

IMPACT OF E-BANKING SERVICE DELIVERY ON CUSTOMER SATISFACTION IN NEPALESE COMMERCIAL BANKS

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

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**Impact of E-Banking Service Delivery on Customer Satisfaction in Nepalese Commercial Banks**”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been propose and presented as part of requirements for any other academic purposes.

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

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June, 2025

REPORT OF RESEARCH COMMITTEE

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

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APPROVAL SHEET

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

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ABBREVIATIONS

ATM	:	Automated Teller Machine
CS	:	Customer Satisfaction
E banking	:	Electronic Banking
ICT	:	Information and Communication Technology
i.e.	:	That is
IT	:	Information Technology
LOC	:	Line of Credit
NBL	:	Nepal Bank Limited
No.	:	Number
POS	:	Point of Sale
S.D	:	Standard Deviation
SEM	:	Structural equation modeling
SPSS	:	Statistical Package for Social Science
TAM	:	Technology Acceptance Model
UTAUT	:	The Unified Theory of Acceptance and Use of Technology

ABSTRACT

This study examines the impact of e-banking service delivery on customer satisfaction in the context of Nepalese Commercial Bank. The study used a structured questionnaire technique to gather primary data from 392 respondents who use e-banking services. Descriptive research design is the foundation of this research. For the purpose of analysis, this study collected data using quantitative approaches. The majority of the responds were generated through a structural questionnaire survey, which served as the basis for statistical analysis used to evaluate hypotheses. Simple random sampling technique was used to select the sample form the target population. Customer satisfaction is considered as dependent variable whereas ATM, internet banking service, mobile banking service, debit card service, and credit card service are considered as independent variables and their correlation and regression was generated and analyzed from SPSS version 25.

The study concluded that all the e-banking variables (automated teller machine, internet banking service, mobile banking service, debit card service and credit card service) and customer satisfaction is positively correlated. The results indicate that there is a significant relationship between consumer satisfaction and components of internet banking services. It also highlight how important electronic banking is to improve customer satisfaction and experience in Nepal's commercial banking sector.

Keywords: *Customer Satisfaction, ATM, Internet Banking Service, Mobile Banking Service, Debit Card Service, Credit Card Service,*

CHAPTER I

INTRODUCTION

1.1 Background of the study

One of the latest technologies that banks have embraced due to technological advancements is electronic banking, or e-banking. E-banking is one of the channel of electronic banking, which allows bank customers to use a laptop or personal computer to conduct their financial activities electronically over the internet whenever it is convenient for them and without being limited by regular bank operating hours. E-banking is an innovative delivery system that offers longer waiting times and more spatial convincing than traditional branch banking, but it has a far cheaper cost structure than traditional distribution routes. As a result, e-banking is highly desirable to banks and consumers who are adopting new technology (Mansour et al., 2016) .

Customers are a company's greatest asset. The success of any organization in the world is directly impacted by their level of satisfaction. Rapid and effective service will improve business, minimize customer complaints, enhance public relations, and expand the business(Timilsina, 2023). The success of a firm is dependent upon customer satisfaction. Customer satisfaction is based on the quality of the offering. The banking industry offers a range of services to customers in an effort to increase customer satisfaction. In the current competitive environment, gaining the satisfaction of customers is essential to outperforming competitors. Bank management should identify the elements of service quality that would satisfy customers through research and development programs. The financial sector is very competitive. In addition to competing with non-banking and financial institutions, banks also face competition from one another (Joshi, 2019). How well the customer's expectations are fulfilled determines the degree of customer satisfaction. The needs of the customer are directly related to satisfaction.

Customer satisfaction is the degree to which a customer is happy with the services that the bank has offered. When customers receive what they expected from banks, they feel satisfied. It is necessary for long-term banking transactions with customers. For valued customers, the banking environment should be secure, welcoming, and provide quick high-quality services. A psychological term known as "customer satisfaction" refers to the sense of pleasure and well-being that arises from receiving what one hopes for and expects from an appealing good or service (Singh, 2019).

In the early 1990s, the three primary uses of e-banking services were credit card, ATM, and phone banking. Financial services have integrated databases, information systems, and other technologies on a number of levels throughout the last decade. After the development of internet connection, local banks have operated a secure website where clients may use e-banking services such online payments, transfers, and online inquiries. There are two primary business models for offering internet banking services to consumers. The first is the incumbent bank, also referred to as the "bricks and clicks" model, applying online banking in addition to its traditional structure into a whole system and using e-banking as a new service delivery channel. On the other hand, Yoon (2010) describes another type of bank as a "direct bank," "virtual bank," or "internet primary bank." It operates without branch offices and instead uses wireless networking, telecommunication networks, and the internet to offer banking services.

Banks play a vital and dynamic component of a nation's financial and economic development. Successful banking in various sectors of the economy has a remarkable impact on a nation's development. E-banking, or electronic banking, is one of the newest technologies that the bank has embraced as a result of technological advancements (Malhotra & Mukherjee, 2004). The establishment of electronic banking has fundamentally changed and restructured the way banks operate today. E-banking is a quickly growing service that allows users to access account-specific information on a computer as well as perform transactions online. Without being limited to typical bank operation hours, e-banking channels allow bank customers to do their financial transactions online whenever they choose, using a laptop, personal computer, or mobile device. E-banking is the most advance distribution strategy that offers more spatial convenience and less wait times than traditional branch banking, while also having a substantially lower cost structure than traditional delivery routes. E-banking improves client satisfaction and retention while reducing the bank's operating expenses. Because of this, banks and customers who are embracing new technology find e-banking to be quite attractive.

Electronic banking is the process of transferring funds directly between accounts using electronic methods compared to cash or paper checks (Aduda & Kingoo, 2012). By lowering bank costs, electronic banking has the potential to boost bank earnings. When a home user uses e-banking, they typically utilize a network or modern credit card to make

direct bank calls. They also use an internet service provider to log on to the bank's website, which requires a password to access. E-banking, as defined by the Basel committee, is the offering of small-value and retail banking goods and services via electronic channels (Chaimaa et al., 2021). These goods and services can include receiving deposits, making loans, managing accounts, giving financial advice, paying electric bills, and making other electronic payments. Online banking provides the ease of carrying out the majority of financial transactions at a time convenient for the client. The Consumers can pay their bills, access their money, move it between accounts, and make purchases made 24 hours a day, 7 days a week.

Throughout the world, online banking has completely transformed the banking sector. This kind of banking is used by the majority of developed countries. The emergence of online banking will completely change the nature of commercial partnerships, and the banks who are able to build stronger bonds with their clients will benefit the most. Numerous concerns need to be investigated from different perspectives, such as comparing the roles that different banks are playing in educating their respective clientele. From the perspective of the banks, research should to be done (Ingle & Pardeshi, 2012).

Globalization of economies and financial liberalization have created new opportunities of growth for technology-based institutions, but they have also caused revenue to decline for other institutions. Due to the limited usage of IT in the country's banking sector, our ability to conduct transactions internationally has been restricted. The creation of several channels that represent electronic banking services, such as the SWIFT system, ATM, POS, PIN, Pads, Internet banking, SMS banking, and telephone banking, is currently one of the most competitive areas amongst banks for attracting resources. These channels were created to provide more convenience in making payments.

1.1.1 Nepal's modern banking History

With the founding of Nepal Bank Ltd., modern banking was introduced in Nepal. Nepal Bank Ltd. was officially established by Majesty King Tribhuvan on Kartik 30, 1994 (November 15, 1937). Nepal Bank Ltd., the country's first bank, was founded as a joint venture between the public and private sectors. Before Nepal Rastra Bank was established in 2013 (1956 AD), it served as the sole financial institution in the country. The Rastriya

Banijya Bank Ltd Act 2021 gave rise to the establishment of Rastriya Banijya Bank Ltd on Magh 10, 2022 (January 22, 1966). On March 7, 2024, the government also formed the Agriculture Development Bank with the goal of developing Nepal's agricultural sector.

Joint ventures are entering the Nepal market since the liberalization policy was adopted. Nepal Arab Bank was founded in 2041 B.S. (1984 A.D.) and is currently known as Nabil Bank. It is Nepal's first joint venture bank.

1.1.2 E-banking History of Nepal

In Nepal, the concept of digital banking is still relatively new. The era of modern e-banking began in Nepal in the early 1990s with the introduction of credit cards by Nabil Bank Ltd. The Nepali credit card and ATM were introduced to the Nepalese market by Himalayan Bank Ltd in 1995. Similarly, Kumari Bank LTD introduced internet banking, or e-banking, in 2002. Likewise, Laxmi Bank LTD first introduced mobile banking (also known as SMS banking) in 2004.

1.2 Problem Statement

It became necessary for banks and customers to move towards electronic banking with the arrival of technical advancement. The practice of automatically delivering goods and services to customers through electronic platforms is known as "e-banking". Due to the benefits of the Internet and the recent advancements in information technology, banks have been looking to offer a wider range of services to their customers. Unavoidable obstacles are preventing e-banking from growing and developing. In addition to its many advantages, electronic banking presents a number of notable challenges for both service providers and end users who depend on banks for efficient operations. Their awareness of those challenges is necessary for them to overcome them successfully. In the current situation, it is necessary to identify customer E-banking issues in order to identify the challenges facing by service providers. For the benefit of the customer as well as service providers, this will help to reduce customer resistance to using electronic banking (Ali et al., 2021)

The banking industry in Nepal has seen a tremendous change in the last ten years. Basic electronic devices like ATMs and SMS alerts were once employed by the banking

industry. Because of this, all bank customers had to physically walk to the banking hall to carry out basic tasks including verifying deposits, checking account balances, and making withdrawals. This caused lengthy lines, which were costly, time-consuming, and energy-intensive. However, a number of financial organizations have recently made things different by providing the banking sector in Nepal with electronic banking services. Technological advancements including ATMs, Internet banking, Electronic Funds Transfer at Point of Sale (EFTPOS), debit and credit cards, and SMS alerts have improved the banking environment in Nepal. They continue by saying that the demand for manual services provided to bank customers is much reduced by these highly profitable technologies, which raises bank profitability and enhances service delivery.

The majority of Nepalese commercial banks are using technology to offer financial services because of the intense competition in the Nepalese banking industry and the rising experience of their customers. There are a lot of unresolved issues regarding the use of e-banking in Nepal because it is still a developing nation. So, in order to deliver outstanding services, it's necessary to understand how commercial banks use internet banking. Determining how much the bank's adoption of electronic banking services and products affects service delivery and customer satisfaction in Nepal's banking industry. Because of this, having access to internet banking is becoming more of a "need to have" than a "nice to have" service.

E-banking is one of the most significant advances in the long history of the banking sector. Despite the many benefits that consumers experience from online banking, there are a number of major issues and difficulties for marketers that operate in the online banking industry. Minimal marketing budgets, traditional banking practices, security, technical problems, and transaction difficulties are the main obstacles that online banking marketers must overcome in order to be successful in this sector. However, there is still a huge demand in this sector. So it is likely that as they work to resolve their marketing challenges, online banks will only become more sophisticated and profitable. While there are certain benefits to online banking, the banking industry also faces many unique problems and difficulties. These are crucial for both the banks that offer online banking and the customers who depend on the banks to function efficiently. In order to effectively handle these challenges, internet banking marketers must be aware of them (Mastran, 2021).

The study aims at answering the following research question.

1. What is the status of customer satisfaction level towards e-banking services provided by the Nepalese commercial banks?
2. What is the relationship between ATM, IB, MB, DC, CC and CS of Nepalese commercial banks?
3. Is there any impact of e-banking service delivery on customer satisfaction in Nepalese commercial banks?

1.3 Objectives of the study

Every study must have objectives. Nothing can be done without a destination. Therefore, the study's primary goal is to examine and analyze commercial banks' e-banking services delivery and their impact on customer satisfaction.

Moreover, the study aims to achieve the following objectives:

1. To access the status of customer satisfaction level toward e-banking service provided by the Nepalese commercial banks.
2. To examine the relationship between ATM, IB, MB, DC, CC and CS of Nepalese Commercial Bank.
3. To analyze the impact of e-banking service delivery on customer satisfaction in Nepalese Commercial Banks.

