

**DIGITAL BANKING ADOPTION BY CUSTOMER OF  
COMMERCIAL BANKS IN NEPAL**

BY

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# **RECOMMENDATION**

## **CERTIFICATION**

We, the undersigned certify that we have read and hereby recommend for the acceptance by the School of Management, Tribhuvan University, a Graduate Research Project (GRP) report submitted by Laxmi Ghimire entitled “Digital Banking Adoption by Customer of Commercial Banks in Nepal” in a partial fulfillment of the requirements for the award of Master of Business Administration in Information Technology of Tribhuvan University.

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## **DECLARATION OF AUTHENTICITY**

I, Laxmi Ghimire, declare that this GRP is my own original work and that it has fully and specifically acknowledged wherever adapted from other sources. I also understand that if any time it is shown that I have significantly misinterpreted material presented in SOMTU, any credits awarded to me based on that material may be revoked.

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Laxmi Ghimire

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## **ABBREVIATION**

AI	Artificial Intelligence
ATM	Automated Teller Machine
BFI	Banks and Financial Institutions
CONV	Convenience
EDI	Electronic Data Interchange
EFT	Electronic Fund Transfer
ERP	Enterprise Resource Planning
ICT	Information and Communication Technology
IT	Information Technology
KYC	Know Your Customer
PCRED	Perceived Credibility
PEOU	Perceived Ease of Use
POS	Pot of Sale
PSOS	Payment Service Operators
PSPS	Payment Service Providers
PU	Perceived Usefulness
QR	Quick Response
SMS	Short Message Service
TAM	Technology Acceptance Model
UPI	Union Pay Integration

## **EXECUTIVE SUMMARY**

The adoption of digital banking as a platform for carrying out banking services has continued to rise globally. Advances in information technology and telecommunication have certainly introduced new delivery channels for Nepal commercial banks products and services. On the other side, Covid-19 has become the topic of concern worldwide. The corona virus has a wide-reaching effect on e-commerce, technology, business travel, and the economy. Moreover, after the pandemic, social distancing and staying home is further expected to push the consumers towards adopting digital banking activity. The researcher adopted Technology Acceptance Model which is used to predict adoption of technology innovations.

Primary data were collected through online questionnaire for the research purposes and 380 responses were collected regarding the same. The type of study group were existing and potential customers of various diverse group who use digital banking services all over Nepal. The researcher found that most respondents were male where the current age group between 26-40years and academic qualification of bachelor's degree has highest percent using digital banking services by using SPSS, data collected through survey questionnaire can analyze and result obtained are discussed in the form of table.

The study was guided by the following specific objectives: to analyses the effect of perceived usefulness on adoption of digital banking, to evaluate effect of perceived ease of use on adoption of digital banking, to assess the effect of perceived credibility on adoption of digital banking, to investigate the effect on convenience on adoption of digital banking. The results show that Perceived Ease of Use, Perceived Usefulness, reliability and convenience significantly influence consumers intentions towards adoption of digital banks.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Innovation and technological growth are at the heart of digitization, which calls for a culture shift within banks and other financial organizations. Because it affects user interfaces, the development of electronic banking has massive implications for banks' marketing (Dootson, 2016). The shift to digital banking as a result of changing customer behavior presents a challenge for banks, particularly in terms of service delivery. After the financial crisis of 2000, capturing and retaining customers, as well as improving profitability, become critical (Monferrer-Tirado, 2016).

Over the last few years, Nepal has seen a shift toward digital banking. People are increasingly using mobile phones to access banking services. According to the most recent Nepal Rastra Bank statistics, higher than nine millions of people in Nepal utilize m-banking. Because most banking transactions now go easily due to mobile banking apps. Banks now have a better understanding of ever-changing customer preferences and tastes due to digital banking. Insights into customer behavior have enabled the development of more targeted, relevant, and informed digital media strategies. All types of electronic banking are referred to as digital banking. Because of the rapid progress of information.

For consumers who use electronic banking, the reliability dimension is critical (Polatoglu, 2001). Internet self-efficiency, including internet skill, will have an impact on their decision to use electronic banking (Lichenstein, 2006). The ease of navigation increases the likelihood of acquiring loyal customers; however, from completing the desired transaction, and as a result, they may not visit the financial entity. A website's navigability is determined by its ease of use, usefulness, and the amount of customers were able to save time during their contact (Weaven, 2007).

Digital banking can be as the use of electronic delivery channels for banking product and service and is a subset of electronic finance. Modern and traditional banking services are delivered automatically, quickly, and effectively through electronic and communication means. A key factor in raising service delivery standards in the banking sector is the system that customers utilize to access accounts, conduct

business, and acquire information. Offering small-value and retail banking products and services through digital channels is known as e-banking. Taking deposits, lending, managing accounts, giving financial advice, accepting electronic bill payments, and providing other electronic payment products and services, like electronic money, are a few examples of such products and services. According to S.H. Manzoor introduction of Electronic banking has undergone a revolution and a redefinition, and the number of banks that provide financial services online is steadily rising (Manzoor, 2011).

Studies have looked into the potential connection between consumer demographics and how e-banking has evolved. This connection is discovered to be just as important in deciding its adoption as the psychological elements. To carry out banking operations such money transfers, bill payments, account balance checks, mortgage payments, buying financial instruments and certificates of deposit, digital banking uses the internet as the delivery channels (Mohammed, 2009). Digital banking is also known as electronic funds transfer (EFT). The main concept behind it is to transfer money straight from one account to another instead of carrying cash or using checks by using electronic techniques.

With Digital banking, At any moment during the day, consumers can use an ATM to withdraw cash or pay accounts using a debit or credit card. Electronic banking refers to all electronic delivery methods as a whole. Automated teller machines, mobile banking, and online banking are the three primary categories of digital banking. Security notifications are provided via mobile and internet banking so that customers are immediately aware of any activity on their account. when an account's credit or debit transactions are successfully completed, notifications are immediately delivered to the client's mobile phone or email address. Additionally, daily balance alerts for bank accounts are available. Laxmi Bank was the first to introduce mobile banking in Nepal. In 2004, it introduced a mobile (SMS) banking service. Since then, Nepal has seen a steady increase in the use of digital banking. 9.8 million people have signed up for mobile banking thus far. Compared to other Asian nations, digital banking is somewhat less prevalent in Nepal, yet it is expanding fast. The majority of banks in Nepal offer mobile banking services to their customers. In addition, many commercial

banks (Class A banks) in Nepal have more than 100,000 users who have downloaded their applications, and this figure is constantly increasing.

Recently Internet is not only being used for communication and information sharing purposes, but also as a basis for shopping and commercial transactions. Hadadi mentioned that "the internet has changed the behaviour of the customers, who now demand more customized products/services at a lower price.". Additionally, even well-established brick and mortar banks are seeing pressure on profitability from increased competition from pure internet banks. However, only a small number of banks have been successful in creating strategies that fully utilize the potential provided by the Internet. Nevertheless, with increase in ecommerce, will requires banks to transform into digital banking format to be competitive in the globalization. Most of the time, online purchases require payment by credit card or bank account transfer and no physical cash is presented for payment..Thus, technology known as a digital wallet makes online shopping easier, simple, and faster by using web vendor or Smartphone's. The banking system has embraced new technology and the waiting in long queues is something of the past, with the introduction of e-wallet is the latest safe, simple, and faster method of money transactions in Nepal via mobile phones. The latter above- mentioned brought some joy and relief to the internet banking users especially the youth as they prefer to send and received money via mobile phones.

One of the main drivers influencing today's business transformations is technology, which is creating more information- and system-oriented business and management processes, new commodities, services, and market opportunities. Even though online banking services are much less expensive for banks, they are more prepared to offer them to their customers. However, the acceptance and success of internet banking services is completely reliant on the potential users - bank account holders (Chandio, 2011).

## **1.2 Statement of the problem**

In Nepal, almost all the banks adopt the branch-based retail banking service. Because of the geographic condition, this approach is the most suitable one in the countries like Nepal.

Now-a-days digital banking is rapidly growing and changing the way of doing businesses and providing services too for the personal finance and other banking service. In the Nepalese case also, most of the commercial banks are trying to introduce digital banking to improve their operations and to minimize the cost. Though they are providing such services customers are unaware of that kind of service. So, there is a great need to know the perception of customers and their intension to use the digital banking so that in future it would be more beneficial for the bank management as well as the customers to minimize the cash transaction and get the better services from the bank. Many banks in Nepal are providing different online services in the form of ATM, internet banking, mobile banking and so on, but people are not ready to accept these services. They have an ATM card and internet banking facilities and still they are very afraid to use these services like ATM. Instead, they are still motivated to use the traditional retail banking through ordinary checkbook and cash transaction.

It is a well-known fact that all the people and companies in Nepal are late adopter, regarding technological adoption and implementation. Most of the countries in Asia and Middle East also have faced the same kind of problem. Since 23 April 2004, Nepal has registered to the World Trade Organization, all the services like banking, government and other should be strong enough to make international standard and maintain the customer Trust on it. To make the service better, the adoption of new technology and technology advancement is the only option for the bank also. As compared to developed countries like Europe, USA, people from Nepal are far beyond the access of new technology and infrastructure. People are late adopters in every aspect of technology and services.

As mentioned by Hasan, the general problems that developing countries face are the same for Nepal (Hasan, 2005). Which are as follows:

- Security and privacy are the main reason to accept the new technology, means that in the underdeveloped and developing country, many banks and financial institutions don't adopt the highest secure system and their infrastructure is not that enough to provide security and privacy.
- Lack of computer literacy and internet accessibility. Because of the low education literacy rate, training needed to use internet and



computer and information technology infrastructure makes it difficult to adopt the new technology.

- Lack of government policies and regulation for the banking sector to provide different new and innovation banking services like internet banking.
- Broken and slow internet connection means that there is no stable internet service available, and mostly the internet service is available to the city's areas only.
- High construction and management costs for banks' websites as well as connection fees for customers. Since there is not any mechanism to provide internet to the customer from the government side, people have to buy the internet from the private service providers so it will cost very high. And on the other side, vendor for the service to the banks also very expensive.
- Particular cultural and religious concerns that affect how people behave as consumers in the area.
- Privacy issues as well as worries about data and network security, which make customers lose faith in businesses.
- Customers are hesitant to use internet banking because they believe that any inaccuracy or mistake could result in a financial loss..
- Lack of services and internet awareness, customer is still not confident with using ATM cards, Mobile banking, or other online services.

### **1.3 Research Questions**

This research is the outcome of the study and research on digital banking in Nepal. This research aims at addressing the usage and adoption of digital banking. This research will be based on the perception of the customers in the Nepalese banking system that have been conducted in Nepal. It aimed at finding out the number of customers using digital banking or banking services like ATM, mobile banking, internet banking. With the rapid development in technology and infrastructure in the communication sector in Nepal, now many people have mobile phone and communication accessibility.

With the new service and demand, the taste of customer may have changed, with the growing use of technology and communication devices the perception of digital banking and perception of internet might be changed. It would be better to study their intention and perception towards the use of digital banking and provide some recommendation which can add contribution to the existing knowledge on study of customer perception and their intention.

This research leads to the primary question:

- To what extent the use of digital banking and its adoption prevail in Commercial Banks in Nepal?
- How is the relation between different factors that affect the implementation of digital banking?
- What are the influencing variables for effective adoption of digital banking services in Commercial Bank of Nepal?

#### **1.4 Objectives of the Study**

The objective of this research is to identify and analyze the determining variables for the adoption of digital banking in the Commercial Bank in Nepal:

- To assess the use of digital banking and the adoption of digital banking in Commercial Banks of Nepal.
- To examine the relationship between factors affecting the implementation of digital banking and its adoption
- To identify the most influencing variables for effective adoption of digital banking services in Commercial Bank of Nepal?

#### **1.5 Research Hypothesis**

The term "hypothesis" (plural: "hypotheses") refers to a specific, verifiable prediction of what the researcher believes the study's results will be. This usually entails outlining a potential correlation between the independent and dependent variables (McLeod, 2021). (Davis, 1989) argue that "Prospective users could think that a system is too complicated to use and that the performance advantages of utilizing the program are overshadowed by the effort of using the application, even if they think

the application is valuable". The two beliefs are equally important and are basic determinants of user behavior towards adoption of digital banking.

*H<sub>1</sub>*: There is positive significant relationship between perceived usefulness and adoption of digital banking.

Perceived Usefulness (PU) is defined here as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1985). According to earlier studies, utility is the subjective possibility that utilizing a new technology would enhance how a person completes a specific activity.

*H<sub>2</sub>*: There is positive significant relationship between perceived ease of use and adoption of digital banking.

Perceived Ease of Use (PEOU) refers to "the degree to which a person believes that using a particular system would be free of effort of physical and mental effort" (Davis, 1993). Acceptance of the information system is significantly influenced by TAM perceived usability according to (Singh, 2012). According to the research on the relationship between PEOU and PU, "from a causal point of view, the regression results suggest that ease of use may be an antecedent of usefulness, rather than a parallel, direct determinant of usage" (Davis, 1985). This implies that if online banking systems are easy to use.

*H<sub>3</sub>*: There is positive significant relationship between perceived credibility and adoption of digital banking.

Perceived Credibility is "the belief that the promise of another can be relied upon even under unforeseen circumstances" particularly, Prior to service subscription, perceived credibility has a big impact on consumer acceptance because customers often avoid service providers they do not trust (Singh, 2012). Credibility implies that the user is comfortable knowing in and aware of the consequences of using an electronic application that is free of any associated risk, including information risk, financial risk, physical risk, functional risk, social risk, time-loss risk, and social risk. As a result, security and privacy are 2 important dimensions of perceived credibility. " For a bank to keep up its positive reputation and inspire clients' faith in its services, credibility is regarded as essential". This implies that the high level of credibility will

help mitigate the customer's concerns and provide assurance that transactions are secure (Kazi, 2013).

