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NOVIA

Adoption of Digital Technologies by Customers for Digital Banking

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MBA in DBM – 2022

Master Thesis: Third Stage Proposal

NOVIA University of Applied Sciences

Vaasa, Finland

Master Degree Thesis
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Title**:** Adoption of Digital Technologies by Customers for Digital Banking

Date: 26.05.2023 No. of Pages: 74 Appendices: 1

Abstract

This research seeks to understand the determinants influencing the adoption of digital banking services among customers of financial institutions in Nepal. Research helps to find the notable advantages that digital banking offers, such as improved convenience, efficiency, and round-the-clock availability.

Method: The study investigates constructs such as Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, and Convenience as potential predictors of digital banking adoption. The research has been conducted in descriptive analysis.

Result: The study's results highlight the crucial role of perceived usefulness and ease of use in promoting the adoption of digital banking services. Customers are more inclined to adopt these services when they perceive them to be beneficial and straightforward to use. Furthermore, trust in digital banking significantly sways user acceptance, underlining its importance. Therefore, cultivating trust through robust security protocols, clear communication, and dependable customer support is essential to boost customer uptake of digital banking services.

Conclusion: The research on customer adoption of digital banking in commercial banks offers an insightful understanding of the factors that contribute to the acceptance and utilization of these digital services.

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Chapter 1

1.1 Introduction

The advent of digital banking has marked a noteworthy juncture in the progression of the banking industry, transforming conventional banking frameworks and substantially influencing how clients engage with financial establishments. Digital transformation denotes a transition from tangible to intangible mediums, utilizing technological advancements to augment the velocity, security, and ease of access to banking services (Baptista & Oliveira, 2015).

Digital banking is a comprehensive suite of financial services that includes online banking, mobile banking, ATM services, and telebanking. These services enable customers to conduct financial transactions without the need for physical interactions, thereby ensuring a seamless experience. In light of the current digital revolution in the banking sector, it is imperative to comprehend the intricacies of customers' adoption of digital banking in commercial banks (Laukkanen & Pasanen, 2008).

The adoption of digital banking services is subject to the influence of multiple factors. According to Davis, Bagozzi, and Warshaw's (1989) Technology Acceptance Model (TAM), the adoption of technology is largely influenced by perceived usefulness and perceived ease of use. In the realm of digital banking, the adoption of such services by customers is contingent upon their perception that these technologies will streamline their banking transactions, as well as their level of comfort with utilizing them.

Conversely, trust is a crucial factor in the adoption of digital banking. The Trust Theory posits an inverse relationship between trust and perceived risk, implying that increased levels of trust would mitigate perceived risks that are commonly associated with digital banking. This, in turn, would foster the adoption of digital banking services (Kim, Ferrin, & Rao, 2008). The level of trust in digital banking platforms can be shaped by various factors, such as the perceived security of the platform, the quality of services offered, and the reputation of the bank.

Furthermore, it has been recognized that demographic factors, namely age, gender, and education, may exert an impact on the adoption of digital banking (Chong, Chan, & Ooi, 2012).

Individuals who are younger and possess higher levels of education tend to exhibit greater receptiveness towards the adoption of digital banking, owing to their familiarity and ease with technology.

Moreover, the influence of governmental policies and regulations on the adoption of digital banking cannot be overlooked. According to Bharadwaj and Soni (2017), the implementation of favorable policies, robust digital infrastructure, and stringent cybersecurity regulations can facilitate the secure and reliable utilization of digital banking, thereby augmenting its adoption rates. Notwithstanding these observations, the implementation of electronic banking continues to be a multifaceted occurrence necessitating a more profound comprehension. Several factors can influence the adoption and utilization of digital banking services by customers, such as individual, technological, and environmental factors. Therefore, additional research is required to fully understand these dynamics.

In summary, the adoption of digital banking by customers of commercial banks is a noteworthy research area owing to its potential impact on banking operations, customer contentment, and business outcomes. Gaining a thorough comprehension of the diverse factors that impact the adoption of digital services can furnish significant perspectives for financial institutions to optimize their digital offerings. This, in turn, can lead to improved customer experience and a competitive edge in a progressively digitalized market.