1.4 Hypotheses

This research is conducted with the formulation of specific hypotheses. These hypotheses serve the purpose of establishing connections between the independent and dependent variable in the study. Five hypotheses have been derived from the theoretical framework of the research.

Hypotheses 1: There is significant impact of ATM service on customer satisfaction in Nepalese commercial bank.

Hypotheses 2: There is significant impact of Internet banking Service on customer satisfaction in Nepalese commercial bank.

Hypotheses 3: There is significant impact of Mobile Banking Service on customer satisfaction in Nepalese commercial bank.

Hypotheses 4: There is significant impact of credit Card Service on customer satisfaction in Nepalese commercial bank.

Hypotheses 5: There is significant impact of Debit card Service on customer satisfaction in Nepalese commercial bank.

1.5 Rationale of the study

This research adds to our understanding and is a source of reference in the academia. Because of this, both the technique and the study's conclusions can be read by future researchers.

Information and communication technology (ICT) use in the banking sector has effect on both the bank's profitability as well as the quality of services provides. Many banks are gradually eliminating their traditional banking processes and introducing ICT into their service delivery. Due to their professional services and efficient management, commercial banks are currently playing an important role in the economy and are growing in popularity domestically as well as globally. E-banking is one of the most important services offered by commercial banks and other financial organization on which the entire bank is dependent. Research on commercial banks' e-banking is very important for different groups (Odhiambo & Ngaba, 2019)

This study will assist the majority of Nepalese in understanding the concept of internet services that are available to them who are still not aware of online banking and e-banking. Financial institutions are now essential to the majority of the world economy and would not be able to function without IT's assistance. As a result, the study will offer valuable feedback to the bank's IT policy maker and function as a beneficial tool for other commercial banks as they formulate suitable approaches. The study will be highly valuable to those researchers and students who want to conduct further study on this topic. The results of this research will guide other banks on how to improve their online banking services to improve the experiences of potential consumers, which will ultimately affect the bank's profitability.

This study will help Nepalese commercial banks understand how e-banking affects consumer satisfaction compared to traditional banking and it is useful in determining how customers feel about e-banking, what steps banks should take to take advantage of the opportunities, and how to get over the obstacles. Therefore, this study will contribute to

the accumulation of knowledge in the banking industry about marketing, customer satisfaction, and the provision of high-quality services.

1.6 Limitations of the study

This study has following limitations:

1. In order to compare the attitudes of e-banking users and non-users regarding e-banking, it does not include bank clients who do not currently use e-banking.
2. It is especially based on primary data by using structured questionnaires.
3. This research is conducted within Kathmandu valley only.
4. This study tries to address the effect that e-banking service delivery has on Nepalese commercial banks' customer satisfaction.
5. The findings may not be as broadly applicable as they may be because the study's sample size of 392 customers might not be sufficient to represent entire bank customers in Nepal.
6. A simple random sampling technique will be used. Therefore, it can contain some mistakes because of the sampling technique.
7. Statistical tools such as regression analysis, correlation analysis, and descriptive analysis will be used to test the collected data.

CHAPTER II

LITERATURE REVIEW

2.1 Theoretical Review

The Technology Acceptance Model (TAM)

The Technology Acceptance Model was first presented by Davis (1986) and focuses on the elements that affect end users' acceptance of computers. According to TAM, perceived utility and ease of use are two attitudes that impact an individual's decision to use a technology. Perceived utility is the extent to which a person believes using the system will improve his or her performance at work, whereas perceived ease of use is the degree to which a person believes using the system would be error-free. Based on TAM, these two concepts have the greatest impact on computer acceptance behaviors.

With a focus on end-user computing technology and user populations, TAM aims to provide a parsimonious and theoretically supported explanation of the elements influencing computer acceptance that may be used to explain user behavior in general. But because it incorporates information from almost a decade of IS research, it might be particularly appropriate for simulating computer adoption (Welch & Worthington, 2010). TAM states that a person's intention to use technology can be explained in part by their attitude toward using it and their perception of its usefulness. According to Rowley (2011), technology should be straightforward to use and understand. This implies that users' opinions about usability should have a positive impact on how trustworthy they feel and how likely they are to utilize internet marketing.

SERVQUAL Model

The SERVQUAL was first developed by A. Parasuraman, Valarie Zeithaml, and Leonard L. Berry, in 1985 to measure the quality in service sector. The SERVQUAL is a multidimensional research instrument designed to measure service quality by gathering respondents' expectations and perspectives along five dimensions of service quality i.e. reliability, tangibles, assurance, responsiveness, and empathy.

The SERVQUAL model assists in the analyzing the discrepancy between what business and institution feel they are providing for customers and what those customers actually anticipate, want, demand, or need while receiving customer service.

The value percept theory

Westbrook and Reilly (1983) challenge the Expectancy-Disconfirmation paradigm as the best theory for explaining customer satisfaction. As an alternative, they suggest the Value-Percept Disparity theory. They criticize the use of predictive expectations, claiming that other than expectations, comparison standards are more likely to determine customer satisfaction. The value-percept theory states that a cognitive evaluative process that compares perceptions to an individual's values, needs, wants, or desires causes an emotional reaction known as satisfaction. According to the theory, a widening gap between values and perceptions is a sign of increasing dissatisfaction.

In their research, Westbrook and Reilly (1983) compared the value-percept disparity model with the expectation-confirmation model. They discovered that disconfirmation of expectations had a strong impact on satisfaction than the difference between perceptions and values. Both models were insufficient to describe the satisfaction of customers, thus they came to the conclusion that expectations and values are necessary. According to recent studies, expectations and desires should be included into a single framework because they have a combined impact on customer satisfaction. While the Value-Percept theory received less acceptance than the Expectancy-Disconfirmation paradigm, the importance of considering both requirements and expectations remains significant in understanding customer satisfaction.

2.2 Empirical Literature Review

Adhikari (2024) examined how Nepalese commercial banks' customers are affected by electronic banking. Investigating the relationship and effect of electronic banking on customer satisfaction in Nepalese commercial banks is the main goal of this study. The primary sources of data used in this study were gathered through questionnaires. To collect the data, an online questionnaire survey was used, and 112 complete responses were collected from Pokhara Valley colleges and universities. The study employed both descriptive and causal research design. With the use of IBM SPSS software and several statistical techniques, the gathered data were examined and interpreted. Both descriptive and inferential statistics were applied. Customer satisfaction was regarded as the dependent variable, while convenience, cost, privacy, security, and response were regarded as the independent variables. The outcome highlights that the factors have a significant and positive relationship between the variable. Furthermore, it is maintained

that there is no significant relationship between "privacy" and customer pleasure. Also, it was discovered that there was a positive correlation between all of the independent and dependent variables. Accordingly, the study suggests that user satisfaction with e-banking systems is statistically significant when it comes to cost, security, responsiveness, and convenience, but not privacy.

Subedi and Bhandari (2024) analyzed that 'Online Banking Service and Customer Satisfaction in Nepalese Commercial Banks'. The advent of online banking has fundamentally transformed the banking sector by changing how financial services are provided. The study examines how satisfied customers are with internet banking in commercial banks in Nepal. It investigates how online banking is developing in Nepal, where digital platforms are gradually replacing traditional banks and even enhancing their services. The study uses a comprehensive methodology, including quantitative analysis and customer perception surveys to evaluate how online banking practices' adoption influences Nepali commercial banks' e-banking customers' satisfaction levels. Using a structured questionnaire and a quantitative research approach, the study collects primary data using stratified random sampling. The results show both the positive and negative aspects of this change, taking into consideration factors such as tangibility, reliability, responsiveness, assurance, and empathy. By providing insights that can help banks improve their online banking services while maintaining a high standard of service quality, this research advances our understanding of how online banking is changing customer expectations and experiences within the Nepalese banking sector. The findings of this study have significant significance for banks looking for effective ways to align their e-banking strategies with the changing preferences of their customers as Nepal navigates its digital transformation journey.

Bhattacharai et al. (2024) aimed to identify factors that influence consumers' satisfaction with ATM service using data from Pokhara, Nepal's commercial banks. The variables of ATM service satisfaction among commercial bank customers in Pokhara, Nepal, were examined in this study using a descriptive cross-sectional methodology. 153 customers of different commercial banks were given a structured questionnaire using Google Forms to complete as part of a self-reported survey. There were 29 items in the survey covering six main constructs: customer satisfaction, consumption of services, frequency of issues faced, alternative of ATM, reasonableness of fees charged, and post-purchase behavior. The

results showed that characteristics like post-purchase behavior, the reasonableness of fees issued, ATM preference, and service utilization are all positively correlated with customer satisfaction. However, Customer satisfaction is significantly reduced by operational problems, such as malfunctions and service interruptions, which occur frequently.

Niroula (2024) examined how Nepalese commercial banks' customers were affected by digitization. The study evaluates how each of these factors influences consumers' opinions and level of satisfaction with digital banking services. This study's primary goals are to assess how customer happiness is impacted by digital adoptions, mobile engagement, technological infrastructure, and user experience, as well as to examine how digitalization affects consumer satisfaction in relation to commercial banks in Nepal. The entire population of this study represents the customers of 20 commercial banks. Convenience and purposeful sampling were employed to gather data on a five-point Likert scale in this quantitative study, which uses a descriptive and causal-comparative research design. Customers are least satisfied with mobile involvement, whereas online banking facilities have produce it effortless for them to handle their accounts, as indicated by the digital adaptation's highest mean score. Also consumers don't feel safe utilizing the mobile apps to make payments. According to the correlation, there is a positive relationship between all the variables and customer satisfaction. Among them, Technical Infrastructure has the strongest positive correlation and Mobile Engagement has the weakest correlation. According to the regression analysis, all the variables show that digitalization has a positive effect on consumer happiness because their p-values are less than the 0.05 level (0.000).

Thakuri et al. (2023) examined the “Factor Affecting customer satisfaction of mobile banking service of commercial bank in Kathmandu valley”. The objectives of this study was to identify the significant variables that influence consumer happiness and retention in online banking and to ascertain their respective effects. In order to find the truth, the exploratory research design was selected as the primary study paradigm. Both inferential and descriptive statistics were used to evaluate the data quantitatively. Data were gathered by convenience sampling, and 403 responses' associations were examined using structural equation modeling (SEM). Cost, security, relative advantage, responsiveness, and convenience were included as independent variables for the study,

while the factor influencing customer satisfaction with the commercial bank's mobile banking service in the Kathmandu Valley was the dependent variable. The results of this study showed that while cost and competitive advantage have little bearing on consumer happiness, security, adaptability, and flexibility have a major influence. Although there is a high correlation between loyalty and customer satisfaction, loyalty is not directly correlated with these factors.

Chhetri (2023) examined the Nepalese commercial banks' reliance on electronic banking and how it affects customer satisfaction. With a focus on Nepal Investment Bank Limited, Nabil Bank Limited, and Himalayan Bank Limited, the study uses a descriptive and casual comparative research design to investigate electronic banking customers among 20 commercial banks in Nepal. For primary data collection, 150 respondents were chosen through purposive sampling, 50 from each bank. According to the findings, respondents expressed agreement on a number of factors, including responsiveness, ease of website navigation, and meeting personal needs, indicating high levels of satisfaction with online banking services. According to correlation analysis customer satisfaction is positively and significantly correlated with responsiveness, effectiveness, fulfilling individual needs, responsiveness, site structure, and ease of use. The results indicate that there is significant relationship between consumer satisfaction and internet banking. These results highlight how crucial electronic banking is to improving customer experience and satisfaction in Nepal's commercial banking industry.