*H<sub>4</sub>*: There is positive significant relationship between perceived convenience and adoption of digital banking.

Convenience (CONV) is the degree in which the “customer’s attitude towards acceptance of a new information system has a critical impact on successful information system adoption argued by (Singh, 2012).” Numerous aspects, such as technology, security, convenience, familiarity with new technologies, and prior personal banking experiences, affect how consumers see e-banking services.” The most important aspects of the convenience of Internet banking services appear to be increased efficiency and 24/7 access, and convenience focuses on time and effort to transactions worldwide, as indicated by (Williamson, 2006). As people become more genuinely worried with their time and leisure, the convenience aspects of digital banking will be increasingly valued by (Kazi, 2013) was cited by (Devlin, 1995). Many people perceived time as money and are not willing to spend more time on doing banking transactions. Thus, there is high likelihood to adopt a system that saves time and efforts to do transactions.

In order to determine the relationships between the dependent and independent variables in this study, four hypotheses have been developed. These hypotheses were drawn from the theoretical framework of the study:

- *H<sub>1</sub>*: The adoption of digital banking and perceived usefulness are positively correlated.
- *H<sub>2</sub>*: The adoption of digital banking and perceived ease of use are positively correlated.
- *H<sub>3</sub>*: The adoption of digital banking and perceived credibility are positively correlated.
- *H<sub>4</sub>*: The adoption of digital banking and perceived convenience are positively correlated.

## **1.6 Significance of the Study**

Digital banking is the way doing banking transaction through electronic machines. Digital banking can manage all our banking needs 24 hours a day, 7 day a week with online banking. We can make financial transaction from anywhere, where the internet service is available. Online banking has a long history of emphasizing client convenience, such as having our paycheck directly transferred into our banking account and having it available that day rather than having to wait until the check clears. Online banking financial transactions include automatic bill paying in addition to receiving automatic deposits.

It is hoped that the adoption of this study's findings recommendations is to contribute to the effort towards the adoption of e-banking, identify best practice in offering e-banking products as well as constraints that impede growth to draw relevant policy implication. They can then use this information to decide whether to employ e-banking as a competitive tool to expand their branch network, profitability, and operational options without spending money on brick and mortar.

The Nepalese Commercial Bank will be in a position to offer its clients high-quality services and even entice more to spend in both it and other financial organizations. The banking industry in Nepal will also have a standard for evaluating the effectiveness of its financial operations and electronic banking services. Additionally, the bank customer will gain from this research report because they will able to complete their transactions from the convenience of their homes or places of employment, reducing time and assets. They will learn more about how to use electronic banking to complete bank services. The study will provide the government with the knowledge they require to create policies and manage their finances successfully, leading to effective regulation. The majority of individuals in Nepal might not be familiar with the digital service system. This study will therefore enable students to learn more about the electronic banking services that are available to them. While the bank will benefit from this study report's advice if they want to increase their financial performance and E-banking capabilities. And other researchers who are interested in this area of my research in the future will utilize my research.

## **1.7 Limitations of the study**

The research is done and to optimize the ability to achieve the research objective. However, there are some constraints that do not validate the research but made to be acknowledged.

1. Various factor affecting internet banking this study is focused on only present scenario and performance of bank through e-banking in Nepal.
2. The study has been done with limited volume of population sample and findings of the study cannot be fully generalized, as study that is more rigorous.
3. The study's convenience sample impairs its objectivity because it ignores the opinions of bank executives, whose voices should be heard in future studies.
4. Even though the research was concerned with internet banking which includes mobile banking, the research was only limited to bank customers who uses internet banking and non-users excluding the mobile phone users.

The study focused on customers of internet banking services provided by Commercial banks of Nepal. The Commercial Banks selection criteria are explained in the Research methodology chapter.

## **1.8 Structure of the Study**

The study is into three sections: the preliminary section, the main body of the report, and the appendices. The preliminary section includes the title page, certification, declaration of authority, table of contents, list of tables, list of figures, acronyms used, and executive summary.

The body of the paper is divided into five chapters: an introduction, related literature and theoretical framework, research methodology, analysis, findings and discussion, and conclusion and implications. The report's last portion contains references and appendices.

The first chapter of the study's body covers the research's introductory part. This chapter covers the study's background, description of the problem, development of

research objectives and hypotheses, scope and relevance of the inquiry, definitions of terms related to augmented reality, limitations, and study structure.

The second chapter is devoted to a conceptual assessment of the literature on augmented reality. In addition, the chapter contains the study's theoretical background.

The third chapter discusses the study's research methodology. This chapter covers the research design, demographics and sample, data collection sources and methodologies, and data analysis.

The survey's analysis and conclusions are discussed in the fourth chapter. It contains a number of tables and data about digital banking users' analysis and how it effects on adoption of digital banking.

Finally, the study's discussion, conclusion, and implications are presented in the fifth chapter.

## **CHAPTER TWO**

### **RELATED LITERATURE AND THEORETICAL FRAMEWORK**

The chapter reviews and discusses adoption of digital banking studies, by the customer of commercial bank. There are four sections in the chapter. The first one gives a general review of digital banking adoption and the state of it in Nepal. The second section delves into the many perspectives on Technology Acceptance Model and previous studies on Digital banking applied TA. The topic's research gap is discussed in the third section, and the study's theoretical framework is discussed in the fourth section.

#### **2.1 Conceptual review**

##### **2.1.1 Digital banking adoption**

The role of information technology in the banking sector has a greater effect on perceived service quality in public, private, and foreign banks, where innovative products and services by banks will necessitate more improvement in services offered to customers. Nowadays, the world is moving toward technology, and without technology, the bank cannot even think new products and services. Customers can perform banking transactions through Cash machines, Internet Banking, and Mobile Banking, allowing banks to reach a diversified consumer base across geographies. Digital banking is one of the fastest growing financial practices today, and it can be defined as a bank's provision of information or service to the customers (Giannakoudi, 1999). Digital banking services are critical to banks' long-term survival in the world of electronic trade (Burnham, 1996).

Technology has altered businesses and business relationship issues. Through supply chains, autonomous structures, outsourced manufacturing, and contract warehousing and delivery, this has made it possible to restructure design, marketing, production, delivery, and services. Technology development has sparked sophisticated digital transformation, which is not just limited to tech-savvy corporations but has also been adopted by large, established high-tech organization (Idiegbeyan- ose, 2015). The digitalization process is a sequential procedure that is patterned just following the archiving, access, and management processes. The author furthermore figured out some digitalization processes, which include the following (Satyendra, 2016).



**Starting the project and the beginning process:** It entails the preliminary preparations made before to the digitization process, such as purchasing the necessary gear, training the necessary personnel, and recruiting them to produce the necessary digital information.

**The process of initiation and the start of the project:** It entails the preliminary preparations made before to the digitization process, such as purchasing the necessary gear, training the necessary personnel, and recruiting them to produce the necessary digital information.

**Document and activity selection for digitization:** After that, the hard copy documents are sorted and chosen in order to be digitalized. Additionally, it entails establishing deadlines for completing specific tasks related to the digitization process. No need to alter the physical formats of the papers would exist if manual procedures had never been employed.

**Conversion Process:** This is the actual process of putting all the necessary technology in place and converting paper documents into machine-readable format.

**Editing, Access, and Maintenance:** This entails going over the existing digital documents to look for mistakes, enhancing the usability of the access points, and setting up the right procedures and strategies for routine maintenance. It is crucial to understand that when digitalization operations are implemented, maintenance comes first in order to prevent a system breakdown or unexpected loss of all data.

With the introduction of the credit card, the Automatic Teller Machine, and ATM networks in the early 1970s, the banking industry experienced an information technology revolution, particularly in terms of distribution channels. Telephone banking, cable television banking, and the development of personal computer banking in the late 1980s and early 1990s came after this. Many banking tasks that were formerly handled over the counter through physical channels can now be conducted through electronic channels according to information technology (Giannakoudi, 1999).

The implementation of digital banking services is made possible by the bank's standing in terms of dimensions, recognition, and trust. A customer's knowledge of

internet banking and its benefits, as well as the amount of information they have available to them, may have a significant impact on whether or not they choose to use it (Fink, 2005). Gan showed in previous research that user input variables depend on control, enjoyment, and intention to use (Ganetal, 2006). The degree of effort and participation expected of customers when using electronic banking could be referred to as control.

The ability to adapt, technical self-efficacy, and experience with the internet banking program have all been proven to be significant, suggesting that individual characteristics determine the adoption decision (Thornton, 2001).

Elements Impacting Consumer acceptance of Online Banking in India to examine at the factors that influence the adoption of internet banking. Digital banking is effect by perceived reliability, perceived usability, and perceived convenience of use, the authors' partial least square (PLS) model for internet banking successfully demonstrated. When advertising online banking services, marketing experts should emphasize the opportunities that their adoption offers, and awareness may also be raised to draw more customers to the platform.

Factors that influence digital banking adoption among intellectuals was analyzed by (Muzividzi, 2013). In spite of banks' best attempts to market the technology, online banking adoption has been sluggish, according to this study. The goal of the project was to pinpoint the elements that influence the uptake of digital banking in an effort to come up with solutions. The study concentrated on experts in technology who are more knowledgeable than the general public. At Chinhoyi University of Technology, a total of 5000 students and academic workers were surveyed and interviewed to gather data. From the population, 450 students and employees were chosen as a sample. The study discovered a number of variables that impose restrictions and promote the uptake of online banking. The two main ones were marketing exposure and a breach in transaction security

The financial system has been attempting to learn more about the factors that motivates customers to perform their financial transactions online (Gerrard, 2003). The use of e-banking by consumers is being thoroughly researched by a number of academics (Sayar, 2007). Additionally, clients who use electronic banking benefit

from superior business conditions like cheaper commission rates, dependable service quality, and time-saving advantages in addition to having access to financial services at any time and from any location (Yu, 2008).

### **2.1.2 Status of Digital Banking Adoption in Nepal**

A notion of self service banking was introduced in the 1980s and later powered by ATMs as a result of the development of the internet and computer technology. With the growth of the internet, banks began to provide banking services, which allowed customers to see their bank statements by just logging in online. Banks began to offer mobile banking services after technology began to move toward smart phones and mobile data. It took approximately 53 years for Nabil Bank Ltd. to provide credit cards in the early 1990s, following the creation of Nepal Bank Ltd. in 1937, the country's first bank to begin operations. Himalayan Bank Ltd. played a leading role in the development of e-banking in Nepal with the introduction of automated teller machines (1995) and tele-banking. Customers had to wait over 65 years for internet banking after the first bank, banking sector, and bank were established. The Kumari Bank Ltd. launched online banking in Nepal for the first time in 200. In Nepal, despite the advent of internet banking ten years ago, this method of banking is still not widely used. Even though the major cities like Kathmandu, Pokhara, and Biratnagar have decent internet infrastructure and the majority of banks offer internet banking in urban areas, the majority of bank customers do not use it yet. According to a study, there are around 200,000 internet users in Nepal, 50% of whom are located in the Kathmandu valley. However, only a little over 3,000 (1.5%) internet users use internet banking. One study indicated that most banks in Nepal have adopted ATM service for e-banking, and mobile banking is becoming more and more popular, but internet (computer-based) banking is still not available.

The use of voice-based AI (Artificial Intelligence), robot-based basic banking services at branches, the use of robot advisers for banking and financial services, etc. are all current emerging trends in banking services around the world. In Nepalese banks, Pumori is the first and most used banking software system. In the 1990s, financial services began to go digital. Debit/credit cards, ATMs, digital banking, and mobile banking were all introduced during this decade; all of these services later rose and were integral to all types of banks' financial services.

The base of clients using digital banking services is growing in Nepal as a result of the expansion of the internet and smart phones. This has assisted in the availability of banking services through a digital platform, which has considerably elevated the regard and benefit of banks. This has decreased the friction associated with financial services and ensures that customers receive services immediately. However, Nepalese banking services are just just beginning to go digital. The Nepalese banking industry still has a lot of room for growth and making these services available to a wider range of bank customers.

Due to their accessibility and utility, mobile banking apps are becoming more and more popular. Most crucially, servicing a client through mobile banking is far less expensive than servicing through branch banking from the perspective of a bank's finances.

Digital banking services were initially primarily used to review account statements. Customers lacked a good understanding of the functions and usage of digital banking. The widespread adoption of digital banking technologies takes a very long period. The use of the Internet and smartphones has become widespread these days. Customers can now conduct banking transactions online and via mobile devices.

Banks in Nepal offer the following digital and ICT-based delivery channels: (Khalti, 2018)

### **1. Internet Banking**

Customers who participate to internet banking using this service are able to conduct banking transactions from a range of devices, including PCs, laptops, and cell phones. Customers may be able to monitor their account information, exchange money between accounts, and pay bills depending on the service the bank offers. Subscribers can also get in touch with the bank to ask for specific banking services. In 2002, Kumari Bank Limited introduced the country's first internet banking service, which is now provided by the majority of commercial banks. As of mid-September 2018, the Nepalese financial sector has 8,34,302 internet banking users.