1.2 Background of Study

The advent of the digital era has brought about a significant change in the financial services sector worldwide. The evolution of banking transactions has been influenced by technological advancements, resulting in the emergence and prevalence of digital banking among clients. The concept of digital banking encompasses a range of services, including online banking, mobile banking, ATM services, and telebanking. These services are designed to improve the convenience, speed, and security of financial transactions for customers (Baptista & Oliveira, 2015).

In recent decades, there has been a notable transition toward digital banking in both developed and developing nations. The advent of the Internet age during the 1990s brought about the

inception of online banking, thereby transforming conventional banking practices. According to Sohail and Shaikh (2008), the provision of banking services to customers in the comfort of their homes has facilitated a more convenient and efficient banking experience.

The banking landscape underwent a further transformation with the emergence of mobile banking to online banking, facilitated by the advent of smartphones. According to Zhou, Lu, and Wang (2010), the utilization of mobile banking has enabled customers to conduct banking transactions at any time and place, resulting in a rise in customer convenience and contentment. The proliferation of digital banking services is attributed to their numerous advantages. Digital banking offers customers a multitude of benefits such as convenience, accessibility, speed, and an extensive array of services, thereby diminishing the necessity for in-person visits to bank branches (Huang, 2003). According to Malaquias and Hwang (2016), digital banking offers several benefits to banks, including decreased operational expenses, the ability to provide services around the clock, and improved analysis of customer data. These advantages ultimately result in enhanced service quality and a heightened competitive edge.

Excluding the benefits, the implementation of digital banking services has encountered several obstacles. Shaikh and Karjaluoto (2015) have identified several noteworthy obstacles to the adoption of digital banking, including security concerns, insufficient digital literacy, reluctance to embrace change, and inadequate internet connectivity in certain areas.

Numerous research studies have employed diverse models to comprehend the factors that influence the adoption of digital banking. The Technology Acceptance Model (TAM) is highly prevalent in the field of technology acceptance. According to Venkatesh, Morris, Davis, and Davis (2003), there is a suggestion that the adoption of digital banking is significantly influenced by perceived usefulness, perceived ease of use, social influence, and facilitating conditions.

The influence of demographic factors on the adoption of digital banking has been investigated, and the findings have been inconclusive. Although some studies suggest that younger and more educated individuals are more likely to utilize digital banking services (Chong, Chan, & Ooi, 2012), some contend that the digital divide is diminishing as digital banking becomes more widely adopted across all demographic groups (2009).

1.3 Justification

The Retail banking services offered by banks through their branches are widely available throughout Nepal. In regions such as Nepal, characterized by rugged and elevated topography, this approach presents the highest likelihood of achieving favorable outcomes. The contemporary period has witnessed a rapid proliferation of digital banking, thereby transforming the landscape of business operations and the provision of personal finance and other banking services. In Nepal, a significant proportion of commercial banks are striving to implement digital banking solutions to improve their business operations and minimize costs. Despite the proliferation of digital channels through which banks provide a growing range of financial services, there exists a lack of awareness among the general populace regarding these offerings. Consequently, acquiring an understanding of customers' perceptions of digital banking services and their future adoption intentions is of paramount significance. In the future, it is expected that reducing the frequency of cash transactions and enhancing the quality of banking services will be mutually beneficial for both bank management and customers. Despite the availability of diverse online services such as Internet banking, mobile banking, video banking, conversational banking based on artificial intelligence, and social media banking among others, offered by several banks in Nepal, the adoption of these services by the general public remains low. Despite having the option to utilize online banking and automated teller machine (ATM) cards, individuals exhibit a strong reluctance towards availing of these services, with a particular emphasis on ATMs. Rather than adopting modern banking methods, they tend to rely on conventional retail banking practices, such as using physical checkbooks and conducting transactions with cash.

The swift progression of technology by financial institutions in Nepal and the increasing expectations of clients for efficient, expeditious, and reliable banking amenities have compelled the transition from conventional banking frameworks to digital banking. The transition has brought about a substantial transformation in the banking sector, thereby rendering the investigation of the adoption of digital banking by clients of commercial banks pertinent and opportune.

The implementation of digital banking has significant ramifications for the operational efficacy and competitive advantage of financial institutions. The widespread availability of digital banking services has enabled banks to provide continuous services, lower operational expenses, and enhance service delivery, ultimately resulting in heightened levels of customer satisfaction and loyalty (Huang, 2003). The investigation of the adoption of digital banking can provide valuable perspectives for financial institutions to enhance their offerings, sustain their competitiveness, and uphold their profitability amidst escalating competition, as posited by Hernández-Ortega (2011).

