking services, such as online transfers, payments, and inquiries, ever since the internet became widely accessible. In order to provide its customers with online banking services, there are two primary business models: The first is the incumbent bank, sometimes known as the "bricks and clicks" model, which adds internet banking to its traditional banking division and leverages e-banking as a new service delivery channel. The system is integrated with branches, ATMs, call centers, and online service. The other is referred to as a "direct bank," "virtual bank," or "internet primary bank." It does not have any branch locations, but instead offers financial services over the internet, wireless networking, and telecommunication networks (Caruana, 2011). On the other hand, the other is referred to as a direct bank, virtual bank, or internet primary bank. It does not have any branch offices, but instead uses wireless networking, the internet, and telecommunication networks to offer banking services (Juwaini et al., 2022).

Banks play a vital and dynamic role in the financial and economic growth of a country. A country's capacity to thrive economically is substantially influenced by the banking sector's performance across a number of industries. Thanks to technical improvements, banks have embraced some of the newest technology, including electronic banking, or e-banking (Mukherjee, 2004). The introduction of electronic banking has completely changed and reshaped how banks function today. E-banking is a quickly growing service that lets consumers access account-specific information on a computer and potentially even perform transactions remotely (Adhikari & Mahat, 2024).

Customers can conduct their financial transactions electronically through e-banking channels at any time that is convenient for them, using a personal computer, laptop, or mobile device. This means that they are not limited to the hours that traditional bank operations run. E-banking is a state-of-the-art delivery mechanism that has a substantially lower cost structure than conventional delivery methods, in addition to providing more spatial convenience and quicker wait times than traditional branch banking. E-banking not only saves the bank money on operations but also improves

customer satisfaction and retention. E-banking is therefore very alluring to banks and customers who are adopting new technology (Datta, 2010).

The provision of retail and small value banking goods and services via electronic channels is known as e-banking. These goods and services can include receiving deposits, making loans, managing accounts, giving financial advice, paying electric bills, and making other electronic payments. With e-banking, most financial transactions may be easily finished at the customer's convenience. The clients can access their money, transfer funds between accounts, pay bills, and make purchases twenty-four hours a day, seven days a week (Davis, 1989). Electronic banking is the practice of transferring funds between accounts directly via electronic means as opposed to paper cheques or cash. Because electronic banking reduces bank expenses, it may increase bank profits. When a home user engages in e-banking, they typically use a network or modern credit card to make direct bank calls, connect to the internet through an internet service provider, visit the bank's website, and then enter a password to access the secure site (Garau, 2022).

With the use of internet technology, banks nowadays appear prepared to offer any kind of financial service, wherever in the globe, at any time. As a significant advancement towards e-commerce, internet banking, or e-banking, is currently gaining popularity across all nations. Since more than ten years ago, technologically advanced banks have been employing plastic money, or e-money, such as ATMs, debit cards, and credit cards. For the most part, modern banks have long used computer networks and SWIFT transfer to send financial data between branches and banks in order to perform online banking transactions. Global networks and the internet will be used by banks to deliver online banking services over time. Furthermore, e-banking is the term for this new electronic online banking channel (De.Yong, 2001).

For technology-based institutions, the globalization of economies and financial liberalization within them have created new growth opportunities; nevertheless, for other institutions, similar developments have led to a decline in revenue. Our nation's financial sector has not made extensive use of IT, which has constrained our ability to conduct business internationally. The creation of numerous channels for electronic banking services, including the SWIFT system, ATMs, point-of-sale (POS), PIN pads,

Internet, mobile (SMS), and telephone banking, has made it easier for people to pay money. As a result, the creation of these channels has become one of the areas where banks compete the most to attract resources (Garau, 2022).

The banking sector and its customers had to wait 65 years (about 2002 A.D.) after Nepal Bank Limited was founded in 1937 before they could utilize the E-banking service in Nepal. Customers who live in Nepal's rural districts still do not really enjoy using e-banking. Thus, the primary focus of this study is how electronic banking affects customer satisfaction and service performance in Nepalese commercial banks. It also focuses on how Nepalese commercial banks may use electronic banking to its full potential. Nonetheless, almost all Nepalese banks currently offer internet banking. Furthermore, these banks are branching out into rural regions in an attempt to attract more customers by educating them about the most recent advancements in information technology (Gautam & Sah, 2023).

A payment system used by banks and other financial organizations to handle customer transactions from their accounts is called e-banking. Customers can do business with businesses no matter where they live thanks to online banking. It enables businesses to test new goods and services, carry out market research, make low-cost financial decisions, and create new commercial relationships. While accessibility is a feature that can be obtained, e-banking ensures convenience. In Nepal, this technology has been introduced by Nepal Clearing House Limited. According to latest data from Nepal Rastra Bank, financial institutions in the country provide approximately 4 million consumers for mobile banking and 0.78 million customers for internet banking.

1.2 Problem Statement

The banking industry in Nepal has seen a tremendous upheaval in the last ten years. Prior until now, the financial sector lacked access to fundamental technologies such as SMS notifications and ATMs. As a result, in order to perform fundamental functions such as validating deposits, checking account balances, and making withdrawals, all bank clients had to physically walk to the banking hall. This led to long queues, which were costly overall and time- and energy-consuming. Internet technologies are rapidly changing the way personal financial services are designed and delivered (Gautam & Sah, 2023).

In an effort to streamline operations and cut expenses, Nepalese commercial banks are currently attempting to implement internet-based e-banking systems. E-banking services are typically adopted by Nepalese commercial banks as a step toward new services and as competitive tools. Nonetheless, Nepal is a developing nation, with numerous uncertainties surrounding the utilization of electronic banking. As a result, it's important to comprehend how commercial banks use online banking and provide superior service (Reddy & Megharaja, 2021).

Researchers contend further that these extremely profitable innovations significantly lessen the need on manual services provided to bank clients, improving service quality and boosting bank profitability (Hazlehurst & Brouthers, 2018). However, as a result of several financial institutions offering electronic banking services to the Nepalese banking industry, things have lately altered. Technological innovations like ATMs, Electronic Funds Transfer at Point of Sale (EFTOPS), internet banking, SMS alerts, credit and debit cards have improved the financial landscape in Nepal (Adhikari & Mahat, 2024).

Determining the extent to which the bank's use of electronic banking services and products influences customer satisfaction and service quality in Nepal's banking industry is hence the study's problem (Adhikari, 2020). As a result, having access to internet banking is increasingly becoming a "need to have" feature rather than a "nice to have." The investigation's main focus is on the following research questions.

- What are the services provided by the Nepalese commercial bank under e-banking services?
- What is the impact of e-banking service delivery on customer satisfaction in Nepalese commercial banks?

1.3 Objectives of the Study

The general objective of the study is to examine the impact of electronic banking on consumer satisfaction. The specific objectives of the study are as follows:

- To analyze the services provided by Nepalese commercial bank under e-banking services.

- To analyze the impact of e-banking service delivery on customer satisfaction in Nepalese commercial bank.

1.4 Hypothesis of the Study

Based on the research questions and objectives of the study, the following hypothesis can be developed for e-banking service delivery on customer satisfaction of Nepalese commercial banks.

Hypothesis 1: There is significant effect of ATM services on customer satisfaction in Nepalese commercial bank.

Hypothesis 2: There is significant effect of internet banking services on customer satisfaction in Nepalese commercial bank.

Hypothesis 3: There is significant effect of mobile banking services on customer satisfaction in Nepalese commercial bank.

Hypothesis 4: There is significant effect of credit card services on customer satisfaction in Nepalese commercial bank.

Hypothesis 5: There is significant effect of debit card services on customer satisfaction in Nepalese private commercial bank.

Hypothesis 6: There is significant effect of electronic fund transfers at point of sales services on customer satisfaction in Nepalese commercial bank.

1.5 Rationale of the Study

This research adds to the body of knowledge and is a source of scholarly reference. For this reason, both the technique and the study's conclusions can be read by future researchers. The usage of information and communication technology (ICT) in the banking industry affects a bank's ability to remain profitable as well as the caliber of services it offers. Many banks are phased out of their traditional banking procedures and gradually incorporating ICT into their service offering.

Currently, commercial banks are important to the economy and are growing in recognition both domestically and internationally as a result of their efficient management and professional services. E-banking is one of the main services provided by commercial banks and is essential to the operation of the whole organization. For a variety of reasons, research on e-banking offered by commercial banks is crucial.

This study will help the majority of Nepalese people gain an understanding of the internet services that are accessible to them, as they still do not know what online banking or e-banking is. Today's global economy is mostly reliant on financial institutions, which require IT support to stay afloat.

As a result, this study provides valuable feedback to the bank's IT policy maker and acts as a useful guide for other commercial banks in creating plans that are appropriate. The study is significant for scholars and students who wish to carry out more research on the subject.

The study's findings demonstrate how other banks might enhance their online banking offerings to attract more potential consumers and hence increase income, which have an impact on the bank's profit margin.

1.6 Limitations of the Study

The limitations of the study are as follows:

- This study is focused on analysis of impact of electronic banking service on customer satisfaction in Nepalese commercial banks, considering Automated Teller Machine (ATM) Services, Internet Banking Services, Mobile Banking Services (MBS), Credit Card Services (CCS), Debit Card Services (DCS) and Electronic Fund Transfer at Point of Sale (EFTPOS) Services as electronic banking services provided by banks, other banking services are not considered in this study.
- Only primary data are used for the data analysis in this study, so the reliability of the findings from the study depends on the responses of the customers.
- Among all the banking customers, only 25 customers of each sample banks (i.e. Everest Bank, Himalayan Bank, Nepal SBI Bank, Nabil Bank, NMB Bank, Standard Chartered Bank, Siddhartha Bank, Prabhu Bank, NMB Bank and Sanima Bank) are taken as sample for the study. So the small sample size may not represent the overall view point of customers of banking industry.

CHAPTER- II

LITERATURE REVIEW

This chapter includes pertinent articles, books, and research papers, as well as a review and presentation of past studies that are related to the subject of this investigation. The pertinent e-banking service delivery and its impact on customer satisfaction are reviewed and presented.

2.1 Theoretical Review

The Theory of Reasoned Action (TRA) was created to provide a deeper understanding of the connections between intentions, behaviors, and attitudes. This is among the most significant theories that describe how people behave. People's attitudes regarding technology use and subjective norms explain behavioral intention to use it. An approach that has been linked to success in these industries is the provision of high-quality services. Increased competition and deregulation have forced many service and retail enterprises to look for profitable methods to set themselves apart (Caruana, 2011). Because of these factors—better revenues, higher cross-sell ratios, improved customer retention, purchasing patterns, and increased market share—service quality has therefore gained attention as a research issue throughout the past 10 years (Kaynak, 2015). In order to compete in a market-driven world, the banking industry realized how important providing excellent customer service was. All things considered, the service industry is highly diverse; what is true for one service industry may not apply to another. Services in this field cannot be standardized as a result of this differentiation; also, these services are intangible and cannot be seen or compared. There is a connection between the ideas of service quality and client satisfaction.