## **2. Mobile Banking**

Customers who are using this service are able to perform bank transactions utilizing a portable mobile device. Message transactions are often transmitted to the bank's system by SMS via a mobile handheld device. This service typically provides a range of services, such as bill payment, mobile top-up, financial transfers, account information views, and communication with the bank. In Nepal, this service was originally established by Laxmi Bank Limited in 2004, and the majority of class "A" banks now provide it. In Nepal, there were 50,86,069 users of mobile banking as of mid-September 2018.

## **3. Plastic Cards**

Another popular electronic banking channel is this one. Prepaid, debit, and credit cards are all types of plastic cards that can be used. These cards can be used, among other things, to extract money, pay bills at ATMs and POS terminals, and make purchases online. The magnetic stripe on the back of the plastic card, which formerly stored data, is being replaced by the chip-based, more secure EMV card. In 1990, Nepal Arab Bank Limited (now NABIL bank) became the first commercial bank in Nepal to distribute plastic cards as credit cards. As of the middle of September 2018, Nepal had 96,816 subscribers to prepaid cards, 55,44,253 users to debit cards, and 1,04,721 subscribers to credit cards. Banks in Nepal often provide plastic cards.

## **4. Point-of-Sale and Automated Teller Machine**

An ATM is a tool for taking out cash, but it can also be used to pay bills. Himalayan Bank Limited first made it available in Nepal in 1995. The number of installed ATMs is increasing every day, and as of mid-September 2018, there were 2,791 ATMs. An integrated shared network of ATMs was created after the launch of SCT 2001. By accepting various device kinds and acquiring standards, this network is facilitating interoperability of ATM. Furthermore, there is a VISA network that enables use of a card from one bank in an ATM from a different bank.

## **5. Branchless Banking**

It is now easier to communicate with those who reside in remote places without access to bank offices thanks to this relatively new electronic banking service. Customers can use the Point of Transaction (POT) machine provided by a bank or its branchless banking agent to access their bank accounts, transfer money to other accounts, extract money from their accounts, and make payments for the purchase of goods and services.

Both plastic branchless banking cards and biometrics can be used to access the service. The most typical biometric authentication process uses a fingerprint. As of the middle of September 2018, there were 1,30,660 branchless banking members and 1285 branchless banking locations.

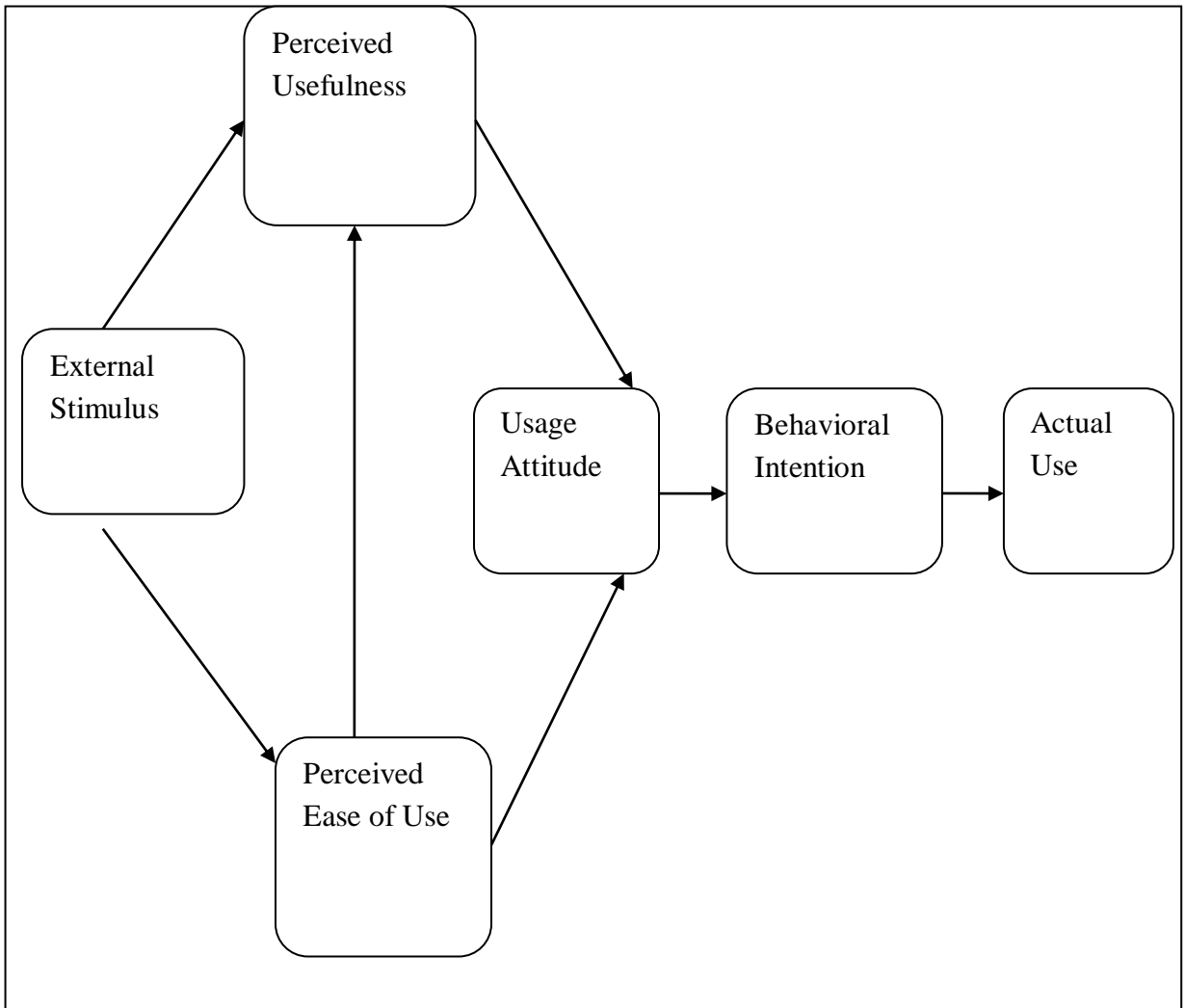
## **6. Mobile Wallets**

The newest and most popular e-banking product in Nepal is this one. This enables users to store money in their mobile phone even if they don't have a bank account. This is a method of payment for both products and services. Users of this product have the option of loading funds from their bank accounts. Customers who do not have bank accounts have been able to receive financial services thanks to this offering. This can be an excellent instrument for financial inclusion as Nepal has a high mobile device adoption rate and the geographic topography makes it challenging to build banks and bank offices.

Banking services using QR codes have gained popularity across the globe thanks to IT providers. Along with UnionPay International, Nabil Bank has introduced a QR (Quick Response) Code Payment Service.

## 2.2 Technology Acceptance Model

The lack of verified measurement scales to forecast users' adoption of information technologies led to the development of the TAM as a solution. The argument put forth in this perspective is that "the research has been limited by the lack of high-quality measurements for important determinants of user acceptability and Past research reveals that many metrics do not correlate substantially with system use." (Fred, 1989). Figure 1 shows the Technology Accepted Model (TAM), which details the informal correlations between system design characteristics, perceived utility, perceived usability, attitude toward use, and actual usage behavior (Davis, Acceptance of TPC Scale -Validity and Reliability Study, 1993). According to the TAM model, there are two key factors that affect how and when people will employ new information system (IS) technologies. Perceived utility (PU) and perceived usability are these TAM factors (PEOU) (Chandio, 2011). Users' adoption of recommendation technology depends on a number of factors linked to their experience using the system, including the positive aspects of the interaction and the potential that they would use a web application regularly. According to Armenta, "People will use an application if they think it will help them perform a given task better than when they don't use the application. And even if consumers believe a given application is useful, if the application is challenging to use, then the perceived benefits of using the application are outweighed by the effort needed to use it." TAM was considered as an effective tool for teaching and learning (Kazi, 2013). The advantage of TAM is its utilitarian, technological focus, which might make it easy to ignore the impact of a customer's social and psychological perspectives about the adoption of a technology. Lack of awareness of individual differences is a criticism in TAM (Prasad, 1999). The original TAM does not adequately take into account factors like prior experience, age, gender, and a range of other psychological factors that may influence attitudes toward technology and, in turn, influence intent to use.



*Figure 1: Technology Acceptance Model  
(Source: Adapted from (Davis, 1993)).*



### 2.2.1 Previous studies on internet banking applied TAM

Table 1:

*Literature Review Matrix*

<b>Authors</b>	<b>Major Findings</b>
Kabeer, 2013	investigated the influencing factors on Pakistani higher education students' willingness of using Internet banking services. Four independent variables were employed in the study's theoretical framework, which was adapted from the Technology Acceptance Model (TAM). The study's findings showed that students' intentions to use Internet banking were significantly positively impacted by convenience, perceived credibility, and perceived utility.
Emmanuel, 2011	examined Cal Bank, Unibank, and Prudential Bank's impact on the Ghanaian banking industry as a result of Internet banking. According to the study's findings, "the future holds a lot of promise for internet banking in Ghana, but is confronting hurdles, including the issues with internet access, the high cost of implementation, security concerns for clients, and perceived customer readiness."
Hosein, 2010	Identify the areas where banks could make changes or improvements to their offerings to boost the uptake of internet banking in China. According to the study, internet banking's perceived usefulness scored at 61.3 percent, while its ease of use scored at 51.6%. The study does, however, suggest in the Mid west region bank would have a greater chance of raising the adoption rate of IB customers by improving the ease of use. In summary, the study showed that consumers who use the Internet and have some prior experience doing so have increased the use of internet banking services.

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Fida Hussain Chandio, 2011	<p>By creating and examining an amalgamated model of the causes and effects of people's beliefs on OBIS acceptance, study factors can be used to determine how user acceptance of online banking information systems in Pakistan is influenced.</p> <p>The TAM alone is insufficient to describe people's acceptance behavior, hence the OBIS model was an expansion of the TAM. The theory of reasoned action (TRA) and the theory of planned behavior were integrated in the model (TPB). Eight primary characteristics, including perceived usefulness, perceived usability, trust, technical self-efficacy, response speed, output quality, accessibility, and terminology clarity, were used to gauge the OBIS's adoption.</p>
Haneen A. Abu-Assi, 2014	<p>Examined the elements that affect Jordanian internet-accessible clients' adoption of e-banking. The study's conclusions demonstrate that adoption of internet banking is positively influenced by compatibility, perceived usability, security, and perceived utility impact. The most crucial element for the adoption of internet banking was perceived simplicity of use, which received the highest score.</p>
Shahram Gilaninia et al, 2011	<p>Studying the Behavioral Factors That Influence How People Use Internet Banking Services in the Melli Bank, Iran, and Ardabil. The findings showed that customers are more likely to use electronic banking services because of how easy, useful, and secure they believe those services to be</p>

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Australia's use of internet banking has been the subject of research on banking consumer experiences. According to the study's findings, convenience outweighs a host of other important factors that banks may choose to influence when encouraging customers to do their banking online. The study found that companies can better control customer attitudes toward new internet service applications if they acknowledge that these experiences involve more than just the adoption of new technology and the growing importance of offering extensive levels of customer support for such services.

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### 2.3 Factors affecting adoption of Digital banking

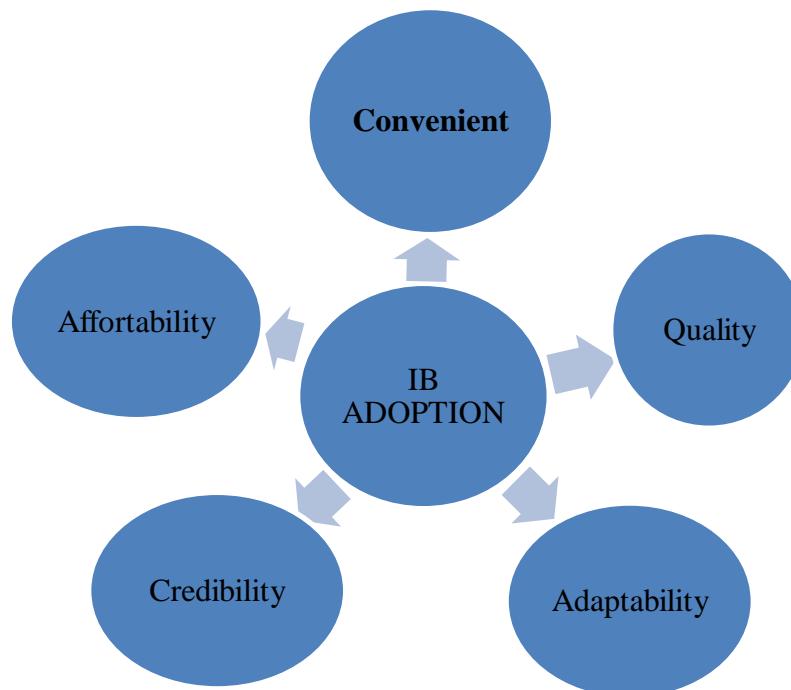


Figure 2: Digital Banking Adoption Factors

- **Convenient**

Several research have found convenience as a crucial adoption factor, as demonstrated by (Lichenstein, 2006). Numerous studies have revealed that

24/7 accessibility and time savings are the primary drivers of internet banking. According to, "the adoption of internet banking has also been linked to high levels of office internet use" (Hosein, 2010).

- **Service Quality**

For internet banking, it's crucial to provide customers with services of the highest caliber. The factors that determine high-quality internet services are numerous. Speed of delivery, usability, dependability, enjoyment, privacy and security, and control over the service are some of these factors. Customers overestimate the processing time of services because they are concerned with how quickly a service is offered. Time is an important aspect in the delivery of services, and clients who use internet banking need to save time.