Gautam and Sah (2023) examined the methods used for online banking services and how they affect e-customer loyalty and satisfaction in the emerging nation of south Asia-Nepal. The objective of the study is to analyze the mediation role of e-loyalty and e-satisfaction with electronic banking service practices. The study used the E-S-QUAL model to determine the online banking services quality (OBSQL) in the following five domains: e-customer service, the organization's website, website efficiency, user-friendliness, security, and privacy. Using a structured questionnaire and a quantitative research approach, it gathers primary data by stratified random sampling. SPSS and AMOS were utilized to analyze the 384 useable questionnaires out of the 475 that were delivered. In order to verify the dimensions of online banking service quality, an exploratory factor analysis was utilized, and the parameters and structure were estimated using structural equation modeling. The findings clarified that ease of use, security and

privacy, and the organization's website were the most important aspects of electronic banking service practices, followed by website effectiveness and e-customer care. One of the main concerns for bankers, users, and policymakers for ongoing development is e-customer satisfaction, which has a substantial impact on e-customer loyalty and mediates the relationship between online banking services and e-customer loyalty. This study offers a framework for identifying how the performance of digital banking services influences the loyalty and satisfaction of electronic customers in South Asian emerging nations.

Almansour and Elkrgli (2023) examined the variables that affect how satisfied customers are with Libyan banks' e-banking services, with an emphasis on perceived utility, perceived usability, perceived reliability, and customer behavior. Data was gathered through an online survey given to 215 e-banking customers using a descriptive research design and quantitative research methodology. The results demonstrated that customer attitude, perceived utility, perceived simplicity of use, and perceived credibility all greatly improve customers' happiness with e-banking services. The most crucial element was determined to be customer attitude, which was closely followed by perceived usefulness, perceived credibility, and perceived simplicity of use. The study's findings may help Libyan banks better their online banking services or raise customer satisfaction levels. The first priority for banks should be to improve consumer perceptions of e-banking services. This should be followed by increasing the platforms' usability and legitimacy. To further increase customer satisfaction, banks should think about promoting the perceived value of their e-banking services. Banks can stay competitive in the digital age and attract and retain more customers by using these measures. These results can also add to the body of knowledge already available on e-banking services and customer satisfaction, providing insightful information for further studies.

Khanal (2023) examined the impact of e-banking services on customer awareness in Nepalese commercial banks. Both explanatory and descriptive research designs were employed to achieve the objective. All commercial bank customers were given questionnaires and interviews, which were used to collect primary data. According to the study's descriptive results, the mean value of dependability is the lowest while the composite mean value of consumer awareness is the highest. Likewise, privacy/security is the most constant factor. The correlation study shows that all of the dependent and

independent variables have a positive and significant relationship. Furthermore, e-banking services including accessibility, reliability, convenience, and privacy/security, according to the R square values of the regression results, account for 96% of the variation in customer awareness. The findings of this research show that customer awareness of Nepalese commercial banks is significantly positively impacted by convenience and privacy/security. Furthermore, the researcher suggests that commercial banks focus more on raising the general degree of customer awareness regarding accessibility and reliability.

Yu and Nuangjamnong, (2022) analyzed the Impact of mobile banking service on customer satisfaction: a case study of commercial bank in china. The main aims of this research is to explain the relationship between consumer satisfaction and mobile banking services in China's financial industry, as well as the ways in which speed of transactions, flexibility, cost-effectiveness, accessibility, perception, relative benefit, and ease of use of risk are related to each other. The primary goal of this study is to identify the factors that influence consumers' satisfaction with mobile banking services. Lastly, an examination of the theoretical frameworks of the two earlier literary works serves as the foundation for the development of a new theoretical framework. The data in this study were analyzed using multiple regression and descriptive analysis. The speed at which transactions may be done through mobile banking, together with accessibility, cost, adaptability, ease of use, and relative advantages, have been found to have a substantial impact on customer satisfaction.

Raji et al. (2021) examined the effect of electronic banking on customer satisfaction in Nigeria's banking industry, specifically, in Kwara State. The study identified the essential features of online banking services for customers and used regression and correlation analysis to look at how these features affected customers' satisfaction. It was also noted that there are difficulties with online banking. To accomplish this, 390 respondents in total participated in the study using Google survey forms (questionnaires). Customer satisfaction was the dependent variable in this study, whereas security, dependability, responsiveness, transactional speed, and ease of use were independent variables. The correlation result shows that there is a positive correlation between customer satisfaction and each independent variable. Similarly, the regression analysis shows that security,

transactional speed, usability, responsiveness, and dependability all have a positive and significant impact on customer satisfaction. In order to maintain or improve customer happiness, the study concludes by advising bank managers to reinforce these e-banking features and investigate the challenges brought up by the respondent.

Jain and Chowdhary (2021) aimed to provide an empirical analysis of users' intentions to adopt digital payment systems, post Demonetization, during the COVID-19 pandemic in India. Based on the Unified Theory of Acceptance and Use of Technology (UTAUT) adoption model, the conceptual framework of the study includes operationalized components of perceived risk and stickiness to use cash. During India's Nationwide Lockdown 3.0, a pre-tested questionnaire was used to survey a total of 326 respondents. The Partial Least Squares – Structural Equation Modeling (PLS-SEM) technique was used to investigate these responses. Considering the results of the study, people's intentions to use digital payment systems are directly influenced by performance expectations and facilitating conditions, whereas people's attitudes toward these systems during the COVID-19 pandemic act as a mediating factor in the effect of perceived ease of use. The proposed adoption paradigm and its implications are examined. As a result, the other developing economies will be able to create a digital environment that will last long beyond the pandemic.

Mastran (2021) investigate the opportunities and challenges of e-banking in Nepal. A self-administered questionnaire, semi-structured interviews, and desktop research are used to gather the required data from bank employees. According to the findings, banks are moving toward e-banking services in order to keep themselves competitive, stay up to date with emerging technologies, lower transaction costs, and better serve for their customers. Customers using e-banking confront several main challenges, including a lack of experience with modern technology, issues with internet connections, and concerns about security and privacy. These difficulties have a detrimental effect on Nepali consumers' adoption of e-banking services. To overcome the obstacles, the banking industry in Nepal should invest in the safest and most dependable e-banking system and frequently educate customers on the advantages and usage of e-banking.

Ahmed (2020) investigated the influence of electronic banking service quality on customer satisfaction of bank in Tripoli city, Libya. The main objective of this research was to identify the aspects of e-banking service quality that most significantly impact customer satisfaction by analyzing the relationship between them. The descriptive analytical approach was used to conduct the study, and copies of the questionnaire were sent to the study population, which included consumers of banks in Tripoli, Libya. Out of the 210 copies of the questionnaire, 180 were gathered, and the information was analyzed using SPSS and AMOS 23. According to this study, the quality of electronic banking services, such as ease of use, time savings, security, and confidentiality, had a significant impact on consumer satisfaction. Additionally, the findings showed that the customer's level of satisfaction was not significantly impacted by their gender, age, or qualifications. Therefore, this study recommends that banks concentrate on the main factors that influence the quality of electronic banking services.

Ahmad et al. (2019) identified the assessing the factors of customers satisfaction on credit card users in Bangladesh. This objective of this study is to investigate the factors that influencing customer happiness and offer specific recommendations to financial institutions for the creation of their marketing plans. Using stratified sampling technology, 350 samples were chosen at random from the customers of different credit card companies to participate in the survey. Regression analysis was employed to examine the gathered data and provide specific suggestions. Significant information regarding customer satisfaction was found by the analysis. The results generally showed that elements like credit card charges, error-free monthly bills, and effective customer service influence customer satisfaction. According to the study, in order to satisfy their customers, credit card service providers should take great care to guarantee competitive credit card charges, error-free monthly bills, and advanced customer support.

Lamichhane (2018) evaluated the impact of customer satisfaction on service quality in Nepalese commercial banks. This study examines how bank customers view the elements of service quality that contribute to customer satisfaction. This study used a descriptive and regression research design with the SERVQUAL technique to examine service quality parameters that influence customer satisfaction. In 2017, a structural questionnaire survey was used to gather information from bank customers in the Kathmandu Valley. Out of the 250 questionnaires that were distributed to bank customers and only 175

were returned in accessible condition, which response rate of 70%. According to the study's findings, bank service quality factors influence customer satisfaction. Finally, this study indicated that the reliability, assurance, palpable, empathy, and responsiveness of bank service quality aspects impact the level of customer satisfaction. In Nepalese commercial banks, tangibles, assurances, and empathy are powerful and have a greater capacity to convey customer happiness.

Daniyan and Akinbowale (2017) investigated the level of adoption of m-banking service, factors affecting the adoption of m-banking service, and challenges that customer face in the use of mobile banking services in Benin City. All individual commercial bank customers in Benin City, Edo state, make up the study's population. From the total population, a sample size of six hundred (600) was selected using simple random sampling. The needed information was gathered through questionnaire. The information gathered from the respondents was examined using both descriptive and inferential statistics. According to the study's findings, just 52.8 percent of the bank customers in Benin City have adopted mobile banking services, indicating a moderate degree of m-banking acceptance. The study found that frequent network issues, unsuccessful transactions but debited accounts, and slow mobile banking application response are the main issues faced by customers while using these services. Furthermore, this study recommend that the banks should provide customers more opportunities to experience m-banking to increase their confidence in the products and address the mobile banking application's slow performance.

Onuman and Christopher (2016) examined the prospects and challenges of electronic banking in SOCIETE GENERALE GHANA LTD in Greater Accra, Region of Ghana. Ninety respondents were selected for the study using a simple random sampling technique. Structured questionnaires were used to gather data. To analyses the data, descriptive and inferential statistics were applied. Approximately 97% of respondents used e-banking products, according to the statistics. Those products include: Internet, text messaging, ATM, telephone and email. The most often used online banking product among the respondents is the ATM. This study also showed that the respondents' use of E-banking products resulted in time savings, quick financial transactions, easy access to account information, and a reduction of long lines at banking locations. This study found that the main influences of e-banking adoption were competition from other

banks and consumer satisfaction. Despite the benefits of electronic banking, there are challenges as well. The most significant challenges were found to be frequent network failures, expensive bank fees, cash withdrawal limits, and incorrect debits. However, the respondents suggested that in order to have an efficient e-banking system, the main strategies for attracting more consumers should be customer education and marketing e-banking product. Other suggestions included enhancing product security, reducing fees related to e-banking products, and expanding the number of ATMs in the country.

Sharma and Malviya (2014) evaluated the internet banking service quality and its impact on customer satisfaction in Indore district Madhya Pradesh. The main object of this study is to investigate the quality aspects of internet banking services and also examine how they impact consumer satisfaction using multiple regression statistical techniques. With the help of literature, a structured questionnaire with a Likert scale was prepared and filled by internet banking customers of Indore district of Madhya Pradesh through survey method. The researcher utilized factor analysis to identify five factors for internet service quality with the help of SPSS and then used regression analysis to examine how these dimensions affected customer satisfaction. The finding of this study show that there is positive relationship between service quality dimensions and customer satisfaction. Regression analysis has shown that while website ease of use, accessibility, and comfort are important factors whereas, responsiveness and confidence also have significantly impact on satisfaction of the online customers.

Govender and Sihlali (2014) examined the factors that influence the adoption of mobile banking services by students using an extended TAM. A quantitative method was employed to gather data through questionnaires. The theoretical approach for this study was based on an adaptation of the Technology Acceptance Model (TAM)—TAM for mobile services—in order to examine the elements that influence IT students' acceptance of m-banking. Usage Behavior (UB), Perceived Ease of Use (PEOU), Perceived Value (PV), Trust (T), Intention to Use (IU), and Perceived Ease of Adoption (PEOA) were the TAM variables utilized for mobile services. A total of 42% of the explanatory power for the dependent variable, intention to use m-banking, may be explained by the independent variables of trust, perceived value, perceived ease of use, and social impact, according to the results of multiple regression analysis. Furthermore, the results indicate that students' desire to utilize m-banking is influenced by two major variables (perceived value and

trust), indicating that IT students do indeed consider implementing mobile banking. The fact that the students continue to use m-banking services indicates that they also have some level of trust. Students have favorable attitudes about mobile banking, which encourages them to use it or keep doing so. The study offers knowledge about the relationships among the elements that affect students to adopt mobile banking.