Furthermore, the digital banking sector is in a state of constant transformation, as novel technologies such as blockchain, artificial intelligence, and machine learning are revolutionizing how financial services are dispensed. Banks must comprehend the intricacies of digital banking adoption to remain abreast of technological advancements and utilize them to fulfill customer demands (Gomber, Koch, & Siering, 2015).

The implementation of digital banking has encountered several obstacles, such as security apprehensions, insufficient digital proficiency, and reluctance to change, despite the numerous benefits it presents (Shaikh & Karjaluoto, 2015). Consequently, an examination of the implementation of digital banking can facilitate the identification of these obstacles and offer remedies to surmount them, thereby augmenting the rates of adoption.

Furthermore, prior research has yielded inconclusive findings regarding the impact of demographic factors on the adoption of digital banking, indicating a need for additional inquiry (Chong, Chan, & Ooi, 2012; Gu, Lee, & Suh, 2009). Comprehending the significance of demographic factors can assist financial institutions in formulating tailored approaches to stimulate the adoption of digital banking across diverse demographic segments.

The significance of government and regulatory involvement in the adoption of digital banking cannot be overstated. According to Bharadwaj and Soni (2017), the implementation of favorable policies, the establishment of a strong digital infrastructure, and the enforcement of strict cybersecurity laws can promote the secure and safe utilization of digital banking, ultimately resulting in higher rates of adoption. Hence, it is imperative to investigate the influence of

governmental policies and regulations on the adoption of digital banking, as it is crucial for the development and execution of policies.

The adoption of digital banking by customers of commercial banks can be rationalized based on its impact on banking practices, customer satisfaction, business performance, and public policy. The objective of this thesis is to furnish a thorough comprehension of the diverse determinants that impact the adoption of digital banking. This study will provide significant perspectives for financial institutions, policymakers, and scholars in this domain.

1.4 Statement of the Problem

The banking industry has undergone notable changes due to the advent of digital banking, which has introduced unparalleled convenience, rapidity, and effectiveness in financial transactions (Bharadwaj & Soni, 2017). Notwithstanding the perceived advantages and the growing endeavors of commercial banks to implement digitalization in their operations, the acceptance of digital banking by consumers falls short of anticipated levels, presenting a noteworthy challenge for the banking sector and serving as the fundamental premise of this thesis.

The issue at hand encompasses a notable aspect about impediments that hinder the adoption of digital banking, which materialize in diverse manners. A primary obstacle to the adoption of digital banking is the apprehension regarding potential risks, particularly those related to security and privacy concerns. Shaikh and Karjaluoto (2015) note that despite the progress made in security measures, customers frequently express apprehension regarding data breaches, identity theft, and fraud, which results in a reluctance to embrace digital banking services.

Moreover, the adoption of digital banking is hindered by resistance to change, particularly among older age groups and individuals with limited exposure to technology. According to Chong, Chan, and Ooi (2012), a significant number of customers continue to favor conventional banking methods owing to their lack of familiarity with digital banking interfaces and procedures, or due to their long-standing habits.

The adoption of digital banking is significantly impeded by the challenge posed by digital literacy. According to Gu, Lee, and Suh (2009), the absence of proficiency or expertise in utilizing digital banking platforms poses a constraint for numerous prospective users in embracing these services.

In addition, there exist infrastructural obstacles such as inadequate internet connectivity in certain regions, particularly in emerging economies, which pose difficulties for patrons in these locales to avail and employ digital banking amenities (Bharadwaj & Soni, 2017).

The recognition of delayed technology adoption in both individuals and organizations in Nepal, as well as in many other nations situated in Asia and the Middle East (Agrawal & Thite, 2003). The requirement for Nepal to ensure its services, including banking and government, meet international standards and engender customer confidence has come into sharp focus following its accession to the World Trade Organization on 23 April 2004 (Acharya, 2005). Banks in the country must see the adoption of new technologies and advancements as the sole viable option to enhance the quality of their services (Nembhard & Edmonds, 2006). However, there are considerable barriers. Individuals from Nepal, in contrast to their counterparts in developed nations such as Europe and the United States, encounter significant obstacles in obtaining access to modern technology and infrastructure (Sharma & Nepal, 2008). This often results in delayed adoption across various technology and service domains (Rana, Dwivedi, Lal, Williams, & Clement, 2015). The general problems that most of the banks are facing in Nepal are as follows:

I. Lack of banking and financial literacy on the digital system so difficult to adopt the new banking technology (Khanal & Mishra, 2015).
II. Compromising security and privacy, many financial institutions don’t adopt the highest security system and their infrastructure is not enough to provide security and privacy which make customers lose faith in businesses (Firdous, 2016).
III. High operational and support costs for the bank’s digital solutions (Gerbert, Spieß, & Heymann, 2014).
IV. Lack of government policies and regulations for the banking sector (Chibba, 2009).
V. Internet connectivity issue, there is no stable internet service, and mostly the internet service is available to the city’s areas only (Lema, Fu, & Rabellotti, 2019).

VI. Customers are hesitant to use banking services on digital channels because they believe that any inaccuracy or mistake could result in a financial loss (Kesharwani & Singh Bisht, 2012).

VII. Lack of financial and technological skills, customers are not confident in using banking/financial services (Gurung & Rana, 2018).

1.5 Purpose of Study

The principal objective of this research is to examine and comprehend the determinants that impact the uptake of electronic banking services among clients of financial institutions. The banking industry has been significantly impacted by the rapid advancement of technology and the digital revolution. Despite the significant advantages of digital banking, including enhanced convenience, efficiency, and 24/7 availability, its adoption has not been as extensive as anticipated (Gerrard, Cunningham, & Devlin, 2006). The present research endeavors to examine the diverse determinants that impact the adoption of digital banking, thereby furnishing valuable insights to augment the operational tactics of commercial banks and augment the acceptance of digital banking among customers.

The present study presents the outcomes of a comprehensive investigation and analysis conducted on the delivery of digital banking services to customers in Nepal. The objective of this research is to explore strategies for enhancing the customer experience through the augmentation of digital banking services' utilization and adoption. The focus of this study will be on the perspectives of clients within the banking sector of Nepal, drawing from research conducted within the country. The objective of the study was to ascertain the proportion of customers who utilize digital financial services, including but not limited to automated teller machines, mobile banking, internet banking, social media banking, and conversational banking.

The introduction of the new service and the subsequent increase in demand may have caused a shift in customers' preferences. Moreover, the increasing utilization of technology and communication gadgets may have modified customers' perspectives towards online banking and electronic banking correspondingly. Conducting a thorough investigation into customers' intentions and perceptions regarding the utilization of digital banking would be optimal. This

would enable the provision of recommendations that could contribute to the existing body of knowledge on the examination of customer perceptions and intentions.

The primary question under investigation is prompted by the main objective of the study.

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

1.6 Objectives of Study

The proposed research aims to delve into the dynamics of digital banking adoption among customers of commercial banks. The objective of this research is to identify and analyze the determining factors for the adoption of digital banking in the Commercial Bank in Nepal focusing on the customer:

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

1.7 Research Design

This study is grounded in the Technology Acceptance Model (TAM) and prior research that has examined the determinants of digital banking service adoption. It aims to verify the suitability of TAM in the context of digital banking adoption. According to Davis A. (1989), potential users may perceive a system as excessively intricate to operate, causing them to overlook the performance benefits of utilizing the program. This may occur even if they acknowledge the application's

worth. The utilization of the Technology Acceptance Model (TAM) and its associated factors aids in the determination of user behavior about the adoption of digital banking, based on the underlying assumption.

The Technology Acceptance Model (TAM) employs the construct of Perceived Usefulness (PU) as a fundamental element to elucidate the process by which users adopt and utilize technology. The term "Perceived Usefulness" pertains to an individual's perception of the degree to which the utilization of a specific technology can improve their overall performance or productivity, as defined by Davis A. (1989).

The Technology Acceptance Model (TAM) incorporates the construct of Perceived Ease of Use (PEOU) as a significant factor. The term refers to an individual's degree of belief concerning the perceived ease of use associated with a particular technological tool, as posited by Davis A. (1989). In essence, usability refers to the subjective ease with which a user interacts with a given technology. Regarding the adoption of digital banking by commercial bank customers, the concept of Perceived Ease of Use pertains to the extent to which a consumer believes that the utilization of digital banking services will be straightforward and will not require a substantial amount of mental effort. The statement pertains to various aspects that contribute to a positive user experience, such as the ease of use of the interface, the provision of unambiguous instructions or guidance, the user-friendliness of the features, and the lack of technical malfunctions (Venkatesh, 2000).