- **Credibility**

Concerns about security, privacy, trust, and risk may influence consumers' decisions regarding online banking. As the security concerns for both the consumer and the bank have increased with the recent rise in Internet banking traffic. Customers' confidence in utilizing online banking information systems is significantly boosted by the security of their accounts and the prevention of any fraudulent transactions, according to (Chandio, 2011). The logical conclusion is that either the companies involved in digital business must increase the level of confidence and trust they provide to their customers, or new technologies must be developed with robust built-in features to protect people's privacy and the security of the digital business transaction (Katsikas, 2005). The most crucial aspect of internet banking is privacy since users need to feel safe and certain that their personal data and information is secure. According to some, the use of information technology can result in security risks, criminal activity, the loss of important business data, and damage to a company's or brand's reputation. (Chandio, 2011). Generally, customers prefer to do internet banking through secured websites of reputable institutions. (Chandio, 2011) define in the context of online banking and commerce, "trust as a willingness to be vulnerable and 'positive expectations about the activities of the other party' are especially vital." According to (Katsikas, 2005), For Internet-based digital business to achieve levels of acceptance equivalent to traditional commerce, trust must be included into electronic transactions.

Clients will feel comfortable sending the bank sensitive information like personal and financial details via the internet since they trust the bank. According to (Katsikas, 2005) Trust must be ingrained in electronic transactions for Internet-based digital business to enjoy the same levels of acceptability as traditional commerce. Because they trust the bank, clients will be at ease providing the bank with sensitive information like personal and financial details via the internet according to (Singh, 2012). Consumers' perceived trust in online banking is defined as their confidence that their expectations will be met when handling electronic transactions. It is described as the person's view of the system's security, the service provider's reputation, privacy loss, and risks-related issues related to relying on internet banking. The criteria for e-commerce security center on the need to protect the privacy, availability, and integrity of information and systems, as well as the veracity of communicating parties and non-repudiation of transactions, as recommended by (Katsikas, 2005).

- **Adaptability**

It has been discovered that adaptability, technical self-efficacy, and understanding of online banking applications are significant, indicating that personal traits influence the adoption decision (Lichenstein, 2006). Ramsay found the demand for control over service delivery to be crucial, while habit may also be a factor.

- **Affordability**

The factors affecting the uptake of digital banking is affordability. Internet banking has two types of costs: the standard rate of an internet and the bank's fees and charges for IB services. The two things going for them: first, internet connectivity is necessary for online banking transactions, therefore there is a perception that internet costs or charges are high; second, there are little bank fees and costs for online banking activities.

## **2.4 Benefits of Digital Banking in Commercial Bank of Nepal**

It is evident that internet banking provides a numerous of benefit for both banks and their customers.

## **Bank Benefits**

- **Save time and Cost** - In terms of money, work, time, and all other resources required to complete a transaction, it offers convenience. "Banking services can be accessed quickly, easily, and at any time via the internet. Internet banking has cheaper overhead expenses than traditional banking because there are fewer premises to maintain and fewer salaried personnel involved", according to (Emmanuel, 2011).
- **Efficiency**- By giving their clients access to the internet, banks may increase their efficiency even further. Because consumers can serve themselves online, there is no need for front-line workers, and the bank can save money by cutting back on staff, branch space, and consumable costs like paper, ink, and other stationery. As a result, the system is virtually entirely paperless (Hosein, 2010).
- **Enhance products and Services** - Internet banks are able to provide consumers with innovative goods and services as well as very alluring incentives thanks to the decreased operating expenses.
- **Customer Service and Satisfaction**- Customers who conduct their banking online have access to a comprehensive range of services as well as others that are not available at any of the locations. It is not necessary for the person to visit a branch where that service may or may not be provided. Instead of standing in line and asking a teller, a person can quickly search for information on the Internet, print information, forms, and applications, and conduct efficient information searches. A bank will undoubtedly be able to improve customer satisfactions and relationship with better and faster solutions. Internet banking, according to (Hosein, 2010) can help banks retain customers by facilitating the collection and management of customer relationship data (CRM).

**Increase customer base**- Since customers seeking the adaptability and consistency given by digital banking would be drawn to banks offering the finest facilities, internet banking presents potential for attracting new customers (Hosein, 2010). Banks may bring in new clients for a small portion

of what it costs to bring one into a high street branch by marketing to them online.

- **Image-** If a bank offers Internet access, it gives the impression that it is more cutting-edge and technologically sophisticated. Having access to Internet banking even if one does not wish to use it gives one the impression that their bank is cutting edge.
- **Mobility-** removes limitations based on location. There are no time restrictions or geographic limitations while utilizing internet banking. E-banking is a global phenomenon that enables anytime, anywhere, and any way banking. Remote places where traditional banks have not been present physically are now receiving services thanks to mobile phone banking. Now that accounts can be opened, balances can be checked, bills can be paid, money can be transferred, and subscribers may meet their daily needs
- **Heighten competition between banks** – It enables clients to select from the top banks' goods and to enter new markets.
- **Customers' benefits**

(Chavan, 2013), suggest some advantages of internet banking for customers as follows:

- **Cost-effective-** Lower costs for utilizing and obtaining financial services. Customers profit greatly from internet banking since it saves them money, time, and space, responds quickly to complaints, and provides better services. These advantages also make using the internet convenient. (Munusamy, 2012).
- **Time and comfort improvements** - 24 hours a day, transactions can be completed without having to visit the bank in person.
- **Continuous and quick access to information** – Businesses will have easier availability to information because they may check on several transactions at once.
- **Improved money management** - The availability of a wide range of cash management tools on bank websites boosts business process efficiency and speeds up the cash cycle. It also lowers crimes like cash heists.

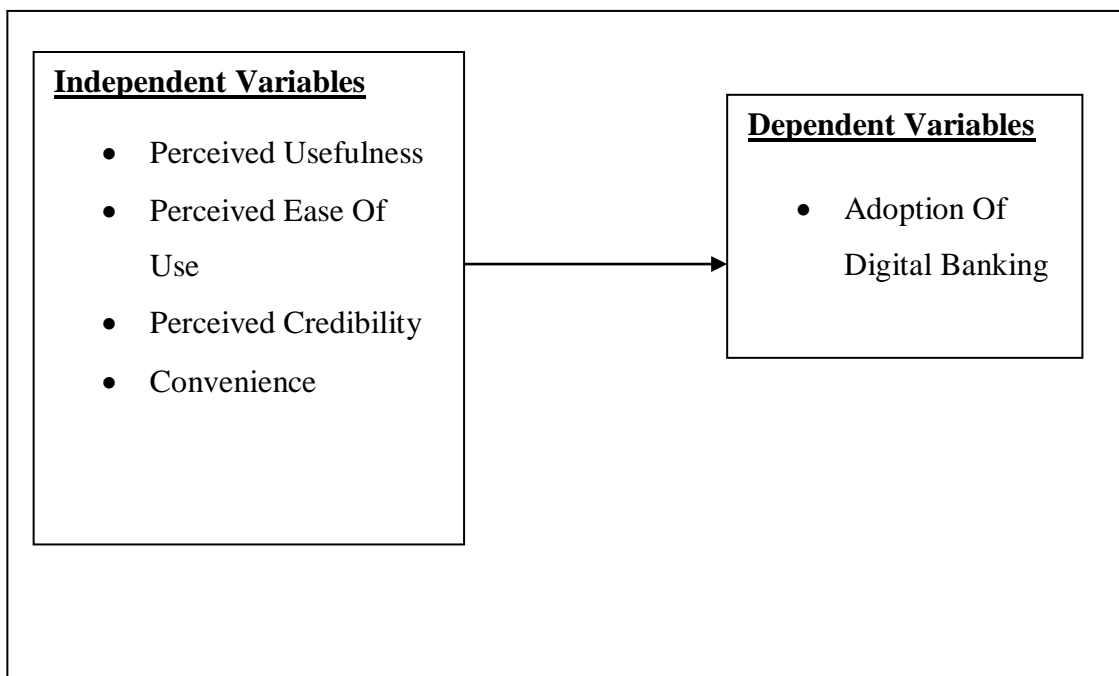
- **Lower expenses-** This relates to the price associated with obtaining and using the various financial services and products. Compared to branch banking, internet banking has lower transaction costs.
- **Convenience** - Anywhere a consumer chooses, including their home or office, they can conduct all of their financial transactions. Consumers can easily and affordably access banks through banks. In circumstances where e-banking has been adopted, the convenience of conducting banking outside of branch official operating hours has proven to be crucial according to (Kwashie, 2012).
- **Quickness** - Because the medium responds quickly, customers can put off completing a fund transfer or other services until the very last second.
- **Managing finances-** Before making any online purchases, customers can extract the data of their various accounts and perform a "what-if" study on their personal computer. This will improve financial management..

## 2.5 Conceptual Framework

A study framework serves as the foundation for considering what to accomplish and what it means while being impacted by the opinions and academic work of others. A framework can assist in illuminating the rationale behind a study's choice of methodology. It can also assist us in comprehending and utilizing the thoughts of those who have carried out identical actions. Framework can be compared to a road map. The conceptual model listed below was created using the literature review as a guide. The mentioned literature is heavily incorporated into the model. This study specifically looks at a number of online banking characteristics, including accessibility, dependability, convenience, privacy, and security, as antecedents for the adoption of digital banking.



The following study framework model is suggested with reference to the above mentioned literature review in order to close the research gaps. The following theoretical framework, which is shown in figure 3, is suggested with regard to literature review in order to close the research gaps (Kamutuezu, 2016).



*Figure 3: Theoretical Framework of the Study*

The independent factors and dependent variables linked to this study are all displayed in the study framework. The link between the variables employed in the current study is explained by this framework. Credibility, utility, usability, convenience, and demographic factors were taken into account while analyzing customer satisfaction with digital banking.

**Dependent Variable:** The dependent variable represents the output or outcome whose variation is being studied. In this study adoption of digital banking is a dependent variable.

- **Adoption Of Digital Banking**

The four independent variables of usefulness, usability, credibility, and convenience are all dependent on adoption of internet banking. The latter aspects will affect users' decisions regarding whether to utilize internet banking and will influence their decision. In summary, respondents strongly

agreed with the results that all four independent variables are crucial to the use and uptake of internet banking.

**Independent Variable:** The independent variable is known as repressor in statistical context, which represent inputs or causes i.e. potential reason for variation. However, there are various dimensions of digital banking service but this study considered usefulness, ease of use, convenience and credibility as the major attributes of digital banking service.

- **Perceived Usefulness**

The most important element in user acceptance of a system is perceived usefulness. The efficiency, efficacy, and overall advantages of the system in terms of enhancing user performance are all factors that influence how useful people consider it to be. The primary principle of TAM is that acceptance of technology, which is determined by two cognitive criteria, mediates people's usage of it, perceived usefulness and perceived ease-of-use. Hence, it refers to how much a human thinks utilizing technology would enhance the quality of his or her work. Therefore, users are more likely to want to adopt a technology the more valuable it is.

- **Perceived Ease Of Use**

How simple it is to use a technological process display and access it is related to perceived ease. According to Davis' Technology Acceptance Model (TAM) model, which he first proposed in 1986, users' perceptions of a system's usability are one of the most important elements in determining whether they would embrace it. The degree to which consumers think a certain technology will relieve them of effort is how Davis defined ease of use. In other words, people are likely to use a system if they perceive it to be friendly. The primary tenet of the TAM is that a person's acceptance of technology, which is influenced by two cognitive factors—perceived usefulness (PU) and perceived ease of use (PEOU)—mediates their usage of it (PEOU)

- **Perceived Credibility**

Perceived Credibility is the conviction that another's word can be trusted, even in unexpected situations. Prior to signing up for a service, perceived credibility

has a big impact on consumer acceptance because people tend to avoid service providers they don't believe. Credibility implies that a user has confidence in and is aware of the hazards associated with using an electronic program that is free of all associated risks, including risks related to money, health, function, social interaction, time lost, opportunity cost, and information. Security and privacy are thus two vital components of trustworthiness.

- **Convenience**

The level of "customer's attitude toward adoption of a new information system" is called convenience (CONV). It is claimed to have a significant influence on the adoption of information systems. Numerous aspects, including technology, security, convenience, familiarity with new technologies, and prior personal banking experience, influence how consumers feel about using e-banking services. The ease of digital banking services appears to focus on time and effort to complete transactions, with time savings and 24/7 access standing out as the most significant benefits. As people grow more cognizant of their free time and leisure activities, the convenience features of digital banking will be valued more and more. Many people consider time to be valuable and are unwilling to spend more time performing banking tasks. Thus, adoption is highly likely

## **2.6 Research Gap**

Commercial banks are under attack from non-banking competitors and the demand of globalization to improve the value of their services. Understanding exceptional performance and therefore aiming for it starts with asking what motivates performance. This study on the effects of electronic banking is the first to be conducted on the subject; no research on the subject has been examined in Nepal. The study attempts to close the gap by analyzing and determining the effects of e-banking as a delivery method on Nepal's commercial banks. Even though banks are working to implement e-banking services in Nepal, there are still some issues that must be resolved to encourage effective and efficient banking operations. However, These e-banking concerns have not received much attention from researchers. This study makes an effort to close the knowledge gap and complete the body of prior research on electronic banking in Nepal. It is widely unknown how electronic banking affects

Nepali banks' financial performance, and many individuals are unaware that the same institutions provide convenience through e-banking. This study sought to fill a knowledge gap among researchers and bank account holders in Nepal by reporting on the history and advancements made over the years in addition to studying them. Additionally, this study makes suggestions for enhancing the nation's electronic financial services.

This research aims to close that gap. The study's objective is to determine the elements that may have an impact on customers' willingness to adopt digital banking in Nepal. The paper analyzes important elements that influence a user's choice to use digital banking services in Nepal.