Cheah et al. (2011) examined the factor affecting Malaysian Mobile banking adoption. This study extends the well-known Technology Acceptance Model (TAM) framework for examining the variables that influence Malaysians' potential to use mobile banking. A self-administered questionnaire had been developed and distributed. Only 175 of the 400 completed questionnaires were returned in a usable form, resulting in a response rate of 43.75%. The findings were analyzed using multiple regression analysis and factor analysis. Similarly, Relative advantages (RA), perceived utility (PU), personal innovativeness (PI) and perceived ease of use (PEOU) were taken as independent variables, and it was discovered that those variable were positively correlated with the intention to use mobile banking services. Nevertheless, the sole component deemed insignificant was social norms (SN). Perceived risks (PR) showed a negative correlation with the adoption of mobile banking, as expected.

Table 1

Summary of Empirical Review in International and National Context

S.N	Authors	Title	Main Objective	methodology	Major Finding
1	Adhikari, (2024)	Impact of electronic banking on customer satisfaction in Nepalese commercial bank.	The main goal of this study is to investigate the relationship and effect of electronic banking on customer satisfaction in Nepalese commercial banks.	Both descriptive and inferential statistics are used to examine the impact and relationship between variables.	The study discovered that in Nepalese commercial banking, customer satisfaction is positively and significantly correlated with cost, convenience, privacy, security, and responsiveness.

2	Subedi and Bhandari, (2024)	Online Banking Service and Customer Satisfaction in Nepalese Commercial Banks.	The main objective of this study is to investigate how online banking affects the level of customer service offered by commercial banks in Nepal.	The correlational and causal-comparative research designs have been used in this study to examine the impact and relationship between the variables.	The results show both the positive and negative aspects of this change, taking into consideration factors such as tangibility, reliability, responsiveness, assurance, and empathy.
3	Bhattarai et al., (2024)	Determinants of customer satisfaction with ATM service: evidence from customers of commercial banks in Pokhara, Nepal.	The main objective of this study is to identify the factors that influence consumers' satisfaction with ATM service using data from Pokhara, Nepal's commercial banks.	A descriptive cross-sectional approach was used in this study to investigate the factors that influence customer satisfaction with ATM services.	The finding of this study showed that post-purchase behavior, the reasonableness of fees assessed, ATM selection, and service utilization are all important determinants of consumer satisfaction.
4	Niroula, (2024)	The impact of digitization on customer satisfaction in Nepalese commercial banks.	This study's primary goals are to assess how customer satisfaction is impacted by digital adoptions, mobile engagement, technological infrastructure, and	Convenience and purposeful sampling were employed to gather data on a five-point Likert scale in this quantitative study, which used descriptive	According to the correlation, there is a positive relationship between all the variables and customer satisfaction. Among them, Technical Infrastructure has the strongest positive correlation and Mobile Engagement has the

			user experience, as well as to examine how digitization affects consumer satisfaction in relation to commercial banks in Nepal.	and causal-comparative research design.	weakest correlation.
5	Thakuri et al., (2023)	Factor affecting customers' satisfaction of mobile banking services of commercial bank in Kathmandu valley.	The objectives of this study was to identify the significant variables that influence consumer happiness and retention in online banking and to ascertain their respective effects.	Both descriptive and inferential statistics were used to evaluate the data quantitatively.	The results of this study showed that although cost and relative advantage have little bearing on customer satisfaction, security, responsiveness, and convenience have a major influence.
6	Chhetri, (2023)	Electronic banking and its impact on customer satisfaction of Nepalese commercial banks.	The main objective of this study is to examine the current state of customer satisfaction, assess the relationship between important factors like responsiveness, reliability, ease of use and individual service requirements, and analyze how they	Descriptive and casual comparative research design have been used in this study to examine the impact and relationship between two variables.	This study found that there was significant relationship between various aspects of internet banking and customer satisfaction.

			influence on electronic banking services.		
7	Gautam and Sah, (2023)	Online banking service practices and its impact on e-customer satisfaction and e-customer loyalty in developing country of south Asio-Nepal.	The objective of this study is to analyze the mediation role of e-loyalty and e-satisfaction with online banking service practices.	Using a structured questionnaire and a quantitative research approach and it gathers primary data by stratified random sampling.	The findings showed that ease of use, security and privacy, and the organization's website were the most important aspects of electronic banking service practices, followed by website effectiveness and e-customer care.
8	Almansour and Elkrghli, (2023)	Factors influencing customer satisfaction on e-banking service: A study of libyan banks.	The objective of this study examine how satisfied customers are with Libyan banks' e-banking services, with an emphasis on perceived utility, perceived usability, perceived reliability, and customer behavior.	A quantative research approach with descriptive research design was used.	The findings showed that the satisfaction of customers with e-banking services is significantly positively impacted by perceived utility, perceived ease of use, perceived credibility, and customer attitude.
9	Khanal, (2023)	Impact of e-banking service on customer satisfaction awareness in	The main objective of this research is to measure customer understanding on e-banking services at	Both explanatory and descriptive research designs were employed	The correlation study shows that all of the dependent and independent variables have a positive and significant

		Nepalese commercial banks.	Nepalese commercial banks.	to fulfill the goal.	relationship. Furthermore, e-banking services including accessibility, reliability, convenience, and privacy/security, according to the R square values of the regression results, account for 96% of the variation in customer awareness.
10	Yu and Nuangja mnong, (2022)	The impact of mobile banking service on customer satisfaction: a case study of commercial bank in china.	The primary goal of this study is to identify the factors that influence consumers' satisfaction with mobile banking services.	Both multiple regression and descriptive analysis were used to analysis the data.	It has been discovered that the speed at which transactions may be done through mobile banking, together with accessibility, cost, adaptability, ease of use, and relative advantages, all have a substantial impact on customer satisfaction.
11	Raji et al., (2021)	Effect of electronic banking on customer satisfaction in Kwara State, Nigeria.	The study examined how important e-banking features are to customers and what effect they have on their level of satisfaction.	This study employed regression and correlation analysis.	The result of regression analysis shows that security, transactional speed, usability, responsiveness, and dependability all have a positive and significant impact on customer satisfaction.
12	Mastran, (2021)	Opportunities and Challenges	The main objectives of the	This study used descriptive	The results show that banks are moving toward

		of online banking in Nepal.	research are to understand internet banking trends in Nepal, identify the difficulties that banks and their internet banking customers face, and to investigate potential ways for banks to improve their internet banking services.	research.	e-banking services to stay competitive, to update themselves with new technological development, to reduce transaction costs, and to provide better serve for their customers.
13	Ahmed, (2020)	The influence of electronic banking service quality on customer satisfaction of banks in Tripoli city, Libya.	The main goal of this study was to determine which e-banking service quality factors have the most important effect on customer satisfaction by examining the link between them.	The research employed a descriptive analytic method to conduct the data.	This study showed that the quality of electronic banking services, such as ease of use, time savings, security, and confidentiality, had a significant impact on consumer satisfaction.
14	Ahmad et al., (2019)	Assessing the factors of customers' satisfaction on credit card users in Bangladesh.	The main objective of this study is to investigate the factors that influencing customer satisfaction and offer specific	Regression analysis was employed to examine the gathered data and provide specific suggestions.	The findings indicated that that elements like credit card charges, error-free monthly bills, and effective customer service influence customer satisfaction.

			recommendations to financial institutions for the creation of their marketing plans.		
15	Lamichhane, (2018)	Service quality on customer satisfaction in Nepalese Commercial Banks.	The main objective of this research is to evaluate the factors that affect service quality and how they affect Nepalese commercial banks' customers' satisfaction.	This study used a descriptive and regression research design with the SERVQUAL technique.	The findings indicated that the reliability, assurance, palpable, empathy, and responsiveness of bank service quality aspects impact the level of customer satisfaction.
16	Daniyan and Akinbowale, (2017)	Adoption and challenges of mobile banking innovation service in Benin-city.	The objective of this study is to investigate the level of mobile banking service adoption, the factors affecting the adoption of m-banking service and the issues consumers face in the use of mobile banking service in Benin City.	Both descriptive and inferential statistics were used to examine the data that was collected from the respondents.	The study found that frequent network issues, unsuccessful transactions but debited accounts, and slow mobile banking application response are the main issues faced by customers while using these services and also this study recommend that the banks should provide customers more opportunities to experience m-banking to increase their confidence in the products and address the mobile banking application's slow performance.

17	Onuman and Christopher, (2016)	Prospects and challenges of electronic banking in SOCIETE GENERALE GHANA LTD in Greater Accra, Region of Ghana.	The study investigates the opportunities and difficulties of e-banking in the Greater Accra region of Ghana through SOCIETE GENERALE GHANA LTD.	To analyses the data, descriptive and inferential statistics were applied.	This study finding that the challenges such as frequent network failures, high bank charges, cash transaction limits, and wrong debit was identified as the paramount challenges which negatively influence customer satisfaction.
18	Sharma and Malviya, (2014)	Internet banking service quantity and its impact on customer satisfaction in Indore district of Madhya Pradesh.	The main object of this study is to investigate the quality aspects of internet banking services and also examine how they affect customer satisfaction.	This study used multiple regression statistical techniques.	The finding of this study show that there is positive relationship between service quality dimensions and customer satisfaction.
19	Govender and Sihlali, (2014)	A study of mobile banking adoption among university students using an extended TAM.	The main objective of this research is to investigate the factors that influence the adoption of mobile banking services by students.	Questionnaires were used to collect data using a quantitative approach.	The results indicate that students' desire to utilize m-banking is influenced by two major variables (perceived value and trust), indicating that IT students do indeed consider implementing mobile banking.
20	Cheah et al., (2011)	Factors affecting Malaysian	The objective of this study is to investigate the	The mix methods were applied to	According to the study's findings, mobile users' behavioral intention to use

mobile banking adoption: An empirical analysis.	relationships between influential factors and consumer adoption of mobile banking in Malaysia.	minimize the coverage bias resulting using only one data collection method.	mobile banking services in Malaysia was affected by perceived utility, perceived ease of use, relative advantages, perceived dangers, and personal innovativeness.
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2.3 Research Gap

The difference between previous research and present research is known to as the "research gap". There is gap between the previous research and present research in terms of data, time and method. This study has analyzed current or recent year data. These days, e-banking is becoming more and more popular, and customer has given more priority to electronic banking. Therefore, this study might be more beneficial than previous studies. The study then employed a large sample size of 392 respondents, which likewise has different data analysis. However, while there have been prior empirical findings in the context of other nations, there are no such confirmations with current scenario exist in the context of Nepal specially, Kathmandu valley. Moreover, this study used e-banking services like automated teller machine, internet banking services, mobile banking services, debit card services and credit card services were treaded as independent variables and were considered as important factors determining customer satisfaction. However, there is a research gap because none of the earlier studies have taken into account all of these factors when examining how the supply of e-banking services affects customer satisfaction in the Nepalese commercial banking. Further, descriptive analysis, correlation analysis, and regression analysis are the major tools in this study which are not used on this topic in previous studies and they only used mean, percentage and frequency etc. Therefore, this study is quite different to compare previous researcher's studies.

CHAPTER-III

RESEARCH METHODOLOGY

Research methodology is the systematic approach to solving the research problem, which includes gathering, documenting, analyzing, interpreting, and reporting data on every aspect of the phenomenon under study. The overall plan for a study is set out by the research method. It provides the basic framework that serves as the foundation for the study. The research methodology must be explained before the analysis and interpretation of the results are presented. The research design and plan, population and sample of the study, nature and source of data are covered in this chapter. Along with the time range, it also includes the sampling technique and data collection methods. This chapter also lists the main models and statistical techniques for analyzing the relationship between the variables of interest.