The increasing ubiquity of electronic banking is also altering the technological environment in terms of consumer satisfaction and service delivery levels. E-banking is one example of how information technology contributes significantly to better services at cheaper costs. A stronger sense of mutual understanding, customer loyalty, and trust between the consumer and the bank are all correlated with increased pleasure. Customers have a higher opinion of the banks that offer these services to a greater extent because of their reputation. Since customer happiness is determined by the

organization's service quality and customer expectation levels, e-banking is essential to providing customers with satisfaction since it bridges the gap between perceived and expected service quality (Kaynak, 2015).

2.1.1 Definition of Electronic Banking

Through electronic banking, clients can use an online interface to access various banking services, such as investing and paying bills. Customers using electronic banking can access several types of banking transactions with just a click of the mouse, in addition to cash withdrawals (De.Yong, 2001). As a matter of fact, with the advent of globalization and more intense competition, the use of electronic banking as a means of financial institution distribution has evolved from a preference strategy to a competitive weapon. E-banking, to put it simply, is the delivery of banking services and goods via electronic means. Telephone banking and automated teller machines (ATMs) are two examples of electronic banking that have been around for a while. The internet, a new delivery channel that has made banking transactions easier for both consumers and banks, has changed it more recently (Reddy & Megharaja, 2021).

The provision of electronic banking services facilitates the establishment and maintenance of bank-customer relationships. Other benefits that banks receive from electronic banking services include increased client loyalty, market segmentation, the creation of new goods and services, more efficient marketing, and communication at a reduced cost or price (Caruana, 2011).

Since clients prefer to conduct business through EBS rather than a branch, banks seek to invest in EBS to save branch costs and fees. EBS's financial benefit is mostly compensated by the expense of significantly higher client transaction volumes, which result in a small rise in costs and fee income. Thus, "Customer Service Delivery," an intangible commodity, has significantly increased in EBS. Thus, this results into better customer service delivery, which raises customer retention and loyalty and increases the value of the company. Due to its lower cost/fee delivery method and potential to boost future sales, EBS has emerged as one of the most significant aspects in the corporate economy today (Kaynak, 2015).

The banking industry is undergoing a fundamental shift towards greater competition, mostly due to the influence of electronic banking. The lines separating various financial institutions have become less distinct thanks to electronic banking, which has also made it possible to launch new financial services and products and bundle already-existing ones (Nath, 2003).

The method via which a customer can conduct banking transactions electronically without physically visiting a financial institution is referred to as "e-banking." E-banking, as opposed to traditional channels that provide banking services through physical branches, uses the Internet to provide users with standard banking services including account opening, fund transfers, and electronic bill payment. The use of electronic equipment for financial services, such as the internet, wireless networks, ATMs, phones, and cell phones, is known as e-banking. One example of the information and communication revolution's expression is e-banking, which alters the paradigm and pattern of banking, speeds up banking services, and effectively reduces waste problems. Accessing banking services around-the-clock via an Automated Teller Machine (ATM) using a Personal Identification Number (PIN) or directly depositing funds into savings or checking accounts is known as e-banking. Technology has revolutionized the banking industry by enabling the use of e-banking technologies like ATMs, online utility payments, and loan applications, among others, to replace traditional branch banking (Pikkarainen, 2004).

By using electronic methods to move money directly between accounts instead of through checks or cash, electronic banking can save bank expenses and raise bank profits (Parasuraman, 1988). Furthermore, the word "e-banking" refers to a generic process that allows a customer to conveniently do financial transactions online without having to visit a physical institution.

Parasuraman (1988) expanded on this definition, defining e-banking as an integrated system that offers consumers a cost-effective, flexible, and integrated platform for online personal banking products such as money market accounts, online checking and savings accounts, certificate of deposit, credit cards, home equity loans, mortgages, insurance, investment services, portfolio management, and other related financial services.

The banking sector in Nepal has experienced an unexpected surge in growth. Due to the global nature of the business, consumers want and deserve top-notch goods. Providing consumers with high-quality service is the competitive advantage in today's global and competitive market. The ability to provide customers with higher-quality products is what drives the need to achieve customer satisfaction. As a result, achieving customer satisfaction is seen as a prerequisite for customer loyalty, retention, and convenience, all of which are crucial to achieving the objectives of profitability, market share, growth, return on investment, productivity, etc.

Customers in developing nations appear to use "technological factors" of services as a benchmark for judging what constitutes excellent and bad service, while the human element—the employee—seems to have less of an impact on determining the caliber of service provided by banks. Banking is now seen as a business that deals with information connected to financial transactions rather than just money transactions (Powell, 1995).

The use of the internet to conduct banking operations, including fund transfers, bill payments, checking and savings account balances, mortgage payments, and the acquisition of financial instruments and certificate of deposits, is known as electronic banking. When internet banking first emerged, its basic features were checking account balances, calculating loan eligibility, and getting real-time interest rate information (Rotchanakitumnuai, 2003).

Nevertheless, these services have advanced to include online bill payment, fund transfers between accounts, and cash management services for both private and business clients (Simon et al., 2016).

Two groups comprise the e-banking adoption considerations. 1) Elements associated with technological access. 2) Elements associated with retail banking elements. The previous factors include consumer attitudes toward technology, internet penetration rate, and proficiency with the internet and other associated technologies. Security and privacy issues (Garau, 2002).

Although it is exploding more quickly and is becoming more successful, contemporary banking technology is not as ancient in Nepal as it is in other nations. Automated Teller Machines (ATMs), Internet banking, mobile banking, credit cards, debit cards, and anywhere, anytime banking are just a few of the cutting-edge IT-based services that have given consumers a multitude of practical services as their quality has increased.

2.1.3 Forms of Electronic Banking

For the majority of associations, information technologies (ITs) have altered how business interactions are conducted and how they cater to the ever-changing needs of their clientele. The introduction of ICT into the banking industry has created opportunities for improved branding and development, lowered exchange costs, improved customer correspondence and relationships, improved quality and speed of response, easier self-service and service customization, and increased opportunities for customer base growth (Garau, 2002).

2.1.3.1 Automated Teller Machine (ATM)

Automated tellers indicate that the bank will be more productive during regular business hours. An automated teller machine (ATM) is a device provided by a bank or other financial institution that allows users to take out cash, make inquiries, obtain bank statements, and more. Instead of waiting in line at bank halls, it saves consumers time during service delivery, which they can use for other worthwhile endeavors. Given that they are more productive per unit than human tellers, automated teller machines (ATMs) are an inexpensive means to increase production. An improvement rate of 45% has been achieved by establishing ATMs worldwide between 1998 and 2004, according to statistics, therefore it can be concluded that building ATMs for the purpose of distributing currency globally was a significant accomplishment.

According to Rose (1999) an ATM is a device that combines a cash vault, computer terminal, and record keeping system into one unit. It allows users to access the bank's bookkeeping system 24 hours a day by punching a special code number into the computer terminal that is connected to the bank's computerized records, or by using a plastic card that contains a Personal Identification Number (PIN).

2.1.3.2 Electronic Fund Transfer at Point of Sale (EFTPOS)

Customers can use their check cards to make retail purchases thanks to the POS system. Although it does not work like a credit card, the card appears like one. The debit card holder's account and the store's account are instantly updated with the amount that was purchased. A POS initiates an Electronic Fund Transfer Process by using a debit card. When EFTPOS is used to fulfill clients' shopping payment needs rather than clerical tasks like processing checks and cash withdrawals for shopping, banking productivity increases. Additionally, the technology keeps running beyond business hours, allowing the bank to continue being productive. In order to eliminate the need to physically transfer money, take money out of the buyer's account, and add money to the seller's account, selling centers install point-of-sale (POS) devices. POS is utilized in department stores and sale centers (Indrasari et al., 2022).

2.1.3.3 Internet Banking

The use of the internet as a delivery channel for banking services, such as checking one's balance, obtaining a statement of records, transferring trust to other records, making charge payments, presenting electronic bills, and making payments without physically visiting a bank, is known as internet banking. It removes time and space restrictions and gives the bank continuous productivity to unthinkably far-off clients. The bank might have a website where customers can check the balance in their accounts, apply for loans, order online exchange, and more. It facilitates money transfers to private accounts or other accounts, enables bill payment, and provides access to the last 30 transactions. It also helps to view invoices in accordance with accounts and chronological order (Nath, 2003).

2.1.3.4 Mobile Banking

The provision and accessibility of banking and financial services through mobile communications devices is referred to as mobile banking. The range of services provided can include the ability to use a mobile device, like a phone, to conduct account transactions, payments, and balance checks. Nowadays, the most common ways to do mobile banking are through SMS or the mobile internet, though specific applications can also be downloaded to a mobile device. As a result, it is essential to raising bank productivity (Sapkota et al., 2018).

2.1.3.5 Debit Card

A debit card is a type of plastic payment card that can be used in place of cash when making transactions. It is also referred to as a bank card, plastic card, or check card. It works similarly to a credit card, but when a transaction is made, the money comes straight out of the user's bank account. Debit cards typically function as ATM cards, enabling instantaneous cash withdrawals. Additionally, retailers could provide cashback programs to their clients, allowing them to take out cash in addition to making purchases. Debit card usage is now so common in many nations that it has surpassed or completely replaced check and, in certain cases, cash transactions in terms of volume. Using a debit card instead of cash is a more practical way to make purchases.

2.1.3.6 Credit Card

A credit card is a payment card that is given to users, or cardholders, allowing them to make purchases at merchants for products and services. The cardholder guarantees the card issuer that they will reimburse them for the amounts paid as well as any additional fees that have been agreed upon. Additionally, the credit business provider could provide the cardholder a line of credit that enables them to borrow money in the form of cash advances. With a credit card, you can take out a bank loan to pay for everything from a round-trip ticket to a hamburger. You won't be charged extra if you return the money you borrow within the allotted 25–30 day "grace period." You will have to pay interest, which is a portion of the total amount you owe the bank on top of the amount you borrowed, if you are unable to repay it within that time frame (Salihu & Metin, 2017).

2.1.4 E-banking Service Delivery and Customer Satisfaction

In the corporate world, one of the most crucial aspects is customer happiness. In the context of commercial banks, the degree of customer happiness serves as a distinguishing factor between them, making customer satisfaction measurement crucial (Zopounidis, 2012). Banks pay attention to the needs and grievances of their customers for this reason. Satisfied clients are essential for a profitable firm, particularly in service-oriented industries.

In this cutthroat industry, a business should prioritize customer satisfaction in order to maintain growth and grow its market share. In the current e-commerce environment,

where innovation is probably only going to provide a temporary advantage, customer pleasure will be the only means by which a business may thrive (AlHaliq & AlMuhirat, 2016).

Technology advancements are expected to transform the banking industry (Toor et al. (2016). Technology has completely changed how banks deliver their services to retail customers. It has also affected the banking markets. The difficulties that the banking industry and its regulator encounter were also examined in the study. The banking sector has seen a significant upheaval due to the information technology revolution. The banking industry is arguably the one that has been impacted by technological advancements the most. Its most crucial component is what it needs to deal with the fiercer competition and the quick spread of financial technologies. Thus, electronic banking services have replaced traditional branch banking in the banking industry's service delivery model.