## **CHAPTER THREE**

### **RESEARCH METHODS**

#### **3.1 Introduction**

The methods utilized to carry out the study are provided in this chapter. It outlines the numerous steps and procedures taken to complete the study. It describes the methods and approaches that were employed in the data collection, processing, and analysis. (Sayar, 2007) There were sections on the target population, sample design, data collection, and data analysis, as well as the research design.

#### **3.2 Research Design**

The goal of research design is to gain an answer to the research question and to control variation. It includes the plan, structure, and strategy for the investigation (Kerlinger, 1980). The research's main program or design is known as the plan. A research design articulates the problem's structure as well as the plan of inquiry used to gather data or establish connections between the difficulties. A plan for data collection and use that enables a researcher to sufficiently test their hypothesis or to gather the needed information with accuracy is known as a research design. To ensure that the data was accurate and thorough, this study used a variety of techniques (Wetherbe, 2012). Two different approaches—descriptive and analytical—have been used to perform the study. The descriptive method has been used mostly for conceptualization

#### **3.3 Description of Sample**

##### **i. Population**

Since this study was to explain the adoption of digital banking by customer of commercial bank. The target population for this study is the customer of commercial bank.

##### **ii. Sample Size**

The researcher distributed 380 questionnaires. Hence the sample size of this study is 380 respondents. This sample represents the whole population of the study. The study area includes all over Nepal.

### **iii. Sampling Techniques**

To collect the data, the research questions were distributed to diversified age of people. However, most preferred age was all the age groups of people who uses a digital banking platforms. Similarly, due to time as well as resource constraint, this technique was appropriate for the study. Questionnaire were distributed to respondents in person whose email address were known to the researcher and through social website such as Facebook, viber and Instagram.

## **3.4 Instrumentation**

Using a self-administered questionnaire, data were gathered. The collection of written questions known as a questionnaire is used by researchers to gather and record the data they need to conduct their studies. Respondents provided answers to questions that were created to assess key study factors. Scales of measurement are used to evaluate the quality of the data once it has been collected. The study's questionnaire was collected from an article of (Falahat, 2019). Additionally, it came from the article of (Arsiwala, 2020). The questionnaire was similarly gathered from a variety of other articles.

There were two sections to the questionnaire. The questions in the first section pertain to the respondents' demographic profiles, such as their gender, age, education, and occupation. Questions measuring the independent and dependent variables make up the remaining portion. The questionnaires were distributed to the respondents through emails, Instagram and Facebook. The reason of the study was properly defined to respondents on the questionnaire page.

The survey included ranking questions on a five-point Likert scale. The Likert scale, which takes its name after its creator Rensis, is a popular rating system that asks respondents to express their level of acceptance or rejection with a number of statements. From 1 for "Strongly Disagree" to 5 for "Strongly Agree," each scale item response is categorized.

### 3.5 Data Analysis Methods

To analyze the data, responses were converted to Excel values and transformed the data into SPSS software. Researchers of all stripes utilize SPSS, or the Statistical Package for Social Sciences, to analyze complex statistical data. It is a powerful and easy to use software and a robust program for reporting and visualization. SPSS tool is used for the statistical calculation like Cronbach's alpha test, Correlation and Multiple Regression in this study.

#### 3.5.1 Descriptive Analysis

Using descriptive analysis, the demographic characteristics of the respondents, as well as the variables influencing the adoption of digital banking and the independent variable, were explain. In the computation, the variables were characterized using frequencies, percentages, mean, and standard deviation.

#### 3.5.2 Correlation Analysis

Correlation analysis can be used to determine the type and strength of a link between a set of variables. Pearson Spearman The relationship between the dependent and independent variables was explained using the correlation coefficient.

#### 3.5.3 Regression analysis

The influence of an independent variable alone or in conjunction with additional moderating variables on the dependent variable is determined using multi-linear regression analysis. The study's recommended regression model is as follows:

$$Y = \alpha + \beta_1X_1+ \beta_2X_2 + \dots + \beta_pX_p + e_i \dots \dots \dots (i)$$

where, Y = the predicted value of the dependent variable

X<sub>1</sub>,X<sub>2</sub>....X<sub>p</sub> = value of independent variables

α = value of Y when all of the independent variables (X<sub>1</sub>through X<sub>2</sub>) are equal to zero (Y-intercept)

β<sub>1</sub>,β<sub>2</sub>,.....,β<sub>p</sub>= the estimated regression coefficients (population slopes)

e<sub>i</sub>= Error Factor

Based on the above equation (i), the required multiple regression equation based model is

$$ADOP = \alpha + \beta_1 PU + \beta_2 PEOU + \beta_3 PCRED + \beta_4 C + e_i$$

Where, Dependent Variable:

$$Y = ADOP \text{ (Adoption Of Digital Banking)}$$

Independent Variables:

X1= PU = Perceived Usefulness

X2= PEOU = Perceived Ease of Use

X3= PCRED = Perceived Credibility

X4 = CONV = Convenience



## **CHAPTER FOUR**

### **ANALYSIS AND RESULTS**

#### **4.1 Introduction**

The data analysis and important results of the study are discussed in this chapter. Statistical techniques such as frequencies, chart, percentages, means, standard deviations, correlations, and regression analysis will be used to examine the respondents' data in SPSS. Similarly, to make the research more understandable, the results are tabulated and explained. Data analysis was used to put the study's hypotheses to the test. To satisfy the research objectives, data analysis was also performed.

#### **4.2 Digital Banking Users Analysis**

##### **4.2.1 Demographic Analysis of Respondent**

Demographic profile of respondents for this study incorporate gender, age group, occupation and the education level of the respondents. As stated earlier descriptive statistics summarizes the information of collected data. The Descriptive analysis contain graphs, tables as well numbers such as averages and percentages. Table 1 represents the demographic characteristics of the digital banking users of Commercial Bank.

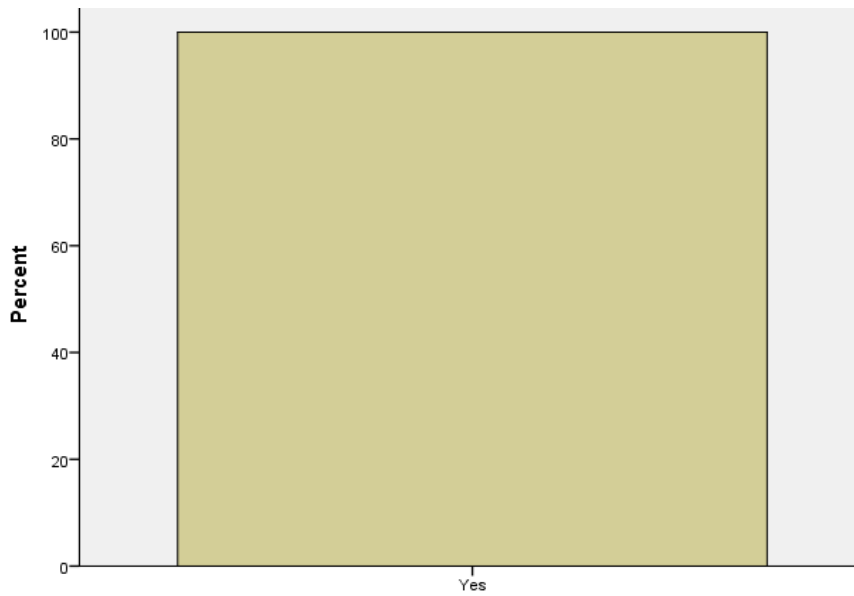
The gender distribution of respondents is 64.5 percent for male and 35.5 percent for female. This means that out of total 380 respondents 245 were male and 135 were female. The age group breakdown revealed that 88 respondents (23.2%) belong to age group of 18-25 years while the majority respondents were between 26-40 years which consist of 234 internet banking users (61.6%), and there were 58 respondents who were above the age of 40 representing 15.3 % of total 380 internet banking users sample for this study. In addition, the table shows the respondents' educational levels and occupation. 40.8 percent of the population holds a bachelor's degree while 38.2% respondents are involved in Private sectors.

Table 2:  
*Demographic characteristic*

<b>Variable</b>	<b>Classification</b>	<b>Frequency</b>	<b>Percentage</b>
Gender	Male	245	64.5%
	Female	135	35.5%
	Total	380	100%
Age Group	18-25 years	88	23.2%
	26-40 years	234	61.6%
	Above 40 years	58	15.3%
	Total	380	100%
Education	SLC	49	12.9%
	Plus 2	114	30.0%
	Bachelor	155	40.8%
	Masters	61	16.1%
	Above	1	.3%
	Total	380	100%
Occupation	Government Service	39	10.6%
	Private Employee	145	38.2%
	Self Employed	135	35.5%
	Student	61	15.8%
	Total	380	100%

*Source Survey Data (2022)*

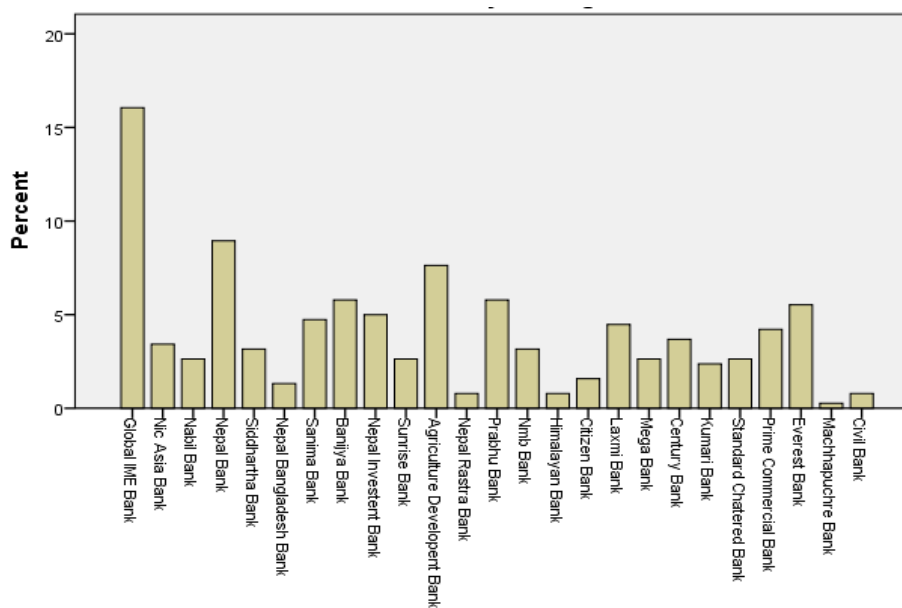
#### 4.2.2 Frequency Analysis of Respondent



Source Survey Data (2022)

Since, this thesis is related to the adoption of Digital banking by customer of Commercial bank. Here we have collected the data from the customer of commercial banks. So, all the 380 respondents use digital banking facilities.

#### Which Bank are you Using?



Source Survey Data (2022)

In Nepal, there are all together 27 commercial banks. But here i have collected a data from the 25 commercial banks. In this data, what we can notice is that among 380 respondents. Global IME Bank is used mostly by the respondents and its percentage is 16.1. And the least uses bank is the Machhapuchre Bank with 1 respondent and 0.8%. All banks provide equal digital facilities to its customers

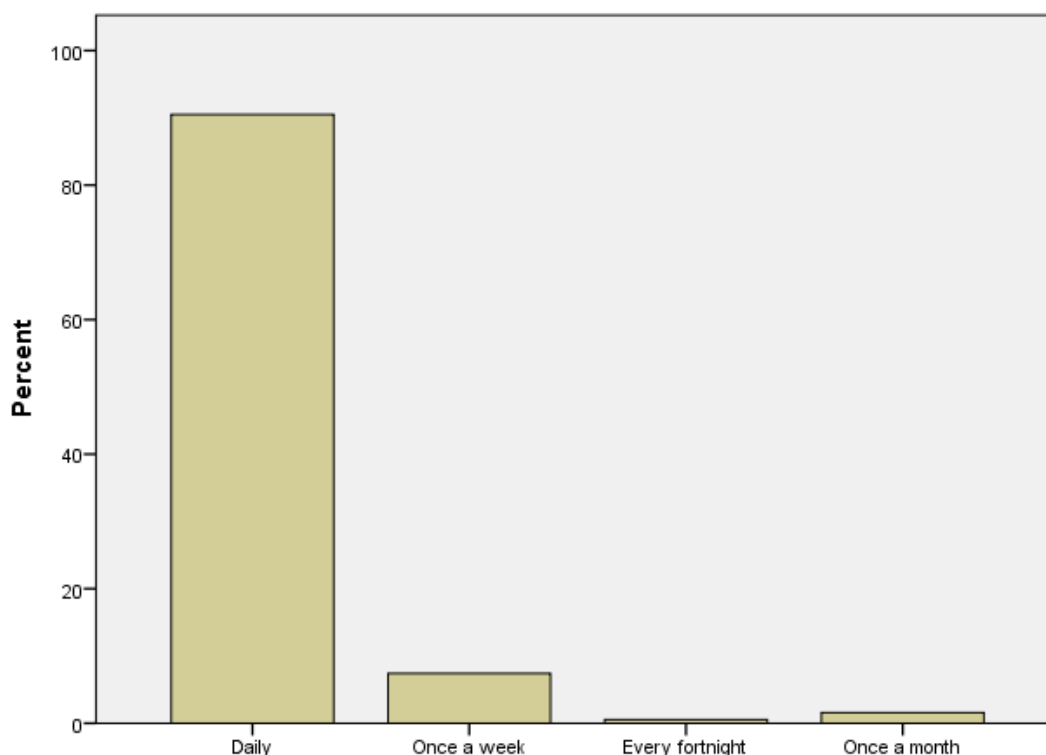
Table 3:

*List of Commercial Banks in Nepal*

<b>Commercial Banks</b>	<b>Frequency</b>	<b>Percentage</b>
Global IME Bank	61	16.1%
Nic Asia Bank	13	3.4%
Nabil Bank	10	2.6%
Nepal Bank	34	8.9%
Siddhartha Bank	12	3.2%
Nepal Bangladesh Bank	5	1.3%
Sanmia Bank	18	4.7%
Banijya Bank	22	5.8%
Nepal Investment Bank	19	5.0%
Sunrise Bank	10	2.6%
Agriculture Development Bank	29	7.6%
Nepal Rastra Bank	3	0.8%
Prabhu Bank	22	5.8%
Nmb Bank	12	3.2%
Himalayan Bank	3	0.8%
Citizen Bank	6	1.6%
Laxmi Bank	17	4.5%
Mega Bank	10	2.6%
Century Bank	14	3.7%
Kumari Bank	9	2.4%
Standard Chatered bank	10	2.6%
Prime Commercial Bank	16	4.2%
Everest Bank	21	5.5%
Machhapuchre Bank	1	0.3%
Civil Bank	3	0.8%
Total	380	100%

*Source Survey Data (2022)*

## How often do you use the Internet?



*Source Survey Data (2022)*

Table 4:

*Uses of Internet by Respondents*

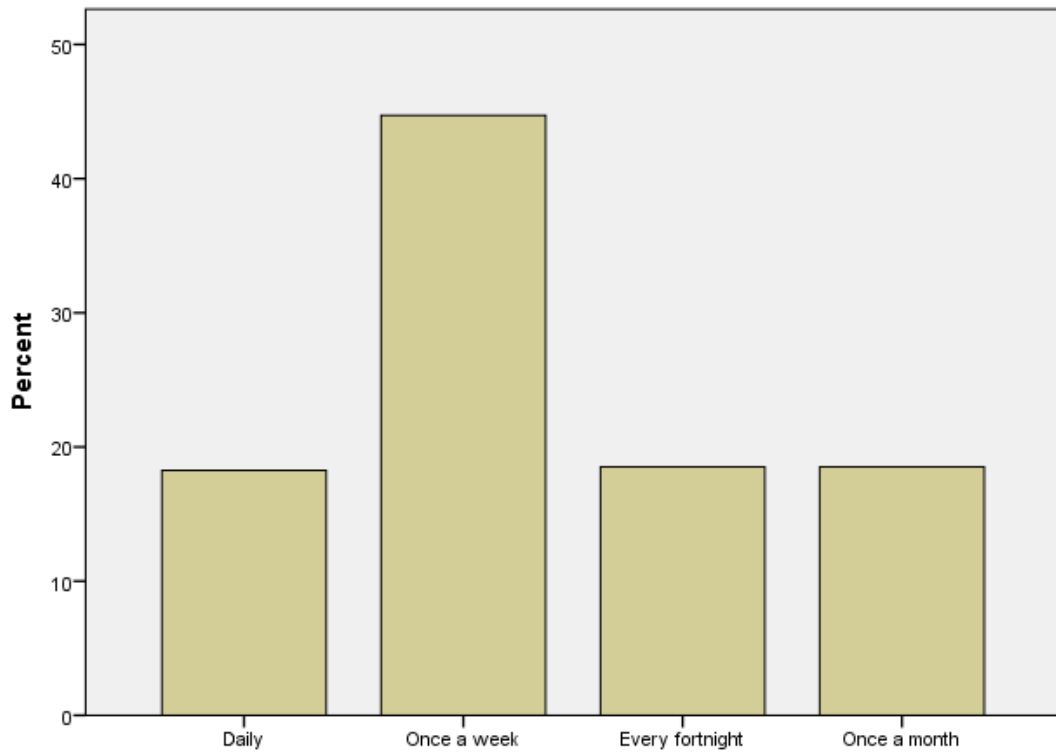
<b>Classification</b>	<b>Frequency</b>	<b>Percentage</b>
Daily	344	90.6%
Once a week	28	7.4%
Every fortnight	2	0.5%
Once a month	6	1.6%
Total	380	100%

*Source Survey Data (2022)*

The figure above indicates the frequency on how often respondents use internet. The frequency analysis in terms of usage of the internet is that 28 respondents (7.4%) indicated that they are using internet once a week, 6 respondents (1.6%) indicated that they are using internet once a month, 344 respondents (90.6%) indicated that they are

using internet on daily basis and 2 respondents (0.5%) indicated that they are using internet every fortnight.

**How often do you use the Internet for Banking?**



*Source Survey Data (2022)*

Table 5:  
*Uses of Internet for Banking purpose*

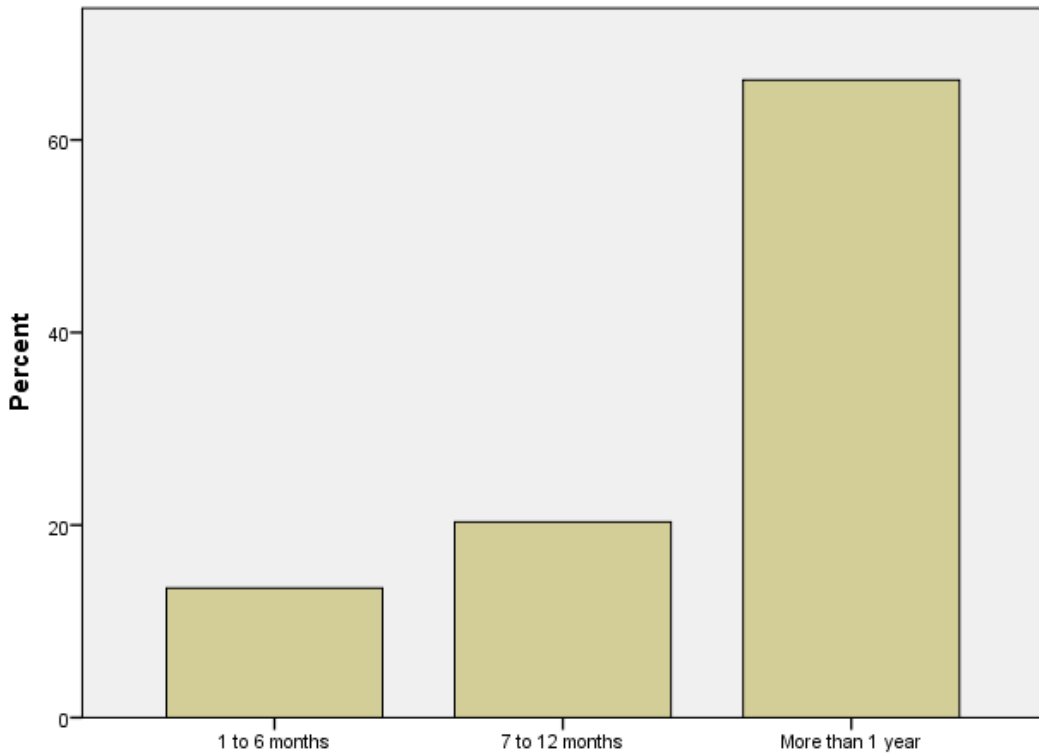
<b>Classification</b>	<b>Frequency</b>	<b>Percentage</b>
Daily	71	18.7%
Once a week	169	44.5%
Every fortnight	70	18.4%
Once a month	70	18.4%
Total	380	100%

*Source Survey Data (2022)*

The figure above indicates the frequency on how often respondents use internet for banking purposes. In terms of how often respondents use internet for banking purpose, 71 respondents (18.7%) indicated that they are using internet for banking

purpose on daily basis followed by 169 respondents (44.5 %) indicated that they are using internet for banking purpose once a week while 70 respondents (18.4%) indicated that they are using internet for banking purpose once a month and only 70 respondent (18.4%) indicated that she or he is using internet every fortnight.

**For how long have you been using the Internet for your Banking?**



*Source Survey Data (2022)*

Table 6:  
*Duration of using Internet for banking purpose*

<b>Classification</b>	<b>Frequency</b>	<b>Percentage</b>
1 to 6 months	52	13.4%
7 to 12 months	77	20.3%
More than 1 year	251	66.3%
Total	380	100%

*Source Survey Data (2022)*

In terms of length of usage of the internet banking facility, 251 respondents (66.3%) indicated that they have been using the internet banking facilities for more than a

year, while 52 respondents (13.4%) indicated that they have been using the internet banking facility between 1 to 6 months and finally only 77 respondents (20.3%) indicated that they have been using internet banking facility more than 6 months and less than a year.

### **4.3 Descriptive Analysis**

The descriptive analysis of the data gathered by the questionnaire during the research phase is covered in this part. A descriptive analysis is a type of statistical summary that quantifies and enumerates the characteristics of the information gathered. Instead of using the data to understand the population the sample data represents, it seeks to summarize the sample. Calculating statistical measures including mean, standard deviation, as well as maximum and minimum values, is a component of descriptive analysis. The SPSS output yielded a total of 30 questions, each with a unique mean score, maximum, minimum, and standard deviation. There were 380 answers for each question.

The four independent variables as Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, Convenience and Adoption of Digital Banking as dependent variables that were used for this study were measured on a five-point Likert Scale where 1 representing Strongly Disagree to 5 representing Strongly Agree. Values of mean less than 3 will indicate that there is inclination towards disagreement and value of mean above and equal to 3 will indicate that there is inclination towards agreement with the statements.

#### **4.3.1 Descriptive analysis of survey**

The response of the respondents with Perceived Usefulness, Perceived Ease of Use, Credibility, Convenience to use digital banking, Adoption is shown in the following table:



Table 7:

*Descriptive analysis of survey*

<b>Variables</b>	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
PU	377	1.00	5.00	4.19	0.72
PEOU	378	1.00	5.00	4.17	0.74
PCRED	378	1.00	5.00	4.17	0.74
CONV	378	1.00	5.00	4.25	0.72
ADOP	378	1.00	5.00	4.19	0.70

*Source Survey Data (2022)*

Table 6 depicts the minimum value, maximum value, mean, and standard deviation (S.D) of the variables. The mean of perceived usefulness towards adoption is 4.19(0.72) which states that the usefulness of the respondents towards the adoption of digital banking is better. The mean of perceived ease of use is 4.17 (0.74) which states that the ease of use of the respondents towards the adoption of digital banking is sophisticated to the respondents. The mean of credibility is 4.17 (0.74) which also states that the credibility to use digital banking of the respondents towards the adoption of digital banking is sophisticated to the respondents. The mean of convenience is 4.25 (0.72) which is the highest mean of all that stated variables. Likewise, the mean of adoption is 4.19 (0.70) which states that the respondents are well convinced to the adoption of digital banking by the Commercial Banks of Nepal.

### 4.3.2 Perceived Usefulness

Table 8:

*Perceived Usefulness*

<b>Code</b>	<b>Variables</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>S.D.</b>
PU1	The use of digital banking makes my transactions very fast.	380	1.0	5.0	4.21	1.08
PU2	The use of digital banking is saving time	380	1.0	5.0	4.02	0.83
PU3	Using the digital banking information system improves my performance of banking activities	380	1.0	5.0	4.27	0.89
PU4	The use of digital banking gives me control over my transaction	380	1.0	5.0	4.18	0.83
PU5	My bank offers all the services i expect	380	1.0	5.0	4.19	1.03
PU6	I find digital banking services useful	380	1.0	5.0	4.22	0.88

*Source Survey Data (2022)*

Table 7 depicts the minimum value, maximum value, mean, and standard deviation (S.D) of the variables. The mean of the PU1 is 4.21(1.08) which states that the use of digital banking makes the transactions very fast. The mean of PU2 is 4.02 (0.83) which states that the use of digital banking is saving time of the respondents. It contains the lowest mean among all the values. The internet banking information system's use enhances the efficiency of banking operations, according to the mean of PU3, which is 4.27 (0.89). It contains the highest mean among all the mean values. The mean of PU4 is 4.18 (0.83) which states that the use of digital banking gives control over the respondent's transaction. The mean of the PU5 is 4.19(1.03) which states that the respondent bank's offers all the services that they expect. Likewise, the mean of PU6 is 4.22 (0.88) which states that the respondents find digital banking services useful

### 4.3.3 Perceived Ease of Use

Table 9:

*Perceived Ease of Use*

<b>Code</b>	<b>Variables</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>S.D.</b>
PEOU1	Learning to operate the digital banking system would be easy for me	380	1.0	5.0	4.29	0.99
PEOU2	I would find it easy to get the digital banking system to do my banking	380	1.0	5.0	4.10	0.86
PEOU3	My interaction with the digital banking system would be clear and understandable	380	1.0	5.0	4.24	1.05
PEOU4	I find the digital banking system flexible to interact with	380	1.0	5.0	4.16	0.87
PEOU5	It would be easy for me to become skillful at using the digital banking system	380	1.0	5.0	4.23	0.89
PEOU6	I would find the digital banking system easy to use	380	1.0	5.0	4.16	0.88

*Source Survey Data (2022)*

The result in Table shows the descriptive statistics of perceived ease of use. Each of the 380 respondents submitted their response in five-point Likert scale. The table shows that the items have mean value ranging from minimum of 4.10 to maximum of 4.29. The table explains that the highest mean value is of code PEOU1 which states learning to operate the digital banking system would be easy for the respondent. Likewise, PEOU2 be the least mean value with 4.10 in which respondents find easy to operate the digital banking system. The mean value of PEOU4 and PEOU6 are same. The PEOU5 variables explains that it would be easy for respondents to become skillful at using the digital banking system.