3.1 Research Design

Research design is the plan, structure, and approach of an investigation that is designed to manage variables and provide answers to research questions. The approach used in this study is a descriptive and casual comparative research strategy. Descriptive research design is used to explain the elements of internet banking services. Similarly, Casual research design helps to identify the relationship between the independent variable (e-banking services) and the dependent variable (consumer satisfaction). Further, casual research design is used to examine the impact of e-banking service delivery on customer satisfaction in Nepal's banking industry. According to Sekaran and Bougie (2013), the purpose of a descriptive study is to identify and analyze the characteristic of value of interest. The quantitative method is used in this study to collect data for analysis. The structured questionnaire surveys are mainly used to generate responses, which are then used as the basis for statistical analysis to test hypotheses.

3.2 Population and Sample

The study's population is the group of individuals or items from whom samples are taken. The target population of this study is the customer of commercial bank inside Kathmandu valley who are use alternative banking channels such ATM, mobile banking, and internet banking.

The entire population is used to select the sample. Sampling is used to reduce expenses in terms of money, time, and effort. There are currently 20 commercial banks in Nepal among them only 5 commercial bank are taken as a sample for the study i.e. NBL, Nabil bank, Kumari bank, laxmi sunri bank and Himalayan bank. The main objective of this study is to find out the level of consumer satisfaction at each of these respective banks. A total of 392 samples would be collected from customers of various commercial banks of Nepal for the sample size. The study used a simple random sampling technique to collect respondents for the study. The sample size of 392 consisted of e-banking customers of different age group, occupation, and educational background.

3.3 Nature and source of data collection

The primary data used in the study was gathered using survey questionnaires. The primary data and information are gathered and examined to determine the connection between Nepalese commercial banks' service delivery and customer satisfaction. This study uses structured questionnaires to gather data. The questionnaires use tick mark questions, and 5-point Likert scale questions to collect respondent-related information and the data was analyzed using descriptive, correlation and regression analysis. Regression analysis examines the relationship between dependent and independent variables. One continuous variable and one category independent variable are employed in multiple regression analysis. It is used to evaluate the importance and connection between the independent and dependent variables.

Reliability Test

Reliability test is one of the key components to ensure that an instrument developed to evaluate a specific concept is actually measuring the variable accurately and measuring the concept that the study set out to measure. Reliability ensures that various elements in the instrument are measured consistently. Cronbach's Alpha was used in this study to measure the reliability of all of the variables.

Table 2

Reliability Analysis

Variables	No of Items	Cronbach's Alpha
Automated Teller Machine	5	0.818
Internet Banking Service	5	0.756
Mobile Banking Service	5	0.778
Debit Card Services	5	0.844
Credit Card Service	5	0.869
Customer Satisfaction	5	0.817

Source: Field Survey, 2025

Table 2 provides the results of a reliability test using Cronbach's alpha, a statistic that measures internal consistency. Cronbach's alpha values can be classified as follows: excellent if they are above 0.90, good if they are between 0.80 and 0.89, acceptable if they are between 0.70 and 0.79, questionable if they are between 0.60 and 0.69, poor if they are between 0.50 and 0.59, and unacceptable if they are below 0.50.

For this study, the Cronbach's alpha value for automated teller machine, internet banking service, mobile banking services, debit card service, and credit card services are 0.818, 0.756, 0.778, 0.844 and 0.869 respectively. The dependent variable, customer satisfaction has Cronbach's alpha of 0.817 which reflects good internal consistency across the six items used to measure it. These findings suggest that the research technique is quite reliable and appropriate for precisely measuring the study's intended constructs.

3.4 Methods of data analysis

The frequency tables that are easy to understand and interpret were utilized, providing the percentage of each category and frequency. Regression and correlation analysis were performed in addition to the descriptive analysis in order to verify the hypothesis. As a whole, the appropriate analysis has been made by this study using both descriptive and correlation analysis tools. Then calculated the survey's mean, frequencies, percentages, standard deviation, minimum and maximum scores in the descriptive analysis, and regression analysis, ANOVA, and correlation analysis were determined in the inferential analysis.

3.4.1 Descriptive analysis

Descriptive statistics is employed to explain the demographic characteristics of the respondents along with customer satisfaction and e-banking services. A calculation was made to describe the variables using frequencies, percentages, mean, and standard deviation.

3.4.2 Correlation analysis

Correlation analysis is a statistical approach that evaluated the degree of a linear relationship between two or more variables. The interdependencies between these constructs are clarified by this method, which helps in understanding how changes in one variable are related to changes in another variable (Mukaka, 2012).

The following formula can be used to calculate the correlation coefficient between two variables:

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

Where,

X= Value of independent variable

Y= Value of dependent variable

n= Number of responses

3.4.3 Regression Analysis

Regression analysis is a statistical technique used to determining the relationship between a dependent variable and one or more independent variables. It can be used to simulate the future relationship between variables and evaluate how strongly the variables are related to one another.

Based on responses on a Likert scale, regression analysis is performed in this study to determine the direction of the association between the dependent and independent variables for each sample. The following equation represents the theoretical model of the relationship:

$$Y = \beta_0 + \beta_1 (\text{ATM}) + \beta_2 (\text{Internet Banking Service}) + \beta_3 (\text{Mobile Banking Service}) + \beta_4 (\text{Credit Card Service}) + \beta_5 (\text{Debit Card Service}) + e_i$$

Where,

Y = Customer satisfaction

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ =Coefficient of variables

β_0 = Intercept (constant term)

e_i = Error term

3.4.4 Analysis of variance (ANOVA)

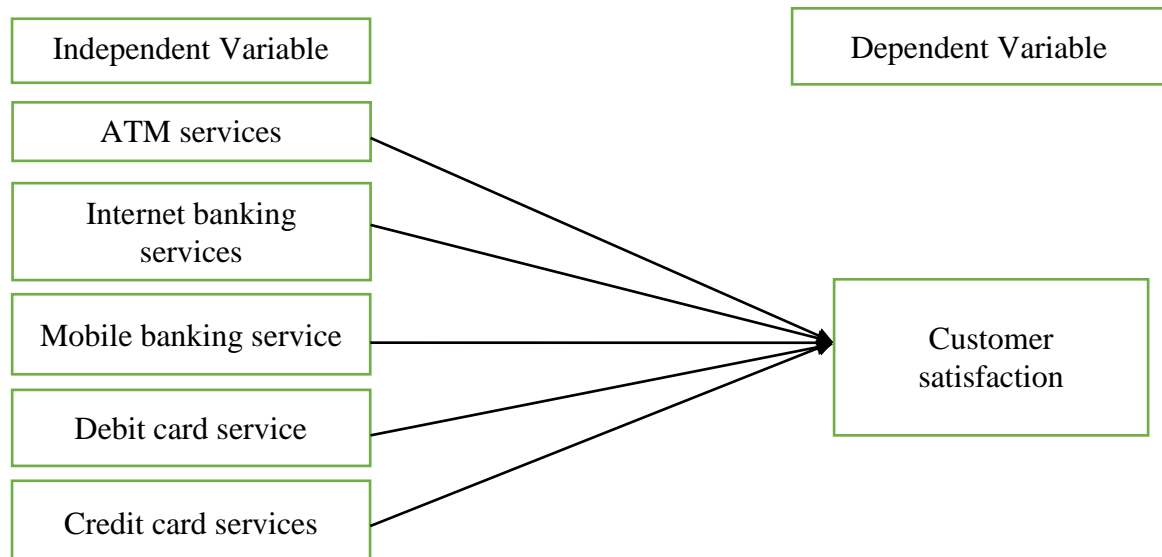
The ANOVA technique is used to test the variation among means between two or more variables. It is an important method for determining how several types of independent variables and the dependent variable are related (Sawyer, 2009). It determines whether variations in the means of groups or variables are statistically significant. This study used the ANOVA technique to analyze the relationships between the independent variables (credit card service, debit credit, mobile and internet banking service, automated teller machines) and dependent variable (customer satisfaction).

3.5 Research framework and definition of variables

The study is based on the analysis and interpretation of independent factors (ATM, internet banking, mobile banking, credit cards, and debit card service) and dependent variables (consumer satisfaction).

Figure 1

Conceptual framework



Source: (Hamid et al., 2018)

Dependent Variable

Customer Satisfaction

Customer Satisfaction is the dependent variable in this study because it is influenced by the seven components of service delivery. Customer satisfaction measures how well a business fulfills or exceeds customer expectations with its goods and services. These expectations frequently take into a variety of factors of the financial activities of the company, such as the company's actual goods, services, and how the company practices in the global market. A complete psychological evaluation based on the customer's lifetime experiences with goods and services is used to calculate the measurements of customer satisfaction. Customer satisfaction can be measured by positive impressions, continuous transactions, recommendations, and satisfaction with the services provided by the bank (Finn et al., 2009).

Independent variables

Independent variable is the one which has a positive or negative impact on dependent variables. Automated Teller Machines (ATMs), credit cards, debit cards, internet and mobile banking are independent variables in this study.

Automated Teller Machines (ATM) Service

An automated teller machine (ATM) is a kind of electronic banking facility that allows consumers to do everyday transactions without help from a teller or branch professional. This electronic telecommunications device allows financial institution customers to conduct financial transactions whenever they want and without having to speak with bank staff directly. These operations include cash withdrawals, deposits, fund transfers, and account information inquiry. Recharge cards and money transfers are also sold there, and account balance inquiries are available 24/7. It is an automated device that enables bank customers who choose to use a plastic card that has been magnetically encoded and a code number to access their accounts and conduct business with the bank. It allows bank customers to complete their transactions—such as paying bills, making deposits, taking out cash, getting bank statements, and transferring money—without the help of a teller.

Internet banking service

The use of the internet as a delivery channel for banking services, including all regular services like balance inquiries, transfer fund, bill payment, account information and 24/7 account access is known as internet banking (Mukherjee & Nath, 2003). This allows customers to access banking services without physically visiting a bank. It breaks down time and distance boundaries and gives the bank continuous productivity to reach unthinkably distant customers. The bank may have a website that allows customers to check the balance in their account, transfer fund to another account, utilizing investment, apply for a loan, and check service through bank websites (Nasri, 2011). In addition to helping with bill payment and the opportunity to view the previous 30 transactions, it facilitates the transfer of funds to private or other accounts, helps with bill organization in accordance with accounts, and helps with bill viewing in chronological order.

They have also benefits for the financial institutions. Banks invest heavily in internet banking because it provides more quickly and complete customer information while also reducing expenses when compared to previous banking methods. It also improves service quality, which is essential for surviving in competitive markets. However, customers must use internet banking in order to accomplish these objectives. Therefore, when establishing and developing internet banking capabilities, financial service providers must try to have a thorough understanding of their customers' attitudes toward this technology (Hanafizadeh et al., 2014).

Mobile banking service

Mobile banking is a modern banking service channel offered by the bank that allows its consumer to do financial transactions using their Internet-connected smartphones or tablets. Customers can use a smartphone or personal digital assistant to connect with a bank through this channel (Barnes & Corbitt, 2003). Mobile banking helps banks become more profitable, reach a wider audience, save more money, and become more competitive. Customers can save money and time by using its features, which include bill payment, bank transfers, account management, helping to save costs and time and more. As a result, mobile banking has emerged as an important trend in the growth of the banking sector (Le et al., 2020).

Debit card service

A debit card is a plastic payment card that gives the user electronic access to financial institutions. It is also known as a bank card or check card (Kalyani, 2018). A debit card as a payment card that allows users to make purchases or withdraw cash directly from their bank account with the funds being immediately deducted from the available balance. It exactly looks like credit card but it has completely different features. Debit cards are issued to those who meet certain requirements, such as having a bank account. When a debit card is used, the value of the account is deducted at the time of purchase. Debit cards are similar to the ones that banks issue, such as ATM cards. It can be used to pay for goods and services using POS (point of sale) devices. Customers may also be able to withdraw cash from their purchases through cash back programs offered by merchants. Spending money using a debit card is more convenient than with cash.

Credit card service

A credit card is a payment card that is given to clients, or cardholders, allowing them to make purchases at merchants for products and services based on the cardholder promises to the card issuer to pay them for the amounts as well as any additional fees that have been agreed upon.