The concept of Perceived Credibility pertains to the degree to which a consumer perceives the utilization of digital banking services as reliable, dependable, and unlikely to lead to unfavorable outcomes such as fraudulent activities or breaches of privacy (Kim, Shin, & Lee, 2009). This may entail various factors, including the perceived dependability of the financial institution, the safety of digital transactions, and the safeguarding of personal and financial information.

According to Mallat's (2007) definition, convenience pertains to the extent to which a customer perceives that the utilization of digital banking services can offer a banking experience that is more comfortable and efficient. This could encompass various factors, including the capacity to perform banking operations at any time and location, the promptness of transactions, the

capability to store preferences for subsequent transactions, and the eradication of the necessity to physically visit a branch.

To establish the correlations among the factors, an investigation into the adoption of digital banking by customers of commercial banks will be conducted. The research design will be based on a quantitative descriptive design. The outcomes of the initial quantitative will be utilized to shape, as per the guidelines provided by Creswell and Plano Clark (2017). The quantitative design of the study will employ a survey research design that will be administered to a sizable and heterogeneous sample of banking customers. This aims to gain a comprehensive comprehension of their attitudes, perceptions, and behaviors concerning the adoption of digital banking. The survey instrument will be formulated utilizing constructs derived from the Technology Acceptance Model (TAM) and other pertinent academic sources. The constructs that will be taken into consideration comprise perceived usefulness, perceived ease of use, trust, security concerns, and demographic factors. The data that has been gathered will undergo analysis through the utilization of statistical software. The techniques that will be employed in this process include the analysis of descriptive statistics as well as the examination of the relationships that exist between factors.

1.8 Significance of Study

The adoption of digital banking among commercial bank customers signifies a noteworthy transformation in the banking industry and carries significant ramifications for both customers and banks. The significance of this research is attributed to the increasing impact of technology and the digital economy on consumer conduct and the conventional banking sector.

Initially, digital banking is perceived by customers as offering advantages such as increased convenience, round-the-clock availability, instantaneous financial management, and customized banking encounters (Shaikh & Karjaluoto, 2020). This study aims to provide insights into how banks can design their digital services more effectively by comprehending the factors that influence their adoption. These factors include Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, and Convenience. Enhancing customer satisfaction and loyalty has the potential to augment the utilization of digital banking services (Tsay & Lin, 2022).

From the bank's standpoint, digital banking presents a prospect to curtail operational expenditures, enhance service efficacy, expand the customer base, and establish novel revenue channels. The identification of factors that influence the adoption of digital banking can assist financial institutions in developing effective approaches to promote the uptake of digital banking services among customers, leading to the realization of the advantages (Oliveira, Thomas, Baptista, & Campos, 2021).

Furthermore, this research has the potential to make a valuable contribution to the wider scholarly conversation surrounding the acceptance of technology and the adoption of digital services. This study aims to evaluate the effectiveness of the Technology Acceptance Model (TAM) in the context of digital banking using its application and extension. The study seeks to determine the theoretical framework's robustness and provide insights into its applicability and limitations in this particular context (Taherdoost, 2018). Furthermore, the examination of the adoption of digital banking also carries significant societal implications. The digitization of banking services may pose a potential risk of exclusion for certain societal segments, particularly those who lack the requisite skills or resources to avail themselves of digital banking. The findings of this research have the potential to contribute to the development of effective approaches aimed at facilitating equitable access to digital banking services, thereby mitigating the digital divide and fostering financial inclusivity (Kim, Shin, & Lee, 2022).

The investigation into the adoption of digital banking by customers of commercial banks holds significance from various perspectives. The study has the potential to enhance comprehension of consumer behavior in the digital era and provide direction for banking strategies during the period of digital transformation on technology acceptance.

1.9 Structure of 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, Abstract, table of contents, list of figures, and list of tables.

The body of the paper is divided into five chapters: an introduction, related literature, 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 delves into various aspects of the research, including the Background of the Study, Justification Statement of the Problem, Purpose of the Study, Objectives of the Study, Research Design, Significance of the Study, Limitations of the study, and Structure of the Study.