The following are the essential conditions in priority order for providing high-quality services: They contend that the customer needs to be able to rely on the service delivery. According to their definition, reliability is the capacity to deliver the promised service precisely and consistently. The idea of responsiveness, or the readiness to assist clients and offer timely services, is the second essential condition for service delivery. They claim that assurance is the third variable. According to the writers, assurance is the capacity of staff members to exude confidence and trust while also demonstrating knowledge and civility. The offering of compassionate, tailored attention to clients is the fourth quality service delivery attribute: empathy. The final component of quality service delivery is the idea of tangibility. Tangibility, according to the authors, is the physical look of buildings, machinery, employees, and communication products (Datta, 2010).

Customer satisfaction encompasses more than just contented customers. The terms "customer" and "his/her satisfaction" are combined to form the concept of customer satisfaction. The term "customer" often refers to a buyer who makes a purchase or uses a service from another. When someone receives what they require, want, expect, deserve, or believe is their entitlement, they can be said to be satisfied.

According to Rajasekhar (2022) customer satisfaction is when a product meets or exceeds the expectations of the consumer. A process of emotional and cognitive assessment leads to the psychological state of satisfaction. In the banking industry, client satisfaction is the ultimate goal and objective. Quick service, reasonable service fees, convenience in depositing and withdrawing funds, ATM booths, account statements via SMS/e-mail services, and error-free records all contribute to client satisfaction.

According to Datta (2010) satisfaction refers to a client's general attitude toward a service provider or their emotional response to a discrepancy between their expectations and the actual fulfillment of a need, objective, or desire. Likewise, according to Peterson (2004) satisfaction is the emotion one experiences while evaluating a product's perceived performance or outcome in light of their expectations. The combined result of perception, assessment, and psychological response to the experience of consuming a good or service is further consumer satisfaction.

According to Ribbink (2004) emotions including acceptance, happiness, relief, enthusiasm, and delight are linked to contentment. A crucial differentiator in a competitive environment where businesses vie for clients, customer happiness is also becoming an increasingly important component of corporate strategy. It may also be described as a worldwide problem that affects all businesses, regardless of size—profit or non-profit, regional or international—that enjoy higher financial returns and a more contented clientele. Customers are more inclined to make repeat purchases and attempt to create line extensions if they are pleased with a specific service offering after using it (East, 1997).

Customer satisfaction is influenced by various aspects of the service, not only the overall assessment of the interaction. A number of studies have been conducted to better assess service satisfaction in the context of virtual business environments as a result of the growth of the internet and electronic banking. Because of this, the distinctive features of internet-based services—such as high levels of self-service and substantial human-computer interactions—may suggest that consumers' perceptions of the happiness they derive from online versus offline services differ. Customers prefer doing business online with their bank due to the expanding trend of information technology

in the banking sector, which is impacting consumer happiness and quality. Additionally, online banking enables e-bank operations and IT managers to make cost-effective decisions and applications that improve the quality of customer service, foster customer trust, and increase market share in this growing but fiercely competitive industry. Thus, it results in both consumer commitment and satisfaction (Caruana, 2011).

2.1.5 Benefits of E-Banking

It is impossible to overstate the advantages of online banking. In other words, it offers the bank and the customer a number of advantages. First and foremost, e-banking services offer competitive branding and improved understanding of market expectations. Therefore, service-oriented banks are seen as pioneers in the application and development of technology. Hence, they benefit from a better brand image.

The other benefits can be valued in monetary terms. Banks cannot be excluded from the basic goal of any institution, which is to increase profits. Many argue that the less efficient and labor-intensive banking systems of the past can be replaced by online banking. The opinions expressed by Mols (1999) suggest that there was a belief that the Internet will bring about a revolution that would eliminate traditional methods of communication. Transactions involving electronic banking via the internet are far less costly than those involving branches or even phone calls. The way banks and companies handle financial transactions demonstrates how electronic banking has opened avenues for them globally. Despite the benefits for banks, there are a number of challenges, including the creation of new action plans, the emergence of competitors, the blurring of business sector boundaries, and the invention of IT applications.

For banks and clients alike, e-banking offers a number of advantages. Customers can check accounts, transfer funds, and access a wide range of banking goods and services through electronic banking. In order to facilitate the exchange of goods and services without requiring face-to-face interaction, electronic banking plays a crucial role in the economy by enabling buyers and sellers to generate financial value. Banks can attract a diverse clientele through electronic banking, which generates substantial profits by providing services connected to portable money. A lot of banks are motivated to implement e-banking by factors related to increasing their profit margin by broadening

their market reach. The rise in credit card usage can be attributed to online banking. Consumers can purchase anywhere in the world without requiring physical cash (Wind, 2001).

2.1.6 Challenges of E-Banking

According to Daft (1982) while the emergence of e-banking may be a wise move, consumers may have to deal with certain risks associated with this particular kind of innovation. Daft recognized the Strategic Risk that he defined. Financial institution management should be aware of the risks connected to online banking and offer solutions. The strategic risk of a financial organization can be raised by making poor investment and e-banking planning choices. Establishing online banking services comes at a considerable expense. Building a reliable brand is quite expensive because it necessitates the acquisition of pricey equipment. Customers who use electronic banking services may encounter a number of issues, such as fraud risk, network and system malfunctions, and other unforeseen circumstances that prevent the company from providing banking goods and services. Various goods and services may come with this risk (Earl, 2000).

Banking activities can increase an establishment's activities and the amount of its transaction or operational risk, especially if the organization is offering innovative services that are not yet institutionalized. Thus, financial institutions must to offer dependable services that facilitate clients' constant access (Earl, 2000).

Another security concern related to online banking was first reported by the Economist journal in 1999. These issues are divided into three groups: those related to fraud and theft, those caused by hackers, and lastly, system setup or design flaws that allow authorized users to view or transact on other users' accounts. These anxieties all have histories in the legal and financial spheres.

Other difficulties with electronic banking include the kind of technology chosen, ignorance, and finally implementation. Earl (2000) also found that although managers are aware of their company's operations and business processes, most of their staff lacks the knowledge and expertise necessary to educate clients and adjust to technological advancements.

In certain developing nations, a large number of businesses and consumers lack access to the infrastructure needed to handle electronic payments. International electronic banking has several implications. It is essentially acknowledged that low transaction costs may significantly reduce the difficulty of conducting electronic international banking. Cross-border activities present an opportunity to achieve economies of scale for certain banks. However, more supervision is necessary. In response, a large number of financial institutions have already changed their rules in order to accomplish their primary goals, which include maintaining the stability and safety of the domestic banking system, encouraging market discipline, defending consumer rights, and preserving public confidence in the banking system.

2.2 Empirical Review

Toor et al. (2016) studied on the impact of e-banking on customer satisfaction: evidence from banking sector of Pakistan. The study's objective was to determine how important service features provided by Pakistani e-banking providers are in terms of ensuring client happiness. The study's e-banking variables include tangibles, empathy, assurance, responsiveness, consistency, and service quality characteristics. The study employed a multiple regression model and correlation analysis to ascertain the degree of relevance of the factors pertaining to customer satisfaction in electronic banking. According to the report, consumers in Pakistan are generally happy with the level of service provided by e-banking services. The greatest outcomes in e-banking in Pakistan have been achieved by reliability, which is followed by assurance and responsiveness. In contrast, tangibles and empathy have not yielded as many noteworthy outcomes. Based on three main criteria—responsiveness, reliability, and assurance—people assess the quality of e-banking services most highly.

Offei and Nuamah-Gyambrah (2016) conducted the study on the contribution of electronic banking to customer satisfaction: a case of GCB bank limited-Koforidua. This study set out to evaluate how much electronic banking contributes to customer happiness. Regression analysis and correlation analysis were used in this study to analyze the data. It was discovered that although the bank had internet banking capabilities, the study's participants were not entirely cognizant of their presence. Additionally, it was discovered that although the bank was making use of the internet banking service, consumers were not completely utilizing it and that using it was quite

costly. It was determined that online banking improves bank operations' efficiency. Lastly, the study suggested that, in order to support efficient banking operations and transactional needs, all GCB Bank locations implement internet banking services.

Vanathas et al. (2016) conducted the study on non-verbal communication and satisfaction on the banking industry. The study conducted to look into the connection between nonverbal cues and customer satisfaction in the banking sector. In this study, the relationship analysis was conducted using the regression analysis method. The findings indicated that, after eye contact, smiling is the most crucial nonverbal cue that consumers look for. More eye contact between employees and customers was found to increase customer satisfaction. It is believed that good nonverbal communication will also reduce misconceptions by assisting clients in understanding what the bank is attempting to say to them. As a result, just as the bank values verbal communication, it should equally emphasize nonverbal communication.

AlHaliq and AlMuhirat (2016) examined on customer satisfaction with electronic banking services in the Saudi banking sector. Examining consumer satisfaction levels with electronic banking (e-banking) services in the Saudi banking sector and addressing service quality issues were the primary goals of the study. Multiple regression analysis, correlation, and a five-point Likert scale were employed in the study. The findings demonstrated that Saudi banks had been successful in achieving a high level of customer satisfaction through the improvement of their electronic services, the facilitation of electronic transactions, the enhancement of processing performance, and the improvement of electronic service standards. Customers, however, lack information and direction on the e-banking system. According to the study's findings, Saudi Arabian banks' use of electronic services has improved client satisfaction.

Tharanikaran et al. (2017) studied on service quality and customer satisfaction in the electronic banking. The aim of the study was to determine the level of customer satisfaction and service quality in the Batticaloa district's online banking system. Regression and correlation analysis tools were used to analyze the data in this study. The findings showed that customer satisfaction and service quality in online banking were quite good. The study's conclusions help academics, practitioners, and bank management create and implement strategies linked to consumer happiness and service

quality in online banking. This study comes to the conclusion that e-banking in other nations reflects a high level of client satisfaction.

Salihi and Metin (2017) conducted the study on the impact of services, assurance and efficiency in customer satisfaction on electronic banking services offered by banking sector. The study was conducted to determine how services, assurance, and efficiency in customer satisfaction related to electronic banking. Cronbach's alpha, correlation, regression analysis, and a 5-point Likert scale were employed in this study's analysis. Customer satisfaction was shown to be positively impacted by service and dependability and negatively impacted by efficiency. This study came to the conclusion that users' happiness with two electronic banking services—ATMs and e-banking—as well as product enhancements are related to the type of technology utilized in electronic banking products, the quantity and placement of ATMs, usability, etc.

Hazlehurst and Brouthers (2018) analyzed on IB and strategy research on “new” information and communication. The study's objective was to ascertain how new technologies are being accessed and used to acquire competencies. Average, percentage, and relationship analysis techniques were applied in this study. According to the findings, social technology has simplified and reduced the cost of communication; however, businesses still need to decide which channel is most convenient for their clients to use. The conclusion is that some technologies have the potential to improve the performance of businesses.