The cardholder may also be granted a line of credit (LOC) by the credit company provider which allow the holder to borrow funds in the form of cash advances(Usman, 2021). Credit cards bearing the name of any international payment association such as Visa card or Master Card, are issued by banks and finance companies. The amount used by the cardholder is considered a loan, and interest is charged if the cardholder fails to make the required payments within the grace period usually, 45 days after the statement is released.

CHAPTER-IV

RESULTS AND DISCUSSION

In order to achieve the study's objectives, this chapter focuses on the interpretation and analysis of the information gathered during the process. The goal is to derive significant understandings and make practical suggestions based on the results. This section provides a complete overview of the data, followed by a detailed analysis and interpretation of the previously indicated methodologies. The key subjects covered in this chapter are the demographic profile of the respondents, as well as the correlation and regression analyses used to determine the relationships between the variables. Furthermore, an analysis will be performed to assess whether the findings support or contradict the given hypotheses. SPSS software is used for all analyses, ensuring a comprehensive and precise assessment. The purpose of this chapter is to provide the findings and discuss about their consequences and applicability to the research objectives.

4.1 Demographic Profile of Respondents

The demographic analysis and interpretation of primary data gathered through questionnaires are covered in this section. This part analyzed the profile of the responder in terms of age, marital status, occupation, education, and gender. A total of 392 responds were gathered from 400 questionnaires that were distributed to potential respondents. All the responders were from Kathmandu valley.

Table 3

Demographic Characteristics of respondents

Characteristics		Frequency	Percentage
Age	Below 20 year	42	10.7
	21-30 year	252	64.3
	31-40 year	61	15.6
	Above 41 year	37	9.4
Gender	Male	177	45.2
	Female	215	54.8
Education	SLC/SEE	4	1
	+2	46	11.7
	Bachelor	121	30.9
	Masters	221	56.4
Occupation	Student	210	53.6
	Unemployed	13	3.3
	Employed	154	39.3
	Self Employed	15	3.8
Marital Status	Single	260	66.3
	Married	132	33.7

Source: Field Survey, 2025

The table 3 represents the respondents spanned a range of age group, with 42 individuals (11.7%) were below 20 year, 252 respondents (64.3%) were between 21-30 year, 61 respondents (15.6%) were between 31-40 year, 37 respondents (9.4%) were above 41 year.

The gender distribution within the sample was fairly balance with 177 respondents (45.2%) identifying as male and 215 respondents (54.8%) as female. The data shows that there is slightly higher percentage of female respondents in comparison to male respondents.

Next, the respondents' educational level was analyzed as a sample attribute. According to the analysis, master's degree holders made up the majority of the respondents. There were 221 (56.4%) masters' holders while 121 (30.9%) were bachelor's degree holders, 46 (11.7%) were secondary education levels and 4 (1%) were SLC/SEE holder. The

education level of the respondents seemed to be sufficient for this kind of analysis. According to the results of this study, education level has an impact on how easily people can understand technology. So, there is a high correlation between the usage of technology and level of education.

The next sample characteristic examined was the occupation where 210 (53.6%) respondent were student, 13 (3.3%) respondent were unemployed, 154 (39.3%) respondent were employed and 15 (3.8%) respondent were self-employed. When it comes to marital status, large portion of respondents 260 (66.3%) were single and 132 (33.7%) were married.

Table 4

Years of using e-banking service of respondents

Classification	Frequency	Percentage
Less than 1 year	13	3.3
1-3 years	72	18.4
3-5 years	127	32.4
More than 5 years	180	45.9
Total	392	100.0

Source: Field Survey, 2025

Table 4 provides information on the years that respondents have used the banks' electronic banking services.

Out of 392 respondents 180 respondents are representing 45.9 percent have been using the e- banking service more than 5 years, while a total of 127 respondents or 32.4 percent have been using the e- banking service for 3-5 years. It was found that, 72 respondent representing 18.4 percent have been using the e- banking service for 1-3 years and 13 respondent 3.3 percent have been using the service for less than a year.

Table 5

Frequency of using e-banking service

Classification	Frequency	Percent
At least once a day	132	33.7
At least 2 times a day	171	43.6
At least 4 times a day	75	19.1
At least 7 times a day	14	3.6
Total	392	100.0

Source: Field Survey, 2025

The table 5 indicates the frequency on how often respondents use e-banking service. In terms of how often respondent use e-banking service, 132 respondent (33.7%) indicated that they are using e-banking service at least once a day while 171 respondent (43.6%) indicated that they are using e-banking service at least 2 times a day, 75 respondent (19.1%) indicated that they are using e-banking service at least 4 times a day and only 14 respondent (3.6%) indicated that she or he is using e-banking service for at least 7 times a day.

Table 6

Purpose of using e-banking

Classification	Frequency	Percent
Better Information	2	0.5
Simplification of Processes	19	4.8
24 hour Service	281	71.7
Limited time available	90	23.0
Total	392	100.0

Source: Field Survey, 2025

Out of 392 respondents, the majority of the respondent 281 (71.7%) select the bank service because of the 24 hour service while 90 respondent (23.0%) were using e-banking because of the limited time available, 19 respondent (4.8%) were using for simplification of processes and 2 respondent (0.5%) were using for better information.

4.2 Descriptive Analysis

Descriptive analysis is a type of statistical summary that measures and analyzes the features of collected data. This study used mean and standard deviation to measure variability in variables such as automated teller machine, mobile banking service, internet banking service, debit card service, credit card service and customer satisfaction. The higher mean value indicates that more respondents agree with the variables that may have a stronger impact. It is also important to remember that when examining the mean and standard deviation of variables, a significantly high standard deviation value indicates that the data being tested is far away from the mean, whereas a small value indicates that the tested variable are closer to the mean. Each statement in this study is measured on a five-point scale: 1 represents strongly disagree, 2 represents disagree, 3 represents neutral, 4 represents agree, and 5 represents strongly agree.

Table 7

Impact of Automated Teller Machine (ATM) service

Code	Statements	Minimum	Maximum	Mean	S.D.
ATM1	The ATM makes cash withdraw very convenient.	1	5	3.66	.866
ATM2	ATM banking transactions are highly secured and safe.	1	5	3.80	.934
ATM3	I am satisfied with the transaction fee charge by the bank for using an ATM card.	1	5	3.62	1.004
ATM4	ATM does not share my personal information with others.	1	5	3.77	.846
ATM5	I am satisfied with ATM banking because of its 24x7 availability.	1	5	3.84	.766

Source: Field Survey, 2025

Table 7 present the mean and standard deviation for responses related to the impact of Automated teller machine service on customer satisfaction. Each of 392 respondents submitted their response in five-point Likert scale. The statement “I am satisfied with ATM banking because of its 24x7 availability” has the highest mean score of 3.84 with

the standard deviation of 0.766. The highest mean score implies that the particular factor is more agreed among the component of Automated Teller Machine service. On the other hand the statement “I am satisfied with the transaction fee charged by the bank for using an ATM card” has the lowest mean score of 3.62 with standard deviation of 1.004.

Likewise, the highest standard deviation is 1.004 for the factor “I am satisfied with the transaction fee charged by the bank for using an ATM card” which indicates that a particular factor of the automated teller machine is associated to a significant risk. Similarly, the lowest standard deviation is 0.766 for the factor “I am satisfied with ATM banking because of its 24x7 availability” which represent it has low risk associated among the factor of Automated Teller Machine.

Table 8

Impact of Internet Banking Service

Coad	Statements	Minimum	Maximum	Mean	S.D
IBs1	Internet banking is easy to used and time saving.	1	5	3.95	0.948
IBs2	Internet banking helps customers to complete transaction quickly.	1	5	3.97	0.840
IBs3	Internet banking is more affordable than traditional banking services.	2	5	3.87	0.916
IBs4	Internet banking is a cheaper way to conduct banking transaction.	1	5	3.79	0.845
IBs5	Internet banking does not share my personal information with others.	1	5	3.99	0.867

Source: Field Survey, 2025

Table 8 summarize the impact of internet banking service in the view of customers. Internet banking does not share my personal information with others has the highest mean score of 3.99 as compared to other impact which means customer feel secured about their personal information while using internet banking. And the next statement “Internet banking is a cheaper way to conduct banking transaction” has the lowest mean score of 3.79. It shows that most of the customer agree less as compared to other statement.

Likewise, the table also show that the standard deviation that ranges from higher to the lowest. For the highest range of standard deviation is 0.948 for the factor “Internet banking is easy to used and time saving” which indicates that a particular factor of the internet banking service is associated to a significant risk. Similarly, the lowest range of standard deviation is 0.840 for the factor “Internet banking helps customers to complete transaction quickly” which represent it has low risk associated among the factors of internet banking services.

Table 9

Impact of Mobile Banking Service

Coad	Statements	Minimum	Maximum	Mean	S.D
MBs1	Mobile banking makes banking very convenient.	1	5	3.97	.858
MBs2	Mobile banking is safe for transaction.	1	5	4.02	.848
MBs3	Mobile banking is cheaper way to conduct banking transaction.	1	5	3.81	.821
MBs4	I get the service of mobile banking 24 hour a day and 7 days a week.	1	5	3.92	.754
MBs5	Mobile banking does not share my personal information to others.	1	5	3.93	.829

Source: Field Survey, 2025

Table 9 summarizes the mean and standard deviation for responses related to impact of mobile banking service. Each of the 392 respondents submitted their response in five-point Likert scale. The statement “Mobile banking is safe for transaction.” has the highest mean score of 4.02. It indicates that among the factors of mobile banking services, a specific factor is the most widely accepted. On the other hand, the statement “Mobile banking is cheaper way to conduct banking transaction” has the lowest mean score of 3.81 which indicates that the majority of the respondents agree less as compare to other statement.

Likewise, the highest standard deviation is 0.858 for the factor “Mobile banking makes banking very convenient” which indicates that a particular factor of the mobile banking

service is associated to a significant risk. Similarly, the lowest standard deviation is 0.754 for the factor “I get the service of mobile banking 24 hour a day and 7 days a week” which represent it has low risk associated among the factor of mobile banking service.

Table 10

Impact of Debit Card Service

Code	Statements	Minimum	Maximum	Mean	S.D
DCs1	Transaction through debit card is secured.	1	5	3.69	1.023
DCs2	Transaction through debit card is reliable.	1	5	3.86	.863
DCs3	Debit card is easy to carry.	1	5	3.78	.890
DCs4	I find the charge for using debit card is reasonable.	1	5	3.83	.943
DCs5	I get the service of debit card 24 hour per day and 7 day a week.	1	5	3.76	.952

Source: Field Survey, 2025

Table 10 presents the mean and standard deviation for responses related to impact of debit card service. The statement “Transaction through debit card is reliable” Has the highest mean score of 3.86 with standard deviation of 0.863. This includes that the particular factor is the one that is most agreed factor among the debit card service components. On the other hand, the statement “Transaction through debit card is secured” has the lowest mean score of 3.69 with standard deviation of 1.023 which indicates that the majority of the respondents agree less as compare to other statements.

Likewise, the table also shows the standard deviation that ranges from highest to the lowest for the highest range of standard deviation is at DCs1 whereas the lowest range of the standard deviation is at DCs2.

Table 11

Impact of Credit Card Service

Coad	Statements	Minimum	Maximum	Mean	S.D
CCs1	I use credit card because it helps to buy in advance and pay later.	1	5	3.90	.958
CCs2	Credit card is very convenient while travelling.	1	5	3.97	.899
CCs3	I feel secured using my credit card for online transaction.	1	5	3.79	.789
CCs4	Online/living expenses payment is easier.	1	5	3.84	.962
CCs5	I get the service of credit card 24x7.	1	5	3.86	.941

Source: Field Survey, 2025

Table 11 presents the mean and standard deviation for responses related to the impact of credit card service. The statement “Credit card is very convenient while travelling.” has the highest mean score of 3.97 with standard deviation of 0.899 which means the respondent feel very useful while traveling to other place. On the other hand, the statement “I feel secured using my credit card for online transaction” has the lowest mean score of 3.79 with standard deviation of 0.789.