Similarly, the statistics also explain about the standard deviation value. The highest range of value is 1.05 which represents code PEOU3, and the lowest range of the value is 0.86 this represent the code PEOU2.

#### 4.3.4 Perceived Credibility

Table 10:

*Perceived Credibility*

<b>Code</b>	<b>Variables</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>S.D.</b>
PCRED1	I don't notice any inconsistencies as I use digital banking	380	1.0	5.0	4.23	1.13
PCRED2	Overall, I trust digital banking	380	1.0	5.0	4.07	0.86
PCRED3	The digital banking information system is trustworthy	380	1.0	5.0	4.25	0.85
PCRED4	Whenever I make a mistake using the digital banking system, I recover easily and quickly	380	1.0	5.0	4.02	0.87
PCRED5	The digital banking system gives error messages that clearly tell me how to fix problems	380	1.0	5.0	4.24	0.98
PCRED6	I am confident of using digital banking even if there is no one around to show how to do it	380	1.0	5.0	4.19	0.87

*Source Survey Data (2022)*

The result in Table 9 shows the descriptive statistics of Perceived Credibility. There are six variables to measure the Perceived Credibility. Each of the 380 respondents submitted their response in five-point Likert scale. The table shows that the items

have mean value ranging from minimum of 4.02 to maximum of 4.25. The table shows that PCRED4 has the lowest mean value which is 4.02 and PCRED3 has the highest mean value which is 4.25. The highest mean represents the highest agreed statement on the overall trust to digital banking and the lowest agreed statement states that whenever respondents make a mistake using the digital banking system, it will recover easily and quickly

Finally, the table also shows the standard deviation that ranges from highest to the lowest for the highest range of standard deviation is at PCRED1 whereas the lowest range of standard deviation is on PCRED3.

#### 4.3.5 Convenience

Table 11:

*Convenience*

<b>Code</b>	<b>Variables</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>S.D.</b>
CONV1	I do digital banking because it is convenient	380	1.0	5.0	4.34	0.90
CONV2	Digital banking requires the fewest steps possible to accomplish what I want to do with it	380	1.0	5.0	4.18	0.79
CONV3	I can use digital banking without written instructions	380	1.0	5.0	4.31	0.96
CONV4	Digital banking does everything I would expect it to do	380	1.0	5.0	4.17	0.89
CONV5	Digital banking makes banking easier to get done	380	1.0	5.0	4.29	0.84
CONV6	Digital banking gives me more control over my banking	380	1.0	5.0	4.21	0.89

*Source Survey Data (2022)*

The result in table shows the descriptive statistics of convenience. There are six statements to measure the convenience. Each of the 380 respondents submitted their

response in five-point Likert scale. The table shows that the items have mean value ranging from minimum of 4.17 to 4.34. The table shows that CONV4 has the lowest mean value and state that digital banking does everything respondents would expect it to do, and the highest mean value is 4.34 and agreed that the digital banking is very convenient. The tables also have the highest degree of the standard deviation to the lowest degree of the standard deviation. The highest degree of standard deviation is 0.96 whereas the lowest degree is 0.79 respectively.

#### 4.3.6 Factors influencing the adoption

Table 12:

*|Factors influencing the adoption*

<b>Code</b>	<b>Variables</b>	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>S.D.</b>
ADOP1	Ease of use	380	1.0	5.0	4.33	1.03
ADOP2	Trust and relationship	380	1.0	5.0	4.07	0.86
ADOP3	Low service charge	380	1.0	5.0	4.22	0.90
ADOP4	Accessibility	380	1.0	5.0	4.11	0.82
ADOP5	Convenience	380	1.0	5.0	4.22	0.97
ADOP6	Security of transaction	380	1.0	5.0	4.21	0.89

*Source Survey Data (2022)*

The result of table shows that the mean value of statement: Consider ease of use is 4.33 (1.03) which indicates that the respondents agree with the statement. The mean value of statement: Trust and relationship is 4.07 (0.86) which shows that the respondents have trust and relationship with the adoption of digital banking. The mean value of statement: Low service charge is 4.22 (0.90) which means the respondents agree with the statement. The mean value of statement: Convenience is 4.22(0.97) which means the respondents agree with the statement. The mean value of statement: Security of transaction is 4.21 (.89) which shows that the respondents agree with the statement.

#### 4.4 Measurement of reliability

In this study, the consistency of item scales for continuous dependent and independent variables was assessed using Cronbach's alpha. The results of the reliability test of the Likert scale questions' alpha value are shown in

Table 13:

##### *Reliability Test*

<b>Variables</b>	<b>Cronbach's Alpha</b>	<b>No. of Items</b>
Perceived Usefulness	0.870	6
Perceived Ease of Use	0.904	6
Perceived Credibility	0.889	6
Convenience	0.903	6
Adoption	0.882	6

*Source Survey Data (2021)*

Table 12 displays the reliability statistics for the information received from the questionnaire survey. For perceived utility, perceived simplicity of use, perceived credibility, convenience, and adoption, respectively, Cronbach's alpha values are 0.870, 0.904, 0.889, 0.903, and 0.882. The figures show that the information obtained from the questionnaire survey is reliable enough to move forward with the analysis.

#### 4.5 Hypothesis Testing

In this section, first we assess the relationships among usefulness, ease of use, credibility, convenience and adoption by analyzing the variance between each variable, finding the correlation coefficients and then using multiple regression to identify effect of dependent and independent variables

##### 4.5.1 Correlation Analysis

A bivariate study known as correlation evaluates the degree of association and the direction of the relationship between two variables. Greater association between the two sets of data is indicated by a higher correlation value. A perfectly linear positive or negative relationship exists when the correlation is 1 or -1; when the correlation is 0, there is no relationship between the two variables; when the correlation is greater

than 0 there is a positive relationship; when the correlation is less than 0 there is a negative relationship.

### Correlation Matrix

In order to study the direction and strength of the relationship of the independent variables (PU, PEOU, PCRED, CONV) on the dependent variable (ADOP), Pearson Correlation coefficient was used.

Table 14:

*Correlation Matrix*

	ADOP	PU	PEOU	PCRED	CONV
ADOP	1				
PU	0.787**	1			
PEOU	0.795**	0.827**	1		
PCRED	0.795**	0.827**	1.000**	1	
CONV	0.790**	0.780**	0.769**	0.769**	1

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

*Source Survey Data (2021)*

Where, PU: Perceived Usefulness, PEOU: Perceived Ease Of Use, PCRED: Perceived Credibility, CONV: Convenience and ADOP: Adoption of Digital banking

The findings showed that, at the 1% level, all independent variables were strongly linked with the use of digital banking. At a significance level of 0.01 the Pearson correlation (r) value for perceived usefulness and adoption of digital banking was 0.790. This demonstrates a positive association between these two factors, indicating that the adoption of digital banking will increase as perceived usefulness rises.

The Pearson coefficient (r) value of perceived ease of use and adoption of digital banking was 0.780 with the value of significant r (2-tailed),  $p = .000$ . It indicates there is a perfectly linear positive relationship between these two variables. The perceived ease of use and adoption of digital banking was measured by the Pearson coefficient (r), which had a value of 0.769 and a significance level of r (2-tailed),  $p = .000$ . It suggests that these two variables have a fully linear positive connection.



The Pearson coefficient (r) value for perceived credibility and adoption of digital banking was also 1.000, with a significant r (2-tailed) value of  $p = 0.000$ . This demonstrates that adoption of digital banking and perceived credibility are positively correlated. As anticipated, there is a  $r = 0.769$  significant positive correlation between convenience and adoption of digital banking at the 0.01 level. It suggests that as convenience rises, so does the use of digital banking.

#### **4.5.2 Regression Analysis**

Only the presence of a substantial connection between two variables can be determined via regression analysis. A statistical technique for establishing the connections between variables in statistical modeling is regression analysis. The focus is on the link between a dependent variable and one or more independent variables, and it encompasses a number of techniques for modeling and evaluating multiple variables.

The only thing a correlation analysis can show is if two variables are significantly associated. Even though a correlation coefficient demonstrates a substantial relationship between two variables, it is impossible to pinpoint the specifics of that association. Regression analysis in this situation reveals more details regarding the relationship's slope. It is used to forecast outcomes and characterize the nature of a relationship. This section identifies the independent variable that best explains outcome variability and the amount of dependent variable variability that is significant (above other factors) in explaining dependent variable variability.

Linear regression analysis was conducted to detect the relationship between the independent variable (Perceived Usefulness, Perceived Ease of Use, Perceived Credibility and Convenience) and dependent variable (Adoption of digital banking). The advantage of conducting linear regression analysis included the ability to evaluate multiple independent variables that simultaneously affect the dependent variables. It provides us with more information about the slope of the relationship.

#### **Multiple Regression Model**

$$Y = \alpha + \beta_1PU + \beta_2PEOU + \beta_3PCRED + \beta_4CONV + e_i \dots \dots \dots (i)\text{-Model}$$

Where,

Dependent Variable:

$$Y = \text{ADOP (Adoption of digital banking)}$$

Independent Variables:

$$X_1 = \text{PU=Perceived Usefulness}$$

$$X_2 = \text{PEOU=Perceived Ease Of Use}$$

$$X_3 = \text{PCRED=Perceived Credibility}$$

$$X_4 = \text{CONV=Convenience}$$

$$a = \text{Constant}$$

$$E_i = \text{Error term}$$

The major factors of respondents' use of digital banking were found using multiple regression analysis. Adoption of digital banking is the dependent variable, while the independent variables are attitude perceived usefulness (PU), perceived ease of use (PEOU), perceived credibility (PCRED), and convenience (CONV) (ADOP). Table 14 presents the outcomes of the present study's multiple regressions.

Table 15:

*Result of regression analysis of PU, PEOU, PCRED, CONV*

Coefficients Model	Summary				ANOVA			
	B	Std. Error	T	p-value	R Square	Adj. R Square	F	Sig. F
(Constant)	0.399	0.122	3.276	0.000	0.732	0.730	34.123	0.000
PU	0.268	0.053	5.070	0.000				
PEOU	0.766	0.030	25.349	0.000				
PCRED	0.287	0.287	5.780	0.000				
CONV	0.346	0.346	7.633	0.000				

*Source Survey Data (2021)*

Adoption of Digital Banking (ADOP) = 0.399 + 0.268PU + 0.766PEOU + 0.287PCRED + CONV0.346.... (ii)- Model 2 The positive association between independent factors and dependent variables is shown in model 2 by the equation. The table demonstrates that each model's p-value is less than 0.05 at the 1% level of

significance, providing ample proof that these models are effective. In the range of possible values for the independent variables in the sample data, the fitted all-regression model is helpful in predicting the value of the dependent variable. When the other independent variables stay constant, the data shows that for every 1 unit change in customer usefulness regarding the adoption of digital banking changes by 0.268 units. Similarly, adoption of digital banking changes by 0.766 units for every 1 unit change in perceived ease of use, while the other independent variables remain unchanged. Furthermore, assuming the other independent variables stay constant, adoption of digital banking varies by 0.287 units for every 1 unit change in perceived credibility. Furthermore, adoption of digital banking fluctuates by 0.346 units for every 1 unit change in convenience, while the other independent factors remain constant.

With a value of 0.766, perceived ease of use (PEOU) has the largest influence on adoption of digital banking, according to the graph. Then there's perceived usefulness (PU), perceived credibility (PCRED), and convenience (CONV), all of which have coefficients of 0.268, 0.287, and 0.346. The p-value for all independent variables (perceived usefulness, perceived ease of use, perceived credibility, convenience) is less than 0.05. So, there is the impact of perceived usefulness, perceived ease of use, perceived credibility, and convenience on adoption of digital banking. Having sound Perceived usefulness is positively related to adoption of digital banking. Similarly, the perceived ease of use also indicate that it has positive relation on adoption of digital banking.

Besides, the model without any moderating variables has R square ( $R^2$ ) = 0.732 and adjusted R square (Adj.  $R^2$ ) = 0.730 which depicts that independent variables can explain 73.2% of dependent variable. Higher the value of correlation coefficient, higher will be the percentage of variation explained. The table also exhibits the ANOVA summary between the dependent and independent variables. F value gives power to judge whether the relationship is statistically significant or not. Here the p-value for F in each model is 34.123 and the significance value is 0.000 with 0.01 level of significance. Therefore, the study concludes that regression has explanatory power and each independent variable affect the adoption of digital banking by customers of commercial banks.