Sapkota et al. (2018) examined on role of information communication technology (ICT) in Nepalese banking industry. The study aimed to investigate the current state of ICT use in commercial banking services, evaluate the perceived benefits of ICT use, and identify the main issues and their solutions in order to maximize ICT use in commercial banking across the nation. This study employed statistical techniques such as percentage analysis, standard deviation, and mean. Debit card, ATM card, mobile banking, mobile cash, utility bill payment, and Internet banking services are just a few of the services the bank has been offering nationwide, it was discovered. The study's findings lead to the conclusion that the following services are offered by Nepalese commercial banks: credit card, debit/ATM card services, internet banking, mobile banking, and mobile cash. It was determined that clients are satisfied with the ICT

services offered by the banks and that the most recent services they use include SMS banking, m-banking, e-banking, and utility bill payment.

Dharmavaram and Nittala (2018) researched on service quality and customer satisfaction in online banking. This study was designed to investigate the variables influencing consumer satisfaction in Visakhapatnam city related to the quality of online banking services. The data was analyzed using the regression analysis method. The study's findings demonstrated the critical impact that customer satisfaction plays in the quality of online banking services. The results also showed that banks should provide adequate training to customer care representatives so they can effectively handle consumer issues while interacting with clients and responding to their concerns. According to the study's findings, responsiveness, reliability, privacy, security, ease of use, website design, and information quality are the main factors that influence customer satisfaction when it comes to online banking. As a result, banks should focus their efforts and resources on these factors in order to encourage new customers to use online banking.

Sharma et al. (2020) researched on impact of e-banking service quality on customer satisfaction. This study was conducted to determine how customer happiness was affected by the quality of e-banking services. The study utilized the multiple regression technique to assess the impact of the service quality factor on customer satisfaction. The study discovered a statistically significant correlation between the service quality dimension and bank customers' satisfaction, and that the regression model as a whole suited the data rather well. Customer satisfaction with e-banking services is impacted by tangibility, credibility, responsiveness, security, and communication, according to the findings.

Adhikari (2020) examined on role of information technology on banking service delivery in Kathmandu Valley. The study's objective was to investigate how information technology affects the provision of financial services in the Kathmandu Valley. The average, correlation, regression, and five-level Likert scale inquiry were employed in this study. For ATM, electronic banking, electronic fund transfer, point of sale, and banking service delivery, it was discovered that there is a positive and significant beta coefficient, indicating a favorable impact of these factors on banking

service delivery. The main element influencing the delivery of banking services in the Kathmandu valley has been found to be electronic fund transfers. In order to improve consumer impression of insurance products, it was determined that satisfaction levels and service quality should rise. Additionally, the company should implement an easy-to-use procedure to boost insurance product sales.

Das and Ravi (2021) analyzed on the impact of e-banking service quality on customer satisfaction. The study's objective was to identify the characteristics of service quality and assess the influence of many elements, including responsiveness, communication, security and privacy, website design, and dependability. Data analysis techniques include weighted average tests, ANOVA, regression, and correlation. Customer satisfaction with e-banking services is found to be positively impacted by the service quality dimensions of communications, website design and responsiveness, security and privacy, and reliability. When it comes to other dimensions, website design is the most crucial. They placed less value on security and privacy, dependability, responsiveness, and communication and instead trusted banks' online transactions. It was determined that consumer satisfaction with e-banking services is positively impacted by the service quality aspects of communication, website design and responsiveness, security and privacy, and reliability. When it comes to young people, website design is more significant than other factors.

Reddy and Megharaja (2021) studied on impact of e-banking on customer satisfaction. The study's objectives were to determine whatever e-banking services Indian banks have implemented and to find out how satisfied customers were with e-banking. Regression analysis and correlation analysis techniques were used in this study's analysis. According to this study, e-banking is significantly enhancing the quality of services provided and fortifying the banking industry. This is because electronic payments lead to higher customer satisfaction, higher productivity, lower operating costs, and faster and larger volume settlement. The banking industry saw a revolution thanks to e-banking as a result of the rapid advancement of information technology. The study came to the conclusion that different nations within the region may have different definitions of "reliability," which calls for a thorough examination of this and other constructs in a variety of cultural contexts.

Ling and Ismail (2021) analyzed on impact of service quality on customer satisfaction towards online banking. The study's objective was to ascertain how customer happiness in online banking is influenced by responsiveness, trust, convenience, efficiency, and security as well as to pinpoint the SQ factor that has the most impact on customer satisfaction. Regression analysis and correlation analysis were employed in this study's pilot test. This study discovered a strong correlation between consumer satisfaction with online banking and responsiveness. In a similar vein, trust and customer happiness have a strong positive correlation. The results of the study showed a strong positive association between customer happiness and trust. Out of the five efficiencies, responsiveness had the least impact on customer satisfaction, whereas the biggest influence was found in customer satisfaction.

Indrasari et al. (2022) studied on determinants of satisfaction and loyalty of e-banking users during the COVID-19 pandemic. The aim of the research was to examine the variables that influence the happiness and loyalty of online bank customers during the Covid-19 epidemic in relation to the quality of online banking services. Regression analysis and correlation analysis techniques were applied to the data analysis in this study. The study's findings indicate that e-banking service quality, dependability, and website and application design affect e-banking users' loyalty and level of satisfaction. However, security and privacy have little effect on customer happiness with online banking; rather, they primarily affect user loyalty. It was determined that during the COVID-19 epidemic, customer service and help had little bearing on e-banking user happiness or loyalty.

Juwaini et al. (2022) analyzed on the role of customer e-trust, customer e-service quality and customer e-satisfaction on customer e-loyalty. The objectives of the research were to ascertain the impact of customer satisfaction with e-service quality, the impact of e-trust on customer satisfaction, the impact of e-service quality on customer loyalty, and the final impact of e-satisfaction on customer loyalty with online shops. Regression analysis and hypothesis testing were employed in this study's analysis. The study discovered that while e-satisfaction had a positive but non-significant effect on e-trust, e-service quality had a positive but non-significant effect on e-loyalty, e-trust had a negative but non-significant effect on e-satisfaction, and e-satisfaction had a positive but non-significant effect on e-loyalty lastly. Service was found to be lacking,

particularly with regard to the suitability of the goods offered on the website compared to those that were supplied to clients.

Rajasekhar (2022) examined on the effects of e-banking service factors on customer satisfaction. The aim of this study was to examine potential determinants of consumer happiness with e-banking services and to assess the significance of key variables such CRM, service quality, customer loyalty, and customer perceived value in relation to customer satisfaction. Percentage, ANOVA, correlation, and multiple regression techniques were applied in this investigation. According to this study, there is a strong correlation between CRM and customer value, as well as between customer loyalty and satisfaction. Additionally, the service quality and customer loyalty components of e-banking services are rated more favorably by customers than the customer satisfaction component. It was determined that e-banking services with better levels of customer loyalty and service quality would have a beneficial impact on customer satisfaction ratings.

Ayer (2023) examined e-banking services and its impact on customer satisfaction in Nepalese commercial banks. The study's objective was to investigate how customer satisfaction in Nepalese commercial banks is affected by e-banking services. To evaluate the relevance and significance of e-banking services, regression models and correlation coefficients were estimated for this study. Convenience was found to positively affect consumer satisfaction. In a similar vein, consumer satisfaction benefited from reliability. Similarly, consumer satisfaction increased with simplicity of use. Security also had a favorable effect on customer satisfaction. Time savings also have a favorable effect on customer satisfaction. In a similar vein, perceived benefit enhanced customer happiness.

Gautam and Sah (2023) analyzed online banking service practices and its impact on e-customer satisfaction and e-customer loyalty in developing country of South Asia-Nepal. The purpose of the study was to determine how online banking service approaches affect e-customer satisfaction and loyalty. The parameters and structure of the online banking service were estimated in this work using structural equation modeling and quality dimensions. It was found that the most crucial elements of online

banking service procedures were the company's website, user-friendliness, security and privacy, and e-customer support. The relationship between online banking services and e-customer loyalty is mediated by e-satisfaction, which is a significant area of ongoing interest for legislators, bankers, and users. E-customer loyalty is highly influenced by e-customer satisfaction.

Adhikari and Mahat (2024) explored the effects of e-banking products and services on conventional banking transactions in Nepalese commercial banks. This study's main objective was to examine how e-banking services and products are becoming more prevalent in Nepalese commercial banks and how this is affecting traditional banking transactions. A mixed-methods approach was used in this study to investigate the impact of e-banking services and products on Nepalese commercial banks. It was discovered that the ATM system significantly affected traditional banking procedures and transactions. Similarly, mobile banking had a big impact on traditional banking procedures and transactions. Internet banking has also had a major impact on traditional banking transactions and processes. The structural model of e-banking applications was shown to have a good correlation with traditional banking procedures and transactions.

2.3 Research Gap

The aim of this study is to determine how customer satisfaction at a private commercial bank in Nepal is affected by the provision of electronic banking services. According to the material reviewed above, e-banking is crucial to consumer happiness. Similar to this, a great deal of study has been done to look at the practices and effects of e-banking services in the context of consumer satisfaction. Automated teller machines, online and mobile banking, credit card, debit card, and electronic fund transfers at the point of sale are examples of e-banking services that are regarded as independent variables and crucial in determining customer satisfaction. However, there is a research gap because none of the earlier studies conducted in Nepal took into account all of these factors while examining the relationship between customer satisfaction and e-banking service delivery in the banking sector.

CHAPTER- III

RESEARCH METHODOLOGY

The general plan of a study is outlined by the research technique. It offers the fundamental structure that the study is built upon. It is required that the research process be explained prior to delivering the data analysis and interpretation. This chapter starts with the study's research design and moves on to discuss the demographic and sample, data collection methods, reliability test, and data processing approach.

3.1 Research Design

The research design used for the study is causal and descriptive. The components of e-banking services are described and explained using a descriptive study design. In a similar vein, causal design aids in ascertaining the correlation between the independent variable (e-banking services) and the dependent variable (consumer happiness). The impact of e-banking service delivery on customer satisfaction in the banking sector in Nepal is investigated using a further causal study methodology. The study collected data using a quantitative approach in order to analyze it. The responses to a mostly structured questionnaire survey were used as the basis for statistical analysis to test the hypothesis.

3.2 Population and Sample and Sampling Design

Population is the complete set of cases or group from which a sample is taken. The sample is a subset of a larger population, selected by the researcher to participate in a research project. Sample is a sub set or some part of the larger population. There are all together 20 commercial banks and there are many consumers who are regularly doing their business through the banks and this study consider the consumers of ten commercial banks only. A total of 270 consumers were sampled for the survey in this study and among them only 250 (92.59%) questionnaire responses are considered for the data analysis purpose. Since, to study the opinion of individual customers of the banks is not as easy task, this study used the convenience sampling technique to reach to the customers of the banks who are interested to provide their responses for the analysis. Survey questionnaire were manually distributed to the bank's customers.