Similarly, the table also shows the standard deviation value. The highest standard deviation is 0.962 which represent code CCs4 and the lowest standard deviation is 0.789 which represent the code CCs3.

Table 12

Customer satisfaction

Coad	Statements	Minimum	Maximum	Mean	S.D
CS1	I am satisfied with the e-banking services provided by the bank.	1	5	3.78	.842
CS2	Internet and mobile banking services of the bank are secured and reliable.	1	5	3.90	.771
CS3	The interest rate and service charge are reasonable.	1	5	3.86	.833
CS4	I feel confident in the security measures taken by the bank to protect my personal and financial information.	1	5	3.75	.849
CS5	I will strongly recommend other to use e-banking service.	1	5	4.10	.740

Source: Field Survey, 2025

Table 12 present the mean and standard deviation for responses related to the customer satisfaction. The statement “I will strongly recommend other to use e-banking service” has the highest mean score of 4.10 with standard deviation of 0.740. On the other hand, the statement “I feel confident in the security measures taken by the bank to protect my personal and financial information” has the lowest score of 3.75 with standard deviation of 0.849.

Similarly, the table also shows the standard deviation value. The highest standard deviation is 0.849 which represent code CS4 and the lowest standard deviation is 0.740 which represent the code Cs5.

Table 13

Descriptive statistics of all variables

Variables	Minimum	Maximum	Mean	S.D.
ATM	2.00	5.00	3.737	.6747
IBs	1.80	5.00	3.914	.6292
MBs	1.80	5.00	3.928	.5985
DCs	1.40	5.00	3.783	.7346
CCs	1.20	5.00	3.871	.7387
CS	1.80	5.00	3.877	.6141

Source: Field Survey, 2024

Table 13 reflect the descriptive statistics of all six variables (ATM, IBs, MBs, DCs, CCs and CS). The minimum value of all the variables is 1.20 is and the maximum value is 5. The mobile banking service (MBs) rank first i.e. the highest mean value of 3.928. Similarly, automated teller machine (ATM) rank last with mean value 3.737. Likewise, Internet banking service (IBs), customer satisfaction (CS), Credit card services (CCs) and Debit card service (DCs) rank second, third, fourth and fifth with mean value 3.914, 3.877, 3.871, and 3.783 respectively.

From the validity prospective, mobile banking service (MBs) rank first with lowest standard deviation of 0.598. Similarly, credit card services (CCs) has rank last with highest standard deviation of 0.738. Likewise, customer service (CS), internet banking service (IBs), automated teller machine (ATM), and debit card service (DCs) rank

second, third, fourth and fifth with the standard deviation 0.614, 0.629, 0.674 and 0.734 respectively.

4.3 Correlation Analysis

Karl Pearson developed the correlation coefficient over a century ago. It is a statistical method that is commonly used in research to analyze the agreement between two different approaches or to show the relationship between two variables (Janse et al., 2021). A perfect positive linear relationship is indicated by a correlation coefficient value of 1, whereas a perfect negative linear relationship is indicated by a correlation coefficient value of -1. There is no linear relationship when the value is 0. Values near 1 or -1 suggest strong relationships, whereas values near 0 indicate weak relationship (Pearson, 1897).

Table 14

Correlation Analysis

		ATM	IBs	MBs	DCs	CCs	CS
ATM	Pearson Correlation	1					
	Sig. (2-tailed)						
IBs	Pearson Correlation	.657**	1				
	Sig. (2-tailed)	.000					
MBs	Pearson Correlation	.693**	.725**	1			
	Sig. (2-tailed)	.000	.000				
DCs	Pearson Correlation	.639**	.655**	.693**	1		
	Sig. (2-tailed)	.000	.000	.000			
CCs	Pearson Correlation	.612**	.560**	.664**	.653**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
CS	Pearson Correlation	.685**	.648**	.699**	.727**	.696**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

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

Source: Field Survey, 2025

Table 14 show the correlation matrix for the study, reflecting the association between customer satisfaction (CS) as the dependent variable and five independent variables; impact of Automated Teller Machine (ATM), Internet Banking Service (IBs), Mobile Banking Service (MBs), Debit Card Service (DCs), and Credit Card Service (CCs). The correlation are measured at a 0.01 level of significance using two-tailed test.

The Pearson correlation between the independent variable automated teller machine and dependent variable customer satisfaction is 0.685, which indicates that the two variable are positively correlated. It indicates that consumer happiness increases with the quantity of ATM services. The positive coefficient of correlation is 0.685 at 1 percent significant level.

Similarly, The Pearson correlation between the independent variable internet banking service and dependent variable customer satisfaction is 0.648, which implies that the two variable are positively correlated. It indicates the customer satisfaction increases with the quality of internet banking. The positive coefficient pf correlation is 0.648 at 1 percent significant level.

Similarly, The Pearson correlation between the independent variable mobile banking service and dependent variable customer satisfaction is 0.699, which implies that the two variable are positively correlated. It indicates that the increase in mobile banking service leads to an increase in customer satisfaction. The positive coefficient of correlation is 0.699 at 1 percent significant level.

Additionally, The Person correlation between the independent variable debit card service and dependent variable customer satisfaction is 0.727, which implies that the two variable are positive correlation. It indicates that the improved in the debit card services leads to an increase in customer satisfaction. The positive coefficient of correlation is 0.727 at 1 percent significant level.

Likewise, The Pearson correlation between the independent variable credit card service and dependent variable customer satisfaction is 0.696, which implies that the two variable are positively correlated. It indicates that the better credit card services leads to an increase in customer satisfaction. The positive coefficient of correlation is 0.696 at 1 percent significant level.

4.4 Regression Analysis

Regression analysis is a statistical technique of evaluating the relationships between variables. It covers a wide range of modeling and analytical tools for examining the relationship between a dependent variable (customer satisfaction) and an independent variable (automated teller machine, credit card, debit card, mobile banking and internet banking).

Table 15

Model Summary

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.818 ^a	.669	.665	.35538

Predictors: (Constant), Automated Teller Machine, Internet Banking Service, Mobile Banking Service, Debit card Service, and Credit Card Service.

Source: Field Survey, 2024

Table 15 provide the value of R and R square along with standard error of estimate. The R value of 0.818 indicates that those independent factors have a strong positive association with customer satisfaction. This suggest that improved e-banking service will lead to increase the satisfaction level of the customer. The R square value 0.669 indicate that the combined influence of ATM, IBs, MBs, DCs and CCs accounts for 66.9% of the variability in customer satisfaction.

Table 16

Analysis of variable (ANOVA)

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	98.723	5	19.745	156.334	.000 ^b
Residual	48.751	386	.126		
Total	147.473	391			

Dependent Variable: Customer Satisfaction

Predictors: (Constant), Automated Teller Machine service, Internet banking service, Mobile banking service, Debit card service, and Credit card service

The ANOVA table 16 presents the independent and dependent variables' overall summary and significance. Also this table indicates that there is a statistically significant relationship between the dependent variable, customer satisfaction, and the independent variables, automated teller machine, internet banking, mobile banking, debit card, and credit card services, at significance level 0.05 (p-value $0.000 < 0.05$).

Table 17

Regression Coefficient

	Model	Unstandardized		Standardized	T	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	0.610	0.127		4.814	0.000
	ATM	0.179	0.041	0.197	4.400	0.000
	IBs	0.097	0.045	0.100	2.168	0.031
	MBs	0.130	0.052	0.126	2.477	0.014
	DCs	0.239	0.038	0.286	6.238	0.000
	CCs	0.208	0.036	0.150	5.850	0.000

a. Dependent Variable: Customer Satisfaction

The table 17 shows statistical estimates of the regression model's variables. The results indicated that the effect of ATM on Customer Satisfaction (CS) was statistically significant ($b=0.179$, $p < 0.05$) due to the p-value is less than 0.05. Its coefficient is 0.179 and its standard error is 0.041. This indicates that ATM services at Nepalese commercial banks have a positive significant impact on customer satisfaction.

The result determined that the impact of Internet Banking services (IBs) on customer satisfaction was statistically significant because the p-value is less than 0.05 ($b=0.097$, $p < 0.05$). Its coefficient is 0.097 and its standard error is 0.045. This indicates that internet banking services have a positive significant impact on Nepalese commercial banks' customers' satisfaction.

The result determined that the impact of Mobile Banking service (MBs) on customer satisfaction was statistically significant because the p-value is less than 0.05 ($b=0.130$,

$p < 0.05$). Its coefficient is 0.130, and its standard error is 0.052. This indicates that mobile banking services have a positive significant impact on Nepalese commercial banks' customers' satisfaction.

The impact of Debit Card service (DCs) on customer satisfaction was found to be statistically significant because p-value is less than 0.05 ($b = 0.239$, $p < 0.05$). Its coefficient is 0.239, and its standard error is 0.038. This indicates that Nepalese commercial banks' debit card services have a positive significant impact on their customers' satisfaction.

The impact of credit card services (CCs) on customer satisfaction was found to be statistically significant because p-value is less than 0.05 ($b = 0.208$, $p > 0.05$). Its coefficient is 0.208 and its standard error is 0.036. This indicates that credit card services at Nepalese commercial banks have a positive significant impact on consumer satisfaction.

Table 18

Summary of result of Hypotheses

Variables	Hypotheses	P-value	Results
Automated Teller Machine (ATM)	H1: There is significant impact of Automated Teller Machine on customer satisfaction in Nepalese commercial bank.	.000	Accepted
Internet Banking service (IBs)	H2: There is significant impact of Internet Banking service on customer satisfaction in Nepalese commercial bank.	.031	Accepted
Mobile Banking service (MBs)	H3: There is significant impact of Mobile Banking service on customer satisfaction in Nepalese commercial bank.	.014	Accepted
Debit Card service (DCs)	H4: There is significant impact of Debit Card service on customer satisfaction in Nepalese commercial Bank.	.000	Accepted
Credit Card service (CCs)	H5: There is significant impact of Credit Card service on customer satisfaction in Nepalese commercial bank.	.000	Accepted

Source: Field Survey, 2025

4.5 Discussion

The main objective of the study is to identify the impact of e-banking service delivery on customer satisfaction in Nepalese commercial bank. The principal of the study was to explain the relationship between customer satisfaction and five independent variables, namely automated teller machine, internet banking service, mobile banking service, debit card service and credit card service. Research indicates that these variables affect customer satisfaction. This implies that increase customer satisfaction will result from improving the factors that affect how e-banking services are delivered.

Automated Teller Machine (ATM) has a positive and significant impact on customer satisfaction. The finding is similar to the finding of Odusina (2014), while the study showed that there is a strong and positive relationship between ATM usage and customer satisfaction. Despite its flaws, the study found that ATMs and customer satisfaction make life easier for consumers by lowering costs, saving time, and providing easy access to cash even in unexpected situations (such as emergencies in the middle of the night), also errors on ATM has equally reduced. Similarly, Bhattarai et al. (2024) found that there is positive relationship between customer satisfaction and ATM factors. This study clearly showed that post purchase behavior, the affordability of fees charge, choice of ATM, and service utilization are all important determinants of customer satisfaction. Alexis and Chen (2019) also found that ATM service quality has significant correlation with customer satisfaction. According to the research of the multiple regression analysis, the most significant factor influencing customer satisfaction was ease of use, which was followed by convenience, empathy, and tangibles.

Internet banking service has a positive and significant influence on customer satisfaction. The study aligns with previous studies. Ahmed (2020) stated that customers' satisfaction with the quality of e-banking services in Tripoli, Libya is significantly correlated with the aspects of e-banking services that make them easy to use, time-saving, secure, and confidential. Similarly, Sharma and Malviya (2014) also found that there is positive impact of service quality dimensions of internet banking and customer satisfaction. Regression analysis has shown that while website ease of use, accessibility, and comfort are important factors whereas, responsiveness and confidence also have significantly impact on satisfaction of the online customers. Likewise, Firdous and Farooqi (2017) also mentioned that customer satisfaction among internet banking users is

significantly influenced by the quality aspects of the service. In Internet banking, 70% of customer satisfaction is attributed to each of the following dimensions: efficiency, system availability, fulfillment, privacy, contact, responsiveness, and interaction.