The second chapter covers the conceptual assessment of the literature on Digital Banking. 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, sample, data collection sources and methodologies, and data analysis.

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

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

Chapter 2

2. Literature Review - Introduction

This chapter examines and discusses commercial bank customers' adoption of digital technologies for banking. This chapter consists of an overview of the status of digital banking adoption in Nepal. This chapter explores the numerous perspectives on the Technology Acceptance Model and previous research on the application of Technology Acceptance to digital banking. The topics, factors affecting the adoption of Digital Banking, and benefits of Digital banking in Nepal, and covers the theoretical framework and research GAP.

2.1 Conceptual Review

During the current epoch of swift digital transformation, the banking industry has undergone a shift from a conventional face-to-face model to an increasingly computerized one. The concept of digital banking pertains to the mechanization of banking services, which facilitates the provision of banking services to customers via digital platforms (Arner, Barberis, & Buckley, 2016). The range of services offered encompasses online banking, mobile banking, automated teller machine (ATM) services, and various electronic payment systems. The present study explores the adoption of digital banking among customers of commercial banks.

2.1.1 Digital Banking

The digital banking encounter is influenced by various pivotal elements, encompassing user-friendliness, safeguard measures, and the breadth of available amenities. According to Shaikh and Karjaluoto's (2015) research, the adoption of digital banking by customers is influenced by their perception of its ease of use, security, and benefits. Chawla and Joshi (Chawla & Joshi, 2017) have determined that the adoption of digital banking is significantly influenced by user experience, wherein user-friendly interfaces and personalized services are identified as crucial factors.

Notwithstanding the benefits and growing accessibility of digital banking services, there exist impediments to their widespread adoption. According to Laukkanen (2016), factors such as

inadequate digital literacy, apprehensions regarding security, and reluctance to adapt to new technology can impede customers from wholeheartedly adopting digital banking.

2.1.2 Customer Adoption of Digital Banking Services

According to Rogers (2003), the process of customer adoption encompasses several stages, including awareness, interest, evaluation, trial, and ultimately, adoption of digital banking services. The authors Dahlberg, Guo, and Ondrus (2015)have identified convenience, ubiquity, and immediacy as significant factors that motivate the adoption of digital banking. Conversely, hindrances such as apprehensions regarding privacy and security, absence of confidence, and technical challenges impede progress. The establishment of trust is of paramount importance in the process of customer adoption. This is because customers require assurance regarding the bank's capacity to securely manage their financial transactions and safeguard their data (Alsajjan & Dennis, 2010).

The banking industry underwent a digital transformation in the early 1970s with the introduction of the Automatic Teller Machine (ATM). This technological innovation marked a significant milestone in the information technology revolution within the banking sector, as it enabled customers to access banking services. Subsequently, telephone banking, cable television banking, and personal computer banking were developed in the late 1980s and early 1990s. The advent of digital banking has led to a significant shift in the mode of conducting traditional banking activities that were hitherto carried out in person at a physical branch. This has resulted in the online banking sector emerging as one of the fastest-growing areas of finance, as noted by Giannakoudi (1999).

The feasibility of digital banking services is contingent upon the bank's magnitude, standing, and reliability. The decision of customers to utilize Internet banking may be significantly influenced by their awareness of its advantages and the amount of information that is accessible to them (Fink, 2005). According to Ganetal's (2005) prior investigation, user input factors are reliant on control, enjoyment, and intent to use. The term "control" pertains to the anticipated degree of exertion and engagement that consumers are required to exhibit while utilizing electronic banking services.

According to Thornton (2001), the adoption decision is influenced by individual characteristics such as adaptability, technical self-efficacy, and experience with the Internet banking program, as evidenced by their significant impact.

Muzividzi (2013) analyzed the factors that impact the adoption of digital banking among intellectuals. As per the findings of this research, the endeavors of banks to encourage the use of technology notwithstanding, the rate of adoption of online banking has been sluggish. The initiative aimed to ascertain the determinants that impact the uptake of digital banking to devise remedies.

Garrard (2005) posits that the financial system has endeavored to acquire a deeper understanding of the drivers that impel consumers to engage in online financial transactions. Many scholars are currently engaged in a comprehensive investigation of the utilization of electronic banking by consumers (Sayar, 2007). Customers who utilize electronic banking not only have the convenience of accessing financial services from any location and at any time, but also benefit from favorable business conditions, including reduced commission rates, reliable service quality, and time-efficient advantages (Yu, 2008).