3.3 Nature and Sources of Data

The influence of Nepalese commercial banks' e-banking services and customer satisfaction were gathered and examined using primary sources of data. The main source of data serves as the foundation for the research investigation. Primary data are first-hand observations made by the researcher in order to evaluate a hypothesis based on the study's objectives and research question. To collect the primary data, the researcher used structural questionnaire to the respondents. This study was mainly based on the primary data.

The study's necessary data was gathered through the use of questionnaire methodologies. There were two sections to the survey. The purpose of the first section was to gather participant demographic data. These included years of banking with the bank, age, sex, income, and educational attainment. The questionnaire in the second portion uses a five-point Likert scale to describe automated teller machines, electronic fund transfers at points of sale, online and mobile banking, debit and credit card services, and customer satisfaction.

3.4 Research Framework and Definition of Variables

The research framework of the study is presented below:

Independent Variables

- Automated Teller Machine Services (ATMS)
- Internet Banking Services (IBS)
- Mobile Banking Services (MBS)
- Credit Card Services (CCS)
- Debit Card Services (DCS)
- Electronic Fund Transfer at Point of Sale Services (EFTPOS)

Dependent Variable

Customer Satisfaction

Figure 1: Research Framework

Source: Sapkota et al. (2018) Adhikari (2020), Reddy and Megharaja (2021)

Dependent Variables

- **Customer Satisfaction**

According to Adhikari (2020) and Rajasekhar (2022) customer satisfaction in this study refers to an emotional reaction to the experience related to banking services in relation to the customer's expectations. Customer happiness can be measured by positive impressions, ongoing transactions, referrals, and contentment with the bank's services.

Independent Variables

- **Automated Teller Machine Services**

Automated tellers suggest that the bank will be more productive during regular business hours. An automated teller machine (ATM) is a device provided by a bank or other financial institution that allows users to take out cash, make inquiries, obtain bank statements, and more. Instead of waiting in line at bank halls, it saves clients time during service delivery, which they can use for other worthwhile endeavors (Reddy & Megharaja, 2021). According to Salihu and Metin (2017) an ATM is a device that combines a cash vault, record keeping system, and computer terminal into one unit. It allows users to access the bank's bookkeeping system 24 hours a day by punching a special code number into the computer terminal that is linked to the bank's computerized records, or by using a plastic card that contains a Personal Identification Number (PIN).

- **Internet Banking Services**

The use of the internet as a delivery channel for banking services, such as balance inquiries, statement of records, trust transfers to other records, charge payments, electronic bill presentation, and payment without physically visiting a bank, is referred to as internet banking (Reddy & Megharaja, 2021). It removes time and space restrictions and gives the bank continuous productivity to unthinkably far-off clients. The bank might have a website where customers can check the balance in their accounts, apply for loans, order online exchange, and check account flow (Salihu & Metin, 2017). It facilitates the transfer of funds to personal or other accounts, enables the viewing of bills in accordance with accounts, facilitates the arranging of bills

chronologically, offers the possibility to pay bills, and provides access to the last 30 transactions.

- **Mobile Banking Services**

The provision and accessibility of banking and financial services through mobile communications devices is referred to as mobile banking. The range of services provided might include the ability to use a mobile device, like a phone, to conduct account transactions, payments, and balance checks (Reddy & Megharaja, 2021). Nowadays, the most common ways to do mobile banking are through SMS or the mobile internet, though specific applications can also be downloaded to a mobile device. As a result, it is essential to raising bank productivity.

- **Credit Card Services**

A credit card is a payment card that is given to users, or cardholders, allowing them to make purchases at merchants for products and services. The cardholder guarantees the card issuer that they will reimburse them for the amounts paid as well as any additional fees that have been agreed upon. The credit business may also offer the cardholder a line of credit (LOC), which enables the holder to borrow funds in the form of cash advances. Whether you're purchasing a round-trip ticket or a hamburger, a credit card lets you borrow money from a bank to make transactions (Sapkota et al., 2018). You won't be charged extra if you return the money you borrow within the allotted 25–30 day "grace period." You will be required to pay interest, which is a portion of the total amount you owe the bank on top of the amount you borrowed, if you are unable to repay it within that time frame.

- **Debit Card Services**

A debit card is a type of plastic payment card that can be used in place of cash when making transactions. It is also referred to as a bank card, plastic card, or check card. It works similarly to a credit card, but when a transaction is made, the money comes straight out of the user's bank account. Debit cards typically function as ATM cards, enabling instantaneous cash withdrawals (Sapkota et al., 2018). Additionally, retailers could provide cashback programs to their clients, allowing them to take out cash in addition to making purchases. Debit card usage is now so common in many nations that

it has surpassed or completely replaced check and, in certain cases, cash transactions in terms of volume. Using a debit card instead of cash is a more practical way to make purchases.

- **Electronic Fund Transfer at Point of Sale Services**

Customers can use their check cards to make retail purchases thanks to the POS system. Although it does not work like a credit card, the card appears like one. The debit card holder's account and the store's account are instantly updated with the amount that was purchased. A POS initiates an Electronic Fund Transfer Process with a debit card (Offei, & Nuamah-Gyambrah, 2016). When EFTPOS is used to fulfill clients' shopping payment needs rather than clerical tasks like processing checks and cash withdrawals for shopping, banking productivity increases. Additionally, the technology keeps running beyond business hours, allowing the bank to continue being productive. In order to eliminate the need to physically transfer money, take money out of the buyer's account, and add money to the seller's account, selling centers install point-of-sale (POS) devices. POS is utilized in department stores and sale centers.

3.5 Methods of Analysis

We made use of the easily interpreted frequency tables that provide the percentage of each category and frequency. Regression analysis and correlation analysis were performed in addition to descriptive analysis to verify the hypothesis.

Arithmetic Mean

The term "average" refers to the central value that captures the features of the entire distribution or the values that all distribution items tend to cluster around. One of the fundamental statistical measures of average is the arithmetic mean. The arithmetic mean is calculated as;

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

Percentage

One of the best tools for comparing two amounts or variables is a percentage. The word "percentage" simply means "per hundred." Stated otherwise, a percentage is a fraction having 100 as its denominator, and its rate of percent as its numerator.

Correlation Coefficient (r)

The relationship between an independent variable and another independent variable is known as the correlation coefficient. It is a technique for ascertaining how these two variables are related to one another. It is considered to have a correlation coefficient if the two variables are so related that changes in the independent variable's value also affect changes in the dependent variable's value. The relationship between e-banking services and client satisfaction was shown using the correlation coefficient.

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

- **Regression Analysis**

A regression model was employed to investigate the relationship between customer happiness and e-banking services. Customer satisfaction is one of the dependent factors, and the independent variables of the e-banking service are the automated teller machine, electronic fund transfers at the point of sale, internet, mobile, debit card, and credit card services. Adhikari (2020), Sapkota et al. (2018), and Reddy and Megharaja (2021) also used the multiple regression model is adopted and the model for the analysis is specified as:

$$Y = \beta_0 + \beta_1 \text{ATMS} + \beta_2 \text{IBS} + \beta_3 \text{MBS} + \beta_4 \text{CCS} + \beta_5 \text{DCS} + \beta_6 \text{EFTPOS} + e_i$$

Where,

Y = Customer Satisfaction

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 = Regression Coefficients

ATMS = Automatic Teller Machine Service

IBS = Internet Banking Services

MBS = Mobile Banking Services

CCS = Credit Card Services

DCS = Debit Card Services

EFTOPS = Electronic Fund Transfer at Point of Sales Services

e_i = Error term of the regression

CHAPTER- IV

RESULTS AND DISCUSSION

The analysis of the survey data is covered in this chapter. A statistical analysis is performed on the data, and the results are presented and explained. A statistical tool was used to examine the data obtained from the questionnaire in order to meet the study's objective. The test of hypothesis that was developed in the preceding chapter is also covered in this chapter.

4.1 Results

4.1.1 Demographic Profile

The demographic assessment and interpretation of primary data obtained via surveys are covered in this section. This section examined the respondent profile in terms of gender, age, income, education, and years of e-banking use. It also included information regarding e-banking, reasons for using it, and encouragement to use it.

Table 1 shows the percent distribution of the respondents on the basis of gender. Out of the total respondent's male respondents accounted for 49.60 percent (i.e. 142 customers) of the sample and female respondents accounted for 50.40 percent (i.e. 126 customers) of the total respondents. This indicates that a somewhat greater proportion of female respondents than male respondents were enrolled in the study.

Likewise, the responder percentage distribution broken down by age category. The column indicates that 47.20 percent of the respondents, or most of them, are between the ages of 41 and 50. The age group of 31–40 years old is next, accounting for 32.40 percent of the respondents; just 1.60 percent of the respondents were in the 18–30 age range. This result implies that the majority of the clients were discovered to be in the working age range since they may have been heavily involved in everyday banking transactions.

Likewise, the profile of respondents based on their education. Analysis showed that, the majority of the respondents were on Master's Degree. There were 36 percent respondents who have completed Master's degree followed by Master's degree and

above programmers representing 33 percent while 25.60 percent representing Graduate holders and only 5.20 percent representing Under Graduate level customers. This conclusion is explained by the fact that basic literacy is required for banking operations, therefore it should come as no surprise that all of the respondents had some degree of formal schooling.

Table 1
Demographic Profile of the respondents

Demography	Characteristics	Frequency	Percent
Age Group	18-30 years	4	1.60
	31-40 years	81	32.40
	41-50 years	118	47.20
	51- 60 years	47	18.80
Gender	Male	124	49.60
	Female	126	50.40
Education	Under Graduate	13	5.20
	Graduate	64	25.60
	Master's Degree	90	36.00
	Master's Degree and above	83	33.20
Income	Up to Rs. 100,000	53	21.20
	Rs. 101,000 - Rs. 300,000	84	33.60
	Rs. 301,000 - Rs. 500,000	64	25.60
	Rs. 501,000 and above	49	19.60
Years of Using E-banking	Less than 1 year	53	21.20
	1-2 years	84	33.60
	2-3 years	63	25.20
	3-5 years	35	14.00
	More than 5 years	15	6.00
Information about E-banking	From bank officials	67	26.80
	Advertisement in print media	79	31.60
	Television Advertisement	53	21.20
	On line advertisement	26	10.40
	From friends and family members	25	10.00
Reason to use E-banking	Better Information	117	46.80
	Simplification of processes	95	38.00
	24 Hr. service	28	11.20
	Limited time available	10	4.00
Encouragement to use	Rewards (discounted fees for certain services)	97	38.80
	Simpler/ clearer service	97	38.80
	Higher Security	40	16.00
	Free transactions	16	6.40

Source: Field Survey 2024

The table 1 also presents the profile of respondents based on their income level. The majority of the respondents were on above Rs. 101,000 to Rs. 300,000 of income representing 33.60 percent followed by the Rs. 301,000 - Rs. 500,000 representing 25.60 percent, Up to Rs. 100,000 representing 21.20 percent and 19.60 percent of respondents are of Rs. 501,000 and above income level annually.