### 4.5.3 Summary of the hypotheses

The summary of each hypothesis tests has been presented in table 15:

Table 16:

*Summary of hypothesis*

<b>Hypothesis</b>	<b>p-value</b>	<b>Results</b>
H1: Perceived Usefulness has positive impact on adoption of Digital Banking	0.000 ( $p \leq 0.05$ )	Accepted
H2: Perceived Ease of Use has positive impact on adoption of Digital Banking	0.000 ( $p \leq 0.05$ )	Accepted
H1: Perceived Credibility has positive impact on adoption of Digital Banking	0.000 ( $p \leq 0.05$ )	Accepted
H1: Convenience has positive impact on adoption of Digital Banking	0.000 ( $p \leq 0.05$ )	Accepted

*Source Survey Data (2021)*

## 4.6 Major Findings

The researcher made several inferences from the data presentation and analysis, which helped to shape the research outcome. This section summarizes the study's main notable results, which are listed below:

- Out of the total of 380 respondents, 64.5 % were male and 35.5% were female
- Adoption of Digital banking is positively correlated to perceived usefulness, perceived ease of use, perceived credibility, and convenience
- Respondents have agreement towards the perceived usefulness, Perceived ease of use, perceived credibility, and convenience because it indicate inclination towards agreement. The mean for each variable range from 4.02 to 4.34
- The respondents have mean value of 4.19 for perceived usefulness, 4.17 mean value of perceived ease of use, mean value of 4.17 for perceived credibility to adopt digital banking and mean value of Convenience towards the adoption of digital banking is 4.25 which

represents the majority of respondents agrees that the convenience is effective variable for the study

- The results of correlation analysis show that perceived usefulness( $r=0.787$ ), perceived ease of use ( $r=0.795$ ), perceived credibility ( $r=0.795$ ), and convenience ( $r=0.790$ ) have a positive relationship with the adoption of digital banking of the respondents
- The R-square of the regression model is 0.73 which shows that the model explain the dependent variable adoption of digital banking by 73 percent.
- The result of regression analysis shows the impact of perceived usefulness is ( $p=0.000$ ), perceived ease of use is ( $p=0.000$ ), perceived credibility is ( $p=0.000$ ) and convenience is ( $p=0.000$ ) over digital banking
- The result of regression analysis also depicts that there is impact of all the independent variables for the adoption of digital banking by the customers ( $p=0.000$ )
- The Probability of F-stat is 0.000 which is the result of ANOVA which represents the good model fit is this case, where the four independent variables are best to describe

## **CHAPTER FIVE**

### **DISCUSSION, CONCLUSIONS AND IMPLICATIONS**

This chapter represents the discussion of the study, conclusion, and implications. The conclusions are drawn from literature review, data analysis and presentation.

#### **5.1 Discussion**

The results demonstrate that many attitudinal and other characteristics, such as usefulness, can predict a person's inclination to use digital banking services. And at the same time consumer's attitudinal factors are predicted by other means such as Perceived Usefulness, Perceived Ease of use, perceived credibility and Convenience. The finding shows that consumer Intention is mostly predicted by the convenience and Usefulness of the system. The possible reason could be that once a consumer feels the system is really useful for him for the day to day life or to make the life easier, then his attitude towards that system becomes positive and which ultimately leads to adopting the system easily (Kirsty, 2006). For the internet banking case also, it is important that each and every consumer should feel that the system is useful for them, which is already backed by the services provided by the banks to the consumer, banks impression toward the consumer's point of view and trust.

According to the study, there is a strong correlation between simplicity of use, perceived usefulness, and customer credibility (Weaven, 2007). The likely cause is that customers are more likely to have faith in the online banking service when they perceive it to be beneficial, safe, effective, simple to use, and fulfilling of the obligations and promises it makes. So in the country like Nepal, it is very important that the banking system should provide the ground to believe on to the consumer, which makes consumer more attractive to the banking system. Because Nepal is an underdeveloped country and per capital income is also very low, and to use banking services is not a necessity for the people. All the banking consumers are from the city areas only and in the rural areas still people have no ideas about what is banking and what is the use for it. So, from this study also, it has been found that consumer's attitude is the most important determining factor for the internet banking, and which (attitude) is formed by the usefulness of the system, easiness of the system and trust towards the system, so for the Nepalese perspective the possible reason people are not

willing to use the internet banking could be the awareness provided by the banks, people are not convinced with the services provided by the banks, their usefulness and how to operate the system. One example I want to add in the middle, there are so many commercial banks which provides the digital banking services and provides the services to pay the utility payment such as electricity, telephone, water bill to the respective authority and still people who have a bank account and got all the services provided by the bank, went to the queue to pay the utility payment rather than paying through banks, which is the ground reality of the trust towards the bank and people are not aware with the services (Rakesh, 2014).

In the same way, the study shows the ease of use is one of the important factor for the attitude and self-efficacy and facilitating condition are the predictor of ease of use, and there is a positive relationship between ease of use and facilitating condition and self efficacy. This means that ease of use has a direct positive impact on attitude and facilitating condition and self-efficacy also has an indirect impact on forming attitude through ease of use. So these two factors have also a role in determining adoption of internet banking. As I already defined the meaning of facilitating condition and self-efficacy and how it has an impact to ease of use, just want to add here too. Perceived ease of use, which means that how people feel easiness while operating the system, is it user-friendly, easy to operative, interactive, provides some helpful tips or not and so on. In this study, Perceived Ease of Use is used to measure the easiness of the system such as, whether people like the system to use or they feel it is very difficult to use. So when people think and believe the system is easy to operate, they are motivated towards the use of the system and which ultimately leads to the easy implementation of the system (Prasad, 1999).

In the same way, two factors self-efficacy and facilitating condition have also an indirect relationship with attitude through Perceived ease of use (Kalakota, 1996). Means that, they are the determining factors of perceived ease of use. Here self-efficacy is refer as the self-confidence to use the system and facilitating condition refers to the available facilities while using the system. These factors mostly represent the human resources and skills to use the system. For example, people with technology background or have IT skills will definitely find the system more easy to operate rather than the people who have less or have no IT or technology background

(Haneen, 2014). Which means that self-efficacy means the self-confidence to use the system, how people think themselves that they have the necessary skills to use that system or they will learn it and will use the system. So the people who are more confident will find the system easy to use. And facilitating condition here refers that the other available facilities while using the system, for example, you are interested to use the system and want to use it, but you are looking for someone to help if you got stuck. Or you want some guidelines, tips about how to use the system. So in both case people think the system will be easy to use and which ultimately makes help to form a positive attitude.

On the other hand, there were some risk factors included to measure the positive affect of consumer intention, but the study shows that there is not any significant relationship with the risk factors, only financial risk gives the negative impact to the intention to adopt the internet banking. The reason could be that, people are afraid to use internet banking because of the fear of losing money and couldn't get it back. The study reveals that there is a negative significant relationship between the perceived risk and trust, means that when the people think and believe that the bank is safe to do an online transaction, ultimately reduces the risk it poses. So this also leads to the conclusion that trust is one of the most important factors for the adoption of internet banking.

So from the analysis we can conclude that the main determinants of adoption of internet banking are different attitudinal factors which include perceived usefulness, perceived ease of use, perceived credibility, and convenience. In the same way perceived ease of use also determined by self efficacy and facilitating condition. Financial risk is more important than other risks such as security, performance, time and social.

## **5.2 Conclusion**

New distribution channels for the goods and services provided by Nepalese commercial banks have undoubtedly been created by developments in information technology and telecommunications. Automated teller machines (ATMs), mobile banking, and internet banking are some of these new delivery channels. The most extensively used and accepted distribution method among these is the ATM.



According on the data provided by the banks, mobile banking appears to have a bright future. In Nepal, PC banking is still unavailable. However, about 35% of respondents have access to the Internet both at home and at work, which is encouraging for the future of PC-based banking and Internet banking. Currently, the Nepalese banks' strategy focus on using electronic banking to keep their current clients. Adopters of e-banking make use of fundamental banking services such cash receipt and withdrawal, balance inquiries, and regular and scheduled payments. Only a small fraction of people use other services like internet shopping and inter-account financial transfers. This is mostly due to client concerns about security and confidentiality when using these E-banking features. The three main obstacles to e-banking in Nepal are risk management, infrastructure development, and policy formulation. Technological issues, such as a service break when making an ATM withdrawal. Poor mobile service is posing challenges to Nepal's growth of e-banking. Before banks implement fully fledged E-banking, it is necessary to establish sufficient infrastructure and human capacity. E-banking is still in its infancy in Nepal, hence the system is not completely safe yet. But no e-banking frauds have yet been discovered. The cause could be a lack of understanding of internet technologies. But prudence must be exercised. E-banking depends heavily on the financial services sector and the telecommunications industry. Two telecom companies that conduct business all over the nation are Nepal Telecom and, as of late, Mero Mobile.

However, the services are scarce and the issues are numerous. The significant correlation between age and education and online banking usage indicates that younger age groups and educated people should be the focus of E-banking providers. Due to their limited range of business transactions or lack of proper instruments, most banks' cost analyses appear to be insufficient or not applied. This lack of understanding of cost analysis in banking transactions could cause losses in the realm of electronic banking in the future. It is also necessary to look into the income side in order to make judgments about profitability.

### **5.3 Implications of the Study**

The main purpose of this research is to develop a new model integrating TAM with Trust and perceived risk in a comprehensive manner to test the user acceptance of internet banking. This model uses all the factors of TAM and extends the model by

adding some other factor including Trust and different dimension of perceived risk including Security Risk, Performance Risk, Financial Risk, Time risk and social risk. And this study not only develops the model including Trust but verifies that Trust is the important determining factors to adopt the internet banking. So, from the theoretical perspective, this study gives the new dimension to test the consumer's intention extending the original model TAM adding important factors like Trust and perceived risk. It is very important to verify what the consumers exactly want, and what the factors are those make them more doubtful while accepting new technology and services. In the country like Nepal, most of the people feel banking itself is new and they are not used to with the bank and banking services. From the analysis, it is verified that the most important determining factor while accepting new technology and services is attitude formed by Usefulness, Ease of use, Self-confidence, Supporting condition and Trust.

However, Financial Risk is considered more important factor which negatively influences the intention to adopt the internet banking. This research not only provides the contribution to the theory, but it has some practical implications too. The manager of the bank can get good insight from this report. It is very important to understand consumers before providing any services. If they understand the consumer intention, then it's very easy to apply and get the return from there. From the analysis above, some recommendation can be made for the banks as follows: As the study shows, usefulness, ease of use, Trust are the main determinant factors for the adoption of internet banking, and so the bank should provide the services which are very useful for the consumers, easy to use and Trustworthy. While developing the websites and other applications, the bank should focus on the security, and make the web site and apps easy to use providing different supporting guidelines, and interactive pages. Providing well designed and user-friendly website can attract the consumers. Awareness is the most important thing for the customers. So designing is not everything; they should include some small tips showing how to do the transaction and other services properly, providing different information camps to convince people about the security system so that they can believe the bank. Providing easy access to use the bank services, a different promotional mechanism can attract the consumer

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## **Appendices**

### **Research Questionnaires**

Dear All,

I am Laxmi Ghimire, a student of Masters of Business Administration in Information Technology (MBA-IT) in School of Management, Tribhuvan University.

I would heartily like to request you to spare 5 minutes of your time in filling up the following questionnaire. I am collecting data for my Thesis Report on the topic "Digital Banking Adoption by Customer of Commercial Banks in Nepal".

This research is conducted for the partial requirements for the completion of the MBA-IT Program of Tribhuvan University. The information provided by you will be purely used for academic purposes only and your identity will be kept confidential. Thank you very much for your kind support and valuable time. If you have any questions about this questionnaire or this study, please contact me at [ghimire11laxmi@gmail.com](mailto:ghimire11laxmi@gmail.com).

Hoping for your favorable response!

Laxmi Ghimire

**1. Gender (Single Choice)**

- a. Male
- b. Female
- c. Other

**2. Age (Single Choice)**

- a. 18-25 years
- b. 26-40 years
- c. Above 40 years

**3. Education (Single Choice)**

- a. SLC
- b. Plus 2
- c. Bachelor
- d. Masters
- e. Above

**4. Occupation(Single Choice)**

- a. Government Service
- b. Private Employee
- c. Self Employed
- d. Student\

**5. Do you have a digital technology application?(Yes\No Question)**

- a. Yes
- b. No

**6. Which bank are you Using?**

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**7. How often do you use the Internet? (Single Choice)**

- a. Daily
- b. Once a week
- c. Every Fortnight
- d. Once a month

**8. How often do you use the Internet for Banking?(Single Choice)**

- a. Daily
- b. Once a week
- c. Every Fortnight
- d. Once a month

**9. For how long have you been using the Internet for your banking transaction? (Single Choice)**

- a. 1 to 6 months
- b. 7 to 12 months
- c. More than 1 year

S.N.	Questions	1	2	3	4	5
<b>A</b>	<b>Perceived Usefulness</b>					
1	The use of Internet banking makes my transactions very fast					
2	The use of Internet banking is saving time					
3	Using the internet banking information system improves my performance of banking activities					

4	The use of Internet banking gives me control over my transaction					
5	My bank offers all the services I expect					
6	I find Internet banking services useful					
<b>B</b>	<b>Perceived Ease of Use</b>					
1	Learning to operate the Internet banking system would be easy for me					
2	I would find it easy to get the internet banking system to do my banking					
3	My interaction with the Internet banking system would be clear and understandable					
4	I find the Internet banking system flexible to interact with					
5	It would be easy for me to become skillful at using the Internet banking system					
6	I would find the Internet banking system easy to use					
<b>C</b>	<b>Perceived Credibility</b>					
1	I dont notice any inconsistencies as I use Internet banking					

2	Overall, I trust internet banking					
3	The internet banking information system is trustworthy					
4	Whenever I make a mistake using the Internet banking system, I recover easily and quickly					
5	The Internet banking system gives error messages that clearly tell me how to fix problems					
6	I am confident of using internet banking even if there is no one around to show me how to do it					
<b>D</b>	<b>Convenience</b>					
1	I do Internet banking because it is convenient					
2	Internet banking requires the fewest steps possible to accomplish what I want to do with it					
3	I can use Internet banking without written instructions					
4	Internet banking does everything I would expect it to do					
5	Internet banking makes banking easier to get done					
6	Internet banking gives me more control over my banking					

<b>E</b>	<b>Adoption</b>					
1	Ease of use					
2	Trust and relationship					
3	Low service charge					
4	Accessibility					
5	Convenience					
6	Security of transaction					