Mobile banking service has a positive and significant relationship on customer satisfaction. This finding is similar to finding of Yu and Nuangjamnong, (2022). Accessibility, cost, adaptability, ease of use, and relative benefits are all factors that have been proven to have a substantial impact on customer satisfaction, as is the speed at which transactions may be performed using mobile banking. Adhikari (2024) also highlights that cost, convenience, security, and responsiveness are independent variables that have a strong association with customer pleasure but privacy is not accepted. As a result, it may be concluded that in order to increase the number of users actively utilizing e-banking, service providers should prioritize both convenience and security, as customers are more concerned with both factors when using e-banking services. Metlo et al. (2021) also determined that customer satisfaction in the mobile banking industry is significantly influenced by perceived utility, simplicity of use, credibility, and customer attitude. In order to increase customer satisfaction and enable more people to transact and satisfy their basic banking requirements through mobile banking, they suggested that bank management work to offer more value-added services in their mobile banking apps and create more user-friendly mobile banking apps.

Debit card service has a positive and significant relationship on customer satisfaction. This finding is similar to finding of Parvin and Hossain (2010), that debit card users are generally satisfied. Customers are most satisfied with the availability of Taka in the ATM booth, while they are least satisfied with the network service. By improving network performance, providing transaction receipts, and quickly solving issues, banks may ensure that their debit card customers are completely satisfied. Akter and Mia (2023) also found that the independent variables (cash withdrawal via ATM, internal transfers, Point of Sale (POS) purchases, monthly bill payment, and refraining from making further purchases) and debit card customer satisfaction were positively correlated. Khaing (2019) also found that the majority of respondents were satisfied with the Myanmar Citizens Bank's debit card service.

Credit card service has a positive and significant relationship on customer satisfaction. Hai et al. (2024) state that there is positive connection between credit card and customer satisfaction. The research also found that majority of adults own credit cards because of their range of benefits and element of service that provide satisfaction to customer. Reliability, empathy, approachability, and service quality assurance are some of the key factors that influence how satisfied customers are with the usage of credit cards. According to the Ahmad et al. (2019), The results showed that elements like credit card charges, error-free monthly bills, and effective customer service affect customer happiness. According to the report, in order to satisfy their consumers, credit card service providers should take great care of ensuring competitive credit card charges, error-free monthly bills, and highly advanced customer support. Dali et al. (2008) highlights that the element that significantly influences the satisfaction of Islamic credit card holders is the unusual ratio of bulk purchases. This indicates that allowing Islamic credit card holders to make bulk purchases at hypermarkets will increase their level of satisfaction. In order to ensure the satisfaction of their credit card holders, Islamic bankers should take advantage of this knowledge by forming an effective alliance with hypermarkets that sell in bulk and accepting their credit cards.

CHAPTER-V

SUMMAER AND CONCLUSIONS

This chapter provides a summary of the study's findings and research process. There are three sections that provide a summary of the entire chapter. The study and general research overview are summarized in the first section, the study's conclusion is derived in the second section, and implication are presented in the third section.

5.1 Summary

The goal of the present study was to determine the impact of e-banking service delivery on customer satisfaction in Nepalese commercial bank. E-banking also known as internet banking or online banking, has become an important part of mobile banking service. The primary objective of the study is to determine the impact provide by Nepalese commercial bank under e-banking service, as well as to investigate the relationship between independent variables (ATM, internet banking, mobile banking, debit card and credit card) and dependent variables and its impact on clients satisfaction in Nepalese commercial bank. This study used descriptive and causal comparative research designs. Primary data were analyzed using correlation and regression to determine the impact on customer satisfaction through the e-banking service delivery. In order to analyze the data, correlation and regression analysis were used and the sample survey will employ the five-point Likert scale technique.

A total of 392 samples were collected. Data was collected using primary sources, including a set of prepared questionnaires. The questionnaire are divided into two segments. The first part of the questionnaire included the respondent's personal information whereas the second section focused on the behavioral aspects of the bank's services. In the second part of the questionnaires, like scale questions were employed. In order to determine the result or outcome of the research project, the survey data was later coded, evaluated, presented, and integrated.

The research uses descriptive statistics, specifically regression analysis and correlation analysis estimated the relationship between independent variable e-banking service delivery by bank like ATM, mobile banking, internet banking, debit card, credit card and

dependent variable customer satisfaction. Regression and correlation analysis are analyzed through SPSS version 25 to understand the relationship between independent and dependent variables. This study shows that the majority of the respondents are agree to the impact of e banking service delivery provide by the bank which affect the satisfaction of the customers. The results of correlation analysis show that there is positive and significant relationship between each of the independent variable (automated teller machine, internet banking, mobile banking, debit card and credit card service) and customer satisfaction. Thus, all the alternative hypothesis were accepted as their p-value was less than alpha i.e., 0.05.

5.2 Conclusion

The study analyze the relationship between of e-banking service and customer satisfaction of Nepalese commercial banks. Alone with that, the study had also identify the status of customer satisfaction level towards e-banking service provide by the Nepalese commercial bank.

According to the study's findings, the majority of female consumers are more inclined than male consumers to use online payment methods. In addition to having the ability to use online payment services, most online payment users are typically young, energetic adults between 21-30 years. The majority of the consumer have been using online payment at least two time a day. Based on the survey result, the majority of the respondents agree that there is significant impact on customer satisfaction by using e-banking service provided by the bank.

Similarly, the finding declared that mobile banking service has the lowest variation of 0.598 and credit card service has the highest variation of 0.738. This study indicates that mobile banking services have been offered by financial institutions in Nepal more frequently than other services and customer are more satisfied with that. Likewise, the study reveals that there is positive correlation coefficient between all the e-banking service delivery (automated teller machine, mobile banking, debit card, internet banking and credit card) and customer satisfaction. It shows that if the quality of e-banking services is improved, customer satisfaction will increase as well.

In conclusion, e-banking services help customers be more satisfied, reducing waiting time to get bank services, and give them more control over their account operations.

5.3 Implications

The major implication to improve customer satisfaction from e-banking service delivery in Nepalese commercial banks is explain below:

5.3.1 Managerial Implication

The study's conclusions lead to the following recommendations for future improvements in Nepalese commercial banks' e-banking service delivery in order to meet the demands and expectations of their customers.

- i. According to the finding of this study, there is positive correlation between independent variable (automatic teller machine, internet banking service, mobile banking service, credit card service and debit card service) and dependent variable (customer satisfaction). Although, there are some issue that customer face while using e-banking service. So it is helpful for e-banking providers and banks to improve their service delivery to increase the satisfaction level of the customers.
- ii. The study observed that the daily withdrawal or transfer limit to be inconvenient while using e-banking services. Hence, to improve the customer satisfaction, banks should improve proper mechanisms for increasing daily withdrawal or transfer limits, as this leads to more comfort and satisfaction to the customer.
- iii. The study also found that majority of respondents found withdrawing cash from other banks' ATMs or transferring funds to other banks to be costly. To boost customer satisfaction, banks should maintain these costs low to attract price-sensitive customers.
- iv. The study indicated that some respondents are concerned about the security of their personal and financial information in e-banking, which has significant managerial implications. Thus, banks that want to increase their consumer satisfaction will invest more on advance security technologies like intrusion detection systems and encryption to protect sensitive data.

5.3.2 Future Resource Implication

This study has tried to address the relationship between customer happiness and the provision of e-banking services in Nepalese commercial banks. This study's findings provide a foundation for future research. The following are some possible further scopes of this research:

- i. The result of this study is based on the survey of commercial bank branches inside the Kathmandu Valley. Therefore, to incorporate wide geographical backgrounds of the respondents, additional research can be carried out by extending the survey outside the Kathmandu valley. Therefore, further research might be conducted by expanding the survey outside of the Kathmandu valley in order to reflect the respondents' diverse geographic backgrounds.
- ii. The sample used in this study is only primary data. For more practical outcomes, academicians are suggested to use secondary data as a sample.
- iii. The future research might be conducted by choosing more financial institutions such as financing firms and development banks, to acquire a broader understanding of the elements influencing client satisfaction with the provision of e-banking services.
- iv. This study only included five Nepalese commercial banks whereas further research might be conducted with all commercial banks in Nepal.
- v. The future researchers can improve this research by using different methods, samples, and variables, as well as changing the research strategy, such as conducting a comparative study.
- vi. The future research should include a large sample of consumers to assess how E-banking affects customer happiness and to determine the obstacles, strategies, and processes required to conduct this study.

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APPENDIX

Dear Respondent,

I am Nabina Bohara student of Shanker Dev Campus conducting a dissertation on "Impact of e-banking service delivery on customer satisfaction in Nepalese commercial banks" to meet the academic requirement for the Master Degree of Business Studies (MBS). I am very pleased to have you as my respondent and really grateful for your participation to this academic project. Your contributions will provide the most valuable information for sharing the findings of my research project. The provided information will be kept private and confidential and will only be used for the purpose of this research only.

Thank you!

Section 1: Demographic

Name (Optional)

1. Age of respondents
 - a) Below 20 year
 - a) 21-30 year
 - b) 31-40 year
 - c) Above 41 year

2. Gender
 - a) Male
 - b) Female

3. Education
 - a) SLC/SEE
 - b) +2
 - c) Bachelor
 - d) Masters

4. Occupation
 - a) Student
 - b) Unemployed
 - c) Employed
 - d) Self Employed

5. Marital Status
 - a) Single
 - b) Married

6. How long have you been using e-banking services?
 - a) Less than 1 year
 - b) 1-3 years
 - c) 3-5 years
 - d) More than 5 years

7. How frequently do you use e-banking?
 - a) At least once a day
 - b) At least 2 times a day
 - c) At least 4 times a day
 - d) At least 7 times a day

8. Which one is the main reason for you to use e-banking?
 - a) Better Information
 - b) Simplification of processes
 - c) 24 hour service
 - d) Limited time available

Section 2: Instrument Measurement

Indicate your level of agreement on the following statement by choosing the appropriate number using the key given below:

(Strongly Disagree=1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5)

Automated Teller Machine (ATM) service

S.N	Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	The ATM makes cash withdraw very convenient.					
2	ATM banking transactions are highly secure and safe.					
3	I am satisfied with the transaction fee charged by the bank for using an ATM card.					
4	ATM does not share my personal information with others.					
5	I am satisfied with ATM banking because of its 24x7 availability.					

Internet Banking Service

S.N	Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Internet banking is easy to used and time saving.					
2	Internet banking helps customers to complete transaction quickly.					
3	Internet banking is more affordable than traditional banking services.					

4	Internet banking is a cheaper way to conduct banking transaction.					
5	Internet banking does not share my personal information with others.					

Mobile Banking service

S.N	Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Mobile banking makes banking very convenient.					
2	Mobile banking is safe for transaction.					
3	Mobile banking is cheaper way to conduct banking transaction.					
4	I get the service of mobile banking 24 hour a day and 7 days a week.					
5	Mobile banking does not share my personal information to others.					

Debit card service

S.N	Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Transaction through debit card is secured.					
2	Transaction through debit card is reliable.					

3	Debit card is easy to carry.					
4	I find the charge for using debit card is reasonable.					
5	I get the service of debit card 24 hour per day and 7 days a week.					

Credit card service

S.N	Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I use credit card because it helps to buy in advance and pay later.					
2	Credit card is very convenient while travelling.					
3	I feel secured using my credit card for online transaction.					
4	Online/living expenses payment is easier.					
5	I get the service of credit card 24x7.					

Customer Satisfaction

S.N	Factors	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I am satisfied with the e-banking services provided by the bank.					
2	Internet and mobile banking services of the bank are secured and reliable.					
3	The interest rate and service charge					

	are reasonable.					
4	I feel confident in the security measures taken by the bank to protect my personal and financial information.					
5	I will strongly recommend other to use e-banking service.					

PAPER NAME

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