Similarly, the data on the number of years the responder has used the bank's online banking services. 63 respondents, or 25.20 percent, have been using the services for roughly 2-3 years, while 84 respondents, or 33.60 percent of the 250 respondents, have been using the services for about 1-2 years. Additionally, it was discovered that, of the respondents, 53 accounted for 21.20 percent had used the services for less than a year, 35 for 14 percent had used them for three to five years, and 15 for 6 percent had used them for more than five years.

In the same way, the information regarding information about e-banking for respondent to use services of the bank. Out of 250 respondents, 79 respondents representing 31.60 percent have got information through advertisement and print media while a total of 67 respondents representing 26.80 percent who got informed by bank officials about the e-banking services. It was also found that, only 25 respondents representing 10 percent have got information from their friends and family members about e-banking services of the banks.

In contrast, the information regarding reason to use e-banking by respondent. Out of 250 respondents, 117 respondents representing 46.80 percent have used e-banking services to get better information about banking facilities while a total of 95 respondents representing 38 percent who use e-banking services for simplification process and transitions. It was also found that, only 10 respondents representing 4 percent have used e-banking services due to limited time available.

However, the information regarding encouragement to use e-banking to respondent. Out of 250 respondents, 97 respondents representing 38.80 percent have been encouraged by rewards (discounted fees for certain services) and simpler/ clearer service provided through e-banking services. It was also found that, only 16

respondents representing 6.40 percent have used e-banking services because of free transactions available.

4.1.2 Descriptive Analysis

The study employs the mean as a central tendency and the standard deviation as a measure of variability for various variables, including customer satisfaction, automated teller machines, credit card, debit card, internet, and mobile banking services, and electronic fund transfers at point of sale. More respondents agree with the variables that potentially have a stronger impact, as indicated by the higher mean value. It is crucial to keep in mind that when examining the mean and standard deviation of variables, a very large standard deviation value indicates that the data being tested is distant from the mean, whilst a smaller value indicates that the tested variables are closer to the mean. In this study, six scale of measurement is taken for each statement [5-strongly agree, 4-agree, 3-neutral, 2-disagree & 1-strongly disagree]

4.1.2.1 Automated Teller Machine

Automated tellers suggest that the bank will be more productive during regular business hours. An automated teller machine (ATM) is a device provided by a bank or other financial institution that allows users to take out cash, make inquiries, obtain bank statements, and more. The responses regarding ATM services using customers are analyzed in this section.

Table 2

Descriptive Statistics of Automated Teller Machine Services

Code	Statements	N	Min.	Max.	Mean	SD
ATMS1	The ATM makes cash withdrawal very convenient	250	1	5	2.804	1.292
ATMS2	There is less queuing using the ATM	250	1	5	3.760	1.075
ATMS3	Transaction on the ATM is secured	250	1	5	3.520	1.166
ATMS4	Transaction on the ATM is reliable	250	1	5	2.896	1.085
ATMS5	I prefer ATM services	250	1	5	3.112	1.220

Source: Field Survey 2024

Table 2 depicts the highest mean score is for the There is less queuing using the ATM with mean score value of 3.760. It means that the particular factor is most agreed among the component of ATM services. Similarly, the lowest mean score is 2.804 for the

statement ATM makes cash withdrawal very convenient which shows that the less of the respondents agrees on this statement compared to other statements. Likewise, the highest standard deviation is 1.166 for the statement transaction on the ATM is secured which shows that there is highly volatile response associated with this statement among the factors of ATM services. Similarly, the lowest standard deviation is 1.075 for the statement there is less queuing using the ATM which represents it has less variables responses among the other statements.

4.1.2.2 Internet Banking Services

The use of an internet connection as a delivery channel for banking services, such as checking one's balance, obtaining a statement of records, transferring trust to other records, making charge payments, presenting electronic bills, and making payments without physically visiting a bank, is known as internet banking. The responses regarding electronic banking services using customers are analyzed in this section.

Table 3
Descriptive Statistics of Internet Banking Services

Code	Statements	N	Min.	Max.	Mean	SD
IBS1	Transaction via internet banking is secured	250	1	5	3.180	1.349
IBS2	Transaction via internet banking is reliable	250	1	5	2.892	1.268
IBS3	Internet banking provides quick service	250	1	5	3.576	1.146
IBS4	I can get statement easily	250	1	5	3.288	1.298

Source: Field Survey 2024

Table 3 shows the highest mean score is for the statement internet banking provides quick service with the mean value of 3.576. It means that the quick service is the most agreed statement among the component of internet banking services. Similarly, the lowest mean score is 2.892 for the statement transaction via internet banking is reliable which shows that less of the respondents agree on the statement compared to other statements. Likewise, the highest standard deviation is 1.349 for the statement transaction via internet banking is secured which shows that there is high variation in the responses associated with the statement. Similarly, the lowest standard deviation is 1.146 for the statement internet banking provides quick service which represents it has less variables responses among the other statements.

4.1.2.3 Mobile Banking Services

The ability to check your account balance, make payments, and make other transactions using a mobile device—like a phone—is one example of a mobile banking service. The responses regarding mobile banking services using customers are analyzed in this section.

Table 4
Descriptive Statistics of Mobile Banking services

Code	Statements	N	Min.	Max.	Mean	SD
MBS1	Mobile banking makes banking very convenient	250	1	5	3.992	0.914
MBS2	Transaction on mobile banking is secured	250	1	5	4.024	0.859
MBS3	Mobile banking is easy to use	250	1	5	3.076	1.276
MBS4	Transactions on mobile banking is reliable	250	1	5	3.880	0.954
MBS5	Mobile banking is easy access.	250	1	5	3.820	0.933

Source: Field Survey 2024

Table 4 shows the highest mean score is for transaction on mobile banking is secured with the mean value of 4.024. It means that the secured transaction is the most agreed statement among the component of mobile banking services. Similarly, the lowest mean score is 3.076 for the statement mobile banking is easy to use which shows that less of the respondents agree on this statements. Likewise, the highest standard deviation is 1.276 for the statement mobile banking is easy to use which shows that there is high variation in the responses on this statement. Similarly, the lowest standard deviation is 0.859 for the statement transaction on mobile banking is secured which represents it has less variation in the responses.

4.1.2.4 Credit Card Services

A credit card is a payment card that is given to users, or cardholders, allowing them to make purchases at merchants for products and services. The cardholder guarantees the card issuer that they will reimburse them for the amounts paid as well as any additional fees that have been agreed upon. The responses regarding credit card services using customers are analyzed in this section.

Table 5
Descriptive Statistics for Credit Card Services

Code	Statements	N	Min.	Max.	Mean	SD
CCS1	Credit card helps to buy in advance and pay later	250	1	5	3.112	1.220
CCS2	Credit card is very convenient when travelling	250	1	5	3.180	1.349
CCS3	Online/ living expenses payment is easier	250	1	5	3.820	0.880

Source: Field Survey 2024

Table 5 shows the highest mean score is for online/ living expenses payment is easier with the mean value of 4.820. It means that the expenses payment statement is the most agreed among the component of credit card services. Similarly, the lowest mean score is 3.112 for the statement credit card helps to buy in advance and pay later which shows that less of the respondents agree on this statement compared to other statements. Likewise, the highest standard deviation is 1.349 for the statement Credit card is very convenient when travelling which shows that there are more variables responses on this statement. Similarly, the lowest standard deviation is 0.880 for the statement online/living expenses payment is easier which represents it has less variable responses among the other statements.

4.1.2.5 Debit Card Services

A debit card is a type of plastic payment card that can be used in place of cash when making transactions. It is also referred to as a bank card, plastic card, or check card. It works similarly to a credit card, but when a transaction is made, the money comes straight out of the user's bank account. The responses regarding debit card services using customers are analyzed in this section.

Table 6
Descriptive Statistics for Debit Card Services

Code	Statements	N	Min.	Max.	Mean	SD
DCS1	Transaction via debit card is secured	250	1	5	2.624	1.290
DCS2	Transaction via debit card is reliable	250	1	5	3.928	0.924
DCS3	Debit card is easy to carry	250	1	5	3.768	0.915

Source: Field Survey 2024

Table 6 shows the highest mean score is for transaction via debit card is reliable with the mean value of 3.928. It means that the reliability is the most agreed statement among the component of debit card services. Similarly, the lowest mean score is 2.624 for the statement transaction via debit card is secured which shows that less of the respondents agree on this statements. Likewise, the highest standard deviation is 1.290 for the statement transaction via debit card is secured which shows that there are more volatile responses associated with this statement. Similarly, the lowest standard deviation is 0.915 for the statement debit card is easy to carry which represents it has less variable responses among the other statements.

4.1.2.6 Electronic Fund Transfer at Point of Sales Services

Customers can use their check cards to make retail purchases thanks to the POS system. Although it does not work like a credit card, the card appears like one. The debit card holder's account and the store's account are instantly updated with the amount that was purchased. The responses regarding electronic fund transfer at point of sales services using customers are analyzed in this section.

Table 7

Descriptive Statistics of Electronic Fund Transfer at Point of Sales Service

Code	Statements	N	Min.	Max.	Mean	SD
EFTPOS1	Transaction is very secured and reliable	250	1	5	3.936	0.959
EFTPOS2	Fast processing at reasonable cost	250	1	5	3.948	0.966
EFTPOS3	Most efficient digital payment method	250	1	5	3.940	0.953

Source: Field Survey 2024

Table 7 depicts the highest mean score is for fast processing at reasonable cost with the mean value of 3.948. It means that the fast processing statement is the most agreed factor among the statements of electronic fund transfer at point of sales services. Similarly, the lowest mean score is 3.936 for the statement transaction is very secured and reliable which shows that less of the respondents agree on the statement compared to other statements. Likewise, the highest standard deviation is 0.966 for the statement fast processing at reasonable cost which shows that there is high volatility associated with the statement among the factors of electronic fund transfer at point of sales services. Similarly, the lowest standard deviation is 0.953 for the statement most

efficient digital payment method which represents it has less volatility associated among the other statements.

4.1.2.7 Customer Satisfaction

A credit card is a payment card that is given to users, or cardholders, allowing them to make purchases at merchants for products and services. The cardholder guarantees the card issuer that they will reimburse them for the amounts paid as well as any additional fees that have been agreed upon. The responses regarding customer satisfaction on using e-banking services are analyzed in this section.

Table 8
Descriptive Statistics of Customer Satisfaction

Code	Statements	N	Min.	Max.	Mean	SD
CS1	I am satisfied with e-banking services	250	1	5	3.696	0.898
CS2	I prefer e-banking services	250	1	5	2.624	1.290
CS3	E-banking makes my life easy	250	1	5	3.988	0.925

Source: Field Survey 2024

Table 8 shows the highest mean score is for e-banking makes my life easy with mean score of 3.988. It means that the e-banking makes life easy for the customer's satisfaction. Similarly, the lowest mean score is 2.624 for the statement I prefer e-banking services which shows that less of the respondents agree on this statements and it is the least preferable factor for being the influential factor in that particular customer satisfaction. Likewise, the highest standard deviation is 1.290 for the factor I prefer e-banking services which shows that there is high variation on this statement. Similarly, the lowest standard deviation is 0.898 for the statement I am satisfied with e-banking services which represents it has less variable responses on this statement.

4.1.2.8 Descriptive Summary of Variables

In this study, mean is used as a central tendency and standard deviation as measures of variability of different variables like automated teller machine, internet banking services, mobile banking services, credit card services, debit card services, electronic fund transfers at point of sales services and customer satisfaction.

Table 9
Descriptive Summary of Variables

Variables	Minimum	Maximum	Mean	Std. Deviation
ATMS	1.20	4.80	3.218	0.746
IBS	1.00	5	3.234	0.862
MBS	1.40	5	3.758	0.607
CCS	1.33	5	3.370	0.799
DCS	1.33	5	3.440	0.650
EFTPOS	1.33	5	3.941	0.688
CS	1.33	5	3.436	0.755

Source: Field Survey 2024

Table 9 depicts that electronic fund transfers at point of sales services (EFTPOS) has the highest mean value of 3.941. Similarly, ATM services (ATMS) has the lowest mean value of 3.218. Likewise, mobile banking services (MBS), debit card services (DCS), credit card services (CCS), internet banking services (IBS) ranks second, third, fourth and fifth with mean value of 3.440, 3.758, 3.370 and 3.234 respectively. Meaning that on average, majority of the respondents strongly agrees that electronic fund transfers at point of sales services increases the customer satisfaction level in commercial banks. However, there are less respondents who agrees that customer satisfaction level increases with the ATM services of the commercial banks.

From the variance perspective, mobile banking service (MBS) ranks first with the lowest standard deviation of 0.607. Similarly, internet banking service (IBS) ranks sixth with highest standard deviation of 0.862. Likewise, credit card service (CCS), ATM service (ATMS), electronic fund transfers at point of sales services (EFTPOS) and debit card services (DCS) ranks second, third, fourth and fifth with the standard deviation of 0.799, 0.746, 0.688 and 0.650 respectively. Meaning that the responses on mobile banking services are more volatile while responses on internet banking services are less volatile in comparison.

4.1.3 Correlation Analysis

In order to assess the direction and strength of relationship of independent (automated teller machine, internet banking services, mobile banking services, credit card services, debit card services and electronic fund transfers at point of sales services) on dependent variables (customer satisfaction) Pearson's correlation was used. The results of correlation analysis presented below;

Table 10
Correlation Analysis

Variables	ATMS	IBS	MBS	CCS	DCS	EFTPOS	CS
ATMS	1						
IBS	.546**	1					
MBS	.365**	.399**	1				
CCS	.726**	.696**	.395**	1			
DCS	.348**	.395**	.756**	.320**	1		
EFTPOS	.461**	.511**	.566**	.520**	.482**	1	
CS	.541**	.539**	.674**	.533**	.671**	.603**	1

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

Source: Field Survey 2024

Table 10 shows the relationship analysis between the variables of e-banking services offered by commercial banks and the customer satisfaction level. The analysis depicts that the correlation between ATM services and customer satisfaction is significant positive with the coefficient 0.541 which indicates there is same direction change occurred between ATM services and customer satisfaction.

Similarly, the correlation between internet banking services and customer satisfaction is significant positive with the coefficient 0.539 which indicates there is positive direction change occurred between internet banking services and customer satisfaction.

Likewise, the correlation between mobile banking services and customer satisfaction is significant positive with the coefficient 0.674 which indicates there is strong positive direction change occurred between mobile banking services and customer satisfaction.

Moreover, the correlation between credit card services and customer satisfaction is significant positive with the coefficient 0.533 which indicates there is moderate positive direction change occurred between credit card services and customer satisfaction.

In the same way, the correlation between debit card services and customer satisfaction is significant positive with the coefficient 0.671 which indicates there is strong and same direction change occurred between debit card services and customer satisfaction.

In contrast, the correlation between electronic fund transfers at point of sales services and customer satisfaction is significant positive with the coefficient 0.603 which indicates there is strong and positive direction change occurred between electronic fund transfers at point of sales services and customer satisfaction.

4.1.4 Regression Analysis

The influence of E-banking services on customer satisfaction at Nepal's private commercial bank was determined using linear regression analysis. Customer satisfaction is the dependent variable, while the independent variables include automated teller machines, online and mobile banking, credit card, debit card, and electronic fund transfers at point of sale services. The model summary of regression analysis, ANOVA table and coefficients table have been presented below;

Table 11

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.798	0.637	0.628	0.4604

a. Predictors: (Constant), EFTPOS, ATMS, DCS, IBS, MBS, CCS

Source: Field Survey 2024

Table 11 presents the R-squared value of the regression model is 0.637 which shows the regression coefficient and the impact of the independent variables into dependent variable is 63.70 percent, meaning that out of total change customer satisfaction level 63.70 percent change is explained by the e-banking services as ATMS, IBS, MBS, CCS, DCS and EFTOPS and the remaining change in customer satisfaction is unexplained in this regression model.

Table 12

ANOVA Table

Statistics	Sum of Squares	df	Mean Square	F	Sig.
Regression	90.251	6	15.042	70.963	0.000
Residual	51.508	243	0.212		
Total	141.759	249			

a Dependent Variable: CS

b Predictors: (Constant), EFTPOS, ATMS, DCS, IBS, MBS, CCS

Source: Field Survey 2024

Table 12 shows the significance of the regression model, which indicates that F-statistics and p-value for the regression result are 70.963 and 0.000 respectively, which means that included independent variables in the regression model i.e. ATMS, IBS, MBS, CCS, DCS and EFTOPS are strong enough to explain the change in dependent variable i.e. customer satisfaction and the result from the regression model is significant.

Table 13
Coefficients Table

Variables	Beta Coefficients	Std. Error	t	Sig.	Tolerance	VIF
(Constant)	-0.587	0.204	-2.873	0.004		
ATMS	0.178	0.058	3.063	0.002	0.454	2.201
IBS	0.097	0.049	1.956	0.052	0.469	2.132
MBS	0.279	0.079	3.535	0.000	0.370	2.702
CCS	0.056	0.064	0.888	0.375	0.330	3.028
DCS	0.346	0.070	4.921	0.000	0.408	2.452
EFTPOS	0.180	0.057	3.145	0.002	0.551	1.815

a. Dependent Variable: CS

Source: Field Survey 2024

Table 13 presents the regression coefficient of each independent variables included in the analysis i.e. ATMS, IBS, MBS, CCS, DCS and EFTOPS to effect customer satisfaction (CS). Since, the VIF value for all the variables are all less than 5, which means that there is no problem of multicollinearity among the variables.

The regression equation from the impact analysis of e-banking services on customer satisfaction can be shown as;

$$CS = \beta_0 + 0.178 \times ATMS + 0.097 \times IBS + 0.279 \times MBS + 0.056 \times CCS + 0.346 \times DCS + 0.180 \times EFTOPS$$

Further, the results of the shows that the beta coefficient of ATM services is 0.178, which indicates that 1 unit increase in ATM services increases customer satisfaction by 0.178 unit. The positive effect of ATM services on customer satisfaction is significant since sig. value for the coefficient is less than 1 percent i.e. 0.002.

Similarly, the results of the shows that the beta coefficient of internet banking services is 0.097, which indicates that 1 unit increase in internet banking services increases

customer satisfaction by 0.097 unit. The positive effect of internet banking services on customer satisfaction is not significant since sig. value for the coefficient is higher than 5 percent i.e. 0.052.

Whereas, the results of the shows that the beta coefficient of mobile banking services is 0.279, which indicates that 1 unit increase in internet banking services increases customer satisfaction by 0.279 unit. The positive effect of mobile banking services on customer satisfaction is significant since sig. value for the coefficient is less than 1 percent i.e. 0.000.

Likewise, the results of the shows that the beta coefficient of credit card services is 0.056, which indicates that 1 unit increase in credit card services increases customer satisfaction by 0.056 unit. The positive effect of credit card services on customer satisfaction is not significant since sig. value for the coefficient is higher than 5 percent i.e. 0.375.

In contrast, the results of the shows that the beta coefficient of debit card services is 0.346, which indicates that 1 unit increase in debit card services increases customer satisfaction by 0.346 unit. The positive effect of debit card services on customer satisfaction is significant since sig. value for the coefficient is less than 1 percent i.e. 0.000.

Likewise, the results of the shows that the beta coefficient of electronic fund transfers at point of sales services is 0.180, which indicates that 1 unit increase in electronic fund transfers at point of sales services increases customer satisfaction by 0.180 unit. The positive effect of electronic fund transfers at point of sales services on customer satisfaction is significant since sig. value for the coefficient is less than 1 percent i.e. 0.002.

4.1.5 Summary of Result of Hypothesis

This section presents the hypothesis analysis summary for the effect analysis of e-banking services on customer satisfaction in Nepalese commercial banks.

Table 14
Summary of Hypothesis

Hypothesis	p-value	Remarks
Hypothesis 1: There is significant effect of ATM services on customer satisfaction in Nepalese commercial bank.	0.002	Accepted
Hypothesis 2: There is significant effect of internet banking services on customer satisfaction in Nepalese commercial bank.	0.052	Rejected
Hypothesis 3: There is significant effect of mobile banking services on customer satisfaction in Nepalese commercial bank.	0.000	Accepted
Hypothesis 4: There is significant effect of credit card services on customer satisfaction in Nepalese commercial bank.	0.375	Rejected
Hypothesis 5: There is significant effect of debit card services on customer satisfaction in Nepalese commercial bank.	0.000	Accepted
Hypothesis 6: There is significant effect of electronic fund transfers at point of sales services on customer satisfaction in Nepalese commercial bank.	0.002	Accepted

Source: Field Survey 2024

Table 14 shows that the hypothesis stated in study that in Nepalese commercial banks, the use of ATMs has a major impact on customer satisfaction. Similarly, mobile banking services have a significant impact on customer satisfaction. Finally, debit card services have a significant impact on customer satisfaction and there is significant impact of electronic fund transfers at point of sales services on customer satisfaction in Nepalese commercial bank all are accepted from the study findings meaning that ATM service, mobile banking service, debit card service and electronic fund transfers at point of sales service significantly increases the customer satisfaction level in Nepalese commercial banks. While internet banking service and credit card service of the banks have no found to be significant component of e-banking to effect on customer satisfaction in Nepal.

4.2 Discussions

The relationship analysis in the study found that correlation between ATM and customer satisfaction is 0.541 which indicates that there is strong positive relationship between ATM services and customer satisfaction, which is significant in the population. The result is consistent with the finding of Offei and Nuamah-Gyambrah (2016) who found the positive association between ATM services and customer satisfaction level.

Similarly, this study also confirmed the same direction changing relation between internet banking services and customer satisfaction with the coefficient 0.539 which indicates there is strong uphill positive relationship between internet banking and customer satisfaction. The result is consistent with the finding of Juwaini et al. (2022) who found that there is positive relation between internet banking and customer satisfaction in banking sector.

The correlation between mobile banking services and customer satisfaction is 0.674 which indicates there is strong and significant positive relationship between mobile banking services and customer satisfaction and the result is consistent with the finding of Sapkota et al. (2018) who stated that mobile banking service enhances the customer satisfaction level in banking sector.

Likewise, the relationship between credit card services and customer satisfaction is significant positive with the coefficient 0.533 which indicates there is same direction changing relationship between credit card service and customer satisfaction level in Nepalese commercial banks. The result is consistent with the finding of Salihu and Metin (2017) who revealed that credit card service and customer satisfaction changes in the same direction.

Similarly, the correlation between debit card services and customer satisfaction is significant positive with the coefficient 0.671 which indicates there is strong uphill positive relationship between debit card service and customer satisfaction in Nepalese commercial banks. The result is consistent with the finding of Adhikari (2020) who found that there is positive association between debit card service and customer satisfaction level in banking sector.

Moreover, the correlation between electronic fund transfers at point of sales services and customer satisfaction significant positive with the coefficient is 0.603 which indicates there is strong positive relationship between the variables. The result is consistent with the finding of Indrasari et al. (2022) who found the positive association between electronic fund transfers at point of sales services and customer satisfaction in banking sector.

The regression analysis showed that the effect of ATM service on customer satisfaction is positive and statistically significant. And the result is consistent with the finding of Victoria (2016) who found significant positive effect of ATM service on customer satisfaction in the banking sector.

Likewise, this study found that internet banking service have positive but no significant effect on customer satisfaction in Nepalese commercial banks. This result is partially consistent with the finding of Victoria (2016) who found significant effect of internet banking service on customer satisfaction in banking sector.

The effect of mobile banking services on customer satisfaction was found to be positive and statistically significant. The result is consistent with the finding of Sapkota et al. (2018) who also found significant effect of mobile banking service on customer satisfaction.

The effect of credit card services on customer satisfaction was found to be positive but statistically not significant and the result is partially consistent with the finding of Salihi and Metin (2017) who revealed the positive and significant effect of credit card service on customer satisfaction in banking sector.

The effect of debit card services has significant positive effect on customer satisfaction in Nepalese banking sector. The result is consistent with the finding of Adhikari (2020) who found that there is positive association between debit card service and customer satisfaction level in banking sector.

Effect of electronic fund transfers at point of sales services has significant positive effect on customer satisfaction and the result is consistent with the finding of Indrasari et al. (2022) who showed the significant positive effect of electronic fund transfer service on customer satisfaction level.

CHAPTER- V

SUMMARY AND CONCLUSION

This chapter includes a summary of the research findings, the study's conclusion, and any relevant implications. There are three components to it. The study findings are summarized in the first section, the study's conclusion is drawn in the second section, and the study's implications are presented in the last section.

5.1 Summary

Banks play a vital and dynamic role in the financial and economic growth of a country. In light of technological improvements, e-banking is among the newest technology that the bank has put into place. E-banking is a quickly growing service that lets consumers access account-specific information on a computer and potentially even perform transactions remotely. E-banking not only saves the bank money on operations but also improves customer satisfaction and retention. Because banks and customers are adopting new technology, e-banking is quite appealing. Customers can do business with businesses no matter where they live thanks to online banking. It enables businesses to test new goods and services, carry out market research, make low-cost financial decisions, and create new commercial relationships. In an effort to streamline operations and cut expenses, Nepalese commercial banks are currently attempting to implement internet-based e-banking systems. E-banking services are typically adopted by Nepalese commercial banks as a step toward new services and as competitive tools. Nonetheless, Nepal is a developing nation, with numerous uncertainties surrounding the utilization of electronic banking.

The general objective of the study is to examine the impact of electronic banking on consumer satisfaction. The specific objectives of the study are to examine the impact of e-banking service delivery on customer satisfaction and to analyze the facilities provided by Nepalese commercial bank under e-banking services. In this study the dependent variables as customer satisfaction and independent variables of e-banking service as automated teller machine, electronic fund transfers at point of sales services, internet banking services, mobile banking services, debit card services and credit card services are analyzed.

The research design used for this study is casual and descriptive. The components of e-banking services are described and explained using a descriptive study design. In a similar vein, the link between the independent variable (e-banking services) and the dependent variable (consumer happiness) can be ascertained by casual design. The impact of e-banking service delivery on customer satisfaction in the banking sector in Nepal is investigated using a more informal research approach. The responses from the primarily structured questionnaire survey were used as the basis for statistical analysis to test the hypothesis. A total of 270 consumers were sampled for the survey in this study and among them only 250 (92.59%) questionnaire responses are considered for the data analysis purpose. The convenience sampling technique was used to reach to the customers of the banks.

The study's findings indicate that there were somewhat more female respondents than male respondents who were included in the sample. The majority of respondents (47.20 percent) are between the ages of 41 and 50. This indicates that most of the customers were discovered to be in the working age range since they may be heavily involved in daily banking transactions. It was not surprising that every respondent had some degree of formal education because the banking procedures necessitate a certain level of basic literacy. 33.60 percent of the respondents, or the majority, made up to Rs. 300,000.

Similarly, data on respondents' years of use of the bank's e-banking services revealed that the majority of respondents—33.60 percent—had only been using the services for a short time. In the same way, the information regarding information about e-banking for respondent to use services of the bank found that majority of respondents representing 31.60 percent have got information through advertisement and print media. In contrast, the information regarding reason to use e-banking by respondent depicts that majority i.e. 46.80 percent have used e-banking services to get better information about banking facilities. However, the information regarding encouragement to use e-banking indicated that most of the respondents i.e. 38.80 percent have been encouraged by rewards (discounted fees for certain services) and simpler/ clearer service provided through e-banking services.

Similarly, variables used in the analysis of e-banking services found that on average, majority of the respondents strongly agrees that electronic fund transfers at point of

sales services increases the customer satisfaction level in commercial banks. However, there are less respondents who agree that customer satisfaction level increases with the ATM services of the commercial banks.

The relationship analysis found that the correlation between ATM services and customer satisfaction is significant positive, which indicates there is same direction change occurred between ATM services and customer satisfaction. Similarly, the relationship between internet banking services and customer satisfaction is significant positive, which indicates there is positive direction change occurred between internet banking services and customer satisfaction. Likewise, the association between mobile banking services and customer satisfaction is significant positive, which indicates there is strong positive direction change occurred between mobile banking services and customer satisfaction. Moreover, the correlation between credit card services and customer satisfaction is significant positive, which indicates there is moderate positive direction change occurred between credit card services and customer satisfaction. In the same way, the relationship between debit card services and customer satisfaction is significant positive, which indicates there is strong and same direction change occurred between debit card services and customer satisfaction. In contrast, the association between electronic fund transfers at point of sales services and customer satisfaction is significant positive, which indicates there is strong and positive direction change occurred between electronic fund transfers at point of sales services and customer satisfaction.

5.2 Conclusions

It can be concluded that there is slightly higher number of female respondents in comparison to male respondents taken for this study. Most of the respondents were found in the working age bracket, most of the respondents have been using the services for less than 2 years. majority of respondents have got information through advertisement and print media, majority of respondents have used e-banking services to get better information about banking facilities and most of the respondents have been encouraged by rewards (discounted fees for certain services) and simpler/ clearer service provided through e-banking services. Similarly, variables used in the analysis of e-banking services found that on average, majority of the respondents strongly agree that electronic fund transfers at point of sales services increases the customer

satisfaction level in commercial banks. However, there are less respondents who agrees that customer satisfaction level increases with the ATM services of the commercial banks.

The relationship analysis concluded that the correlation between ATM services and customer satisfaction is positive. Similarly, the relationship between internet banking services and customer satisfaction is also positive. Likewise, the association between mobile banking services and customer satisfaction is positive. Moreover, the correlation between credit card services and customer satisfaction is also positive. In the same way, the relationship between debit card services and customer satisfaction is positive. In contrast, the association between electronic fund transfers at point of sales services and customer satisfaction is also positive. In short the, relationship analysis concludes that there is strong and positive direction change occurred between e-banking variables and customer satisfaction.

The effect analysis leads to conclude that e-banking services as automated teller machine, mobile banking services, debit card services and electronic fund transfers at point of sales services have significant positive effect on customer satisfaction however internet banking services and credit card services have no significant effect on customer satisfaction although there is positive effect found, concluding that use of internet banking service and credit card service are not as famous as other variables of the study. In short, the utilization of e-banking services can enhance customer happiness, decrease wait times for bank services, and help clients better manage their account transactions.

5.3 Implications

The study benefits academics, researchers in related fields, bankers, and clients. The results showed that the services provided by credit card, debit card, ATM, online banking, mobile banking, and electronic fund transfers had a statistically negligible effect on consumer satisfaction.

Using electronic banking services has become a common banking tactic. Despite its many benefits, there are several obstacles that prevent it from being used to its full potential for the benefit of the public as well as the bank. There are so many nuances related to using e-banking that it is impossible for one study to address them all. Given

the above, the researcher suggests that funding be allocated so that the study can be conducted again in the other banks, as the results of this study showed that using electronic banking services has a variety of benefits and drawbacks.

Bankers should identify which consumers with which demographic features are more sensitive to e-banking service satisfaction, and banks should endeavor to increase the number of users from all aspects, including gender, age, educational status, and occupation. Since opening a bank hall now costs far more in rent per year than purchasing an ATM, e-banking services should be made available to as many clients as possible in order to decrease bank hall visits and to obtain investment cost advantages.

Instead of just giving out cards, banks should arrange official trainings for their customers to raise their understanding of e-banking and make sure they are aware that there is an e-banking service charge. Rather than only promising to provide 24/7 access, the banks should go above and above. The banks should make sure that no service should ever stop due to a network issue, a power outage, or other technical issues. Should work harder to maintain customer happiness above the existing level and should carry out surveys to gather actual data on customer satisfaction.

In order to take advantage of the chances to expand e-banking, banks should mitigate the hurdles and extend the sorts of services offered by e-banking, such as accepting deposits. Lastly, the banks ought to place greater focus on the elements that have the biggest influence on how satisfied their customers are with e-banking.

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ABSTRACT This study attempted to investigate

how customer satisfaction at Nepalese Commercial Bank was affected by the provision of e- banking services

. This study examines several aspects of electronic banking services, including automated teller machines, online and mobile banking, credit and debit card services, electronic fund transfers, and point-of- sale services.

The research design used for this study is causal and descriptive

The responses from the primarily structured questionnaire survey were used as the basis for statistical analysis to test the hypothesis

. Descriptive analysis, correlation analysis, and regression analysis are used in this study to support the hypothesis on

the relationship between customer satisfaction and the impact of e-banking services in commercial banking

. The study found that e-banking services as automated teller machine, mobile banking services, debit card services and electronic fund transfers at point of sales services have significant positive effect on customer satisfaction however internet banking services and credit card services have no significant effect on customer satisfaction although there is positive effect found, concluding that use of internet banking service and credit card service are not as famous as other variables of the study. In summary, the utilization of