2.1.3 Status of Digital Banking Adoption in Nepal

The notion of self-service banking was first introduced in the 1980s and was subsequently facilitated by automated teller machines (ATMs) due to advancements in computer technology and the Internet. The proliferation of the internet has led to the provision of online banking services by financial institutions, which allow customers to access their bank statements through a web-based interface. Following the advent of smartphones and mobile data, financial institutions have introduced mobile banking services. It took Nabil Bank Ltd. almost five decades to introduce credit card services, which was approximately 53 years after the establishment of Nepal Bank Ltd., the first bank in Nepal in 1937. Himalayan Bank Ltd. assumed a prominent role in the advancement of electronic banking in Nepal through the implementation of automated teller machines (ATMs) in 1995 and telebanking. Following the establishment of the first bank, banking sector, and bank, it took customers more than six and a half decades to gain access to Internet banking services. Kumari Bank Ltd. pioneered the introduction of online banking in Nepal

in the year 2000. Despite the implementation of online banking services in Nepal a decade ago, the adoption rate of this banking modality remains limited. Despite the presence of sufficient Internet infrastructure in Kathmandu, Pokhara, and Biratnagar, and the availability of Internet banking services in most urban banks, a significant proportion of bank customers have yet to adopt this mode of banking.

The implementation of voice-based AI technology, robot-based fundamental banking services at branches, and the utilization of robot advisers for banking and financial services are all prevalent emerging trends in the banking industry worldwide. Pumori holds the distinction of being the primary and extensively utilized banking software system within Nepalese establishments. During the 1990s, the process of digitizing financial services was initiated. In the current decade, various financial services such as debit/credit cards, ATMs, digital banking, and mobile banking were introduced and have since gained widespread adoption, becoming essential components of financial services across diverse institutions.

The utilization of digital banking services is on the rise in Nepal, owing to the proliferation of the Internet and smartphones, increasing the number of customers. The provision of banking services through a digital platform has been instrumental in enhancing the reputation and worth of banks. The implementation of this measure has effectively mitigated the friction commonly associated with financial services, thereby facilitating prompt and efficient delivery of services to consumers. Nevertheless, the process of digitizing financial services in Nepal is in its nascent stages. The banking sector in Nepal exhibits significant potential for growth and enhancing accessibility of its services to a wider clientele.

Mobile banking applications are becoming increasingly popular due to their convenience and utility. From a financial standpoint, the cost of servicing a client via mobile banking is notably lower than that of servicing through branch banking. Initially, the primary objective of digital banking services was to facilitate the review of checking account statements. The level of understanding among customers regarding the usage and operation of digital banking was inadequate. The adoption of digital banking technologies is a protracted process. The prevalence of smartphones and Internet usage has experienced a notable surge in recent times. Banking

activities can now be accomplished by customers through the utilization of mobile devices and the Internet. The bank in Nepal offers a variety of digital channels that are widely utilized by customers to augment their banking experience. These channels are highly sought-after and have gained significant popularity.

1. Internet Banking Journey.

This service enables customers to conduct Internet banking transactions from a variety of devices, including desktop computers, notebooks, and mobile phones. Depending on the services offered by the bank, customers may be able to monitor their account information, transfer funds between accounts, and pay their expenses. Additionally, subscribers can contact the bank to request particular banking services. In 2002, Kumari Bank Limited launched the nation's first Internet banking service, which is now offered by the vast majority of commercial banks.

2. Mobile Banking Adoption.

Customers who use this service can carry out banking transactions on mobile devices. SMS on a mobile device is regularly used to convey message transactions to a bank's system. Typically, this service provides a range of features, such as bill payment, mobile top-ups, money transfers, account information viewing, and bank communication. The majority of Nepal's class "A" institutions currently offer this service, which Laxmi Bank Limited first introduced in 2004.

3. Plastic Cards

This is another prevalent electronic banking channel. Prepaid, debit, and credit cards are all varieties of usable plastic cards. These cards can be used to withdraw cash, pay expenses at ATMs and POS terminals, and make online purchases, among other things. The data-storing magnetic stripe on the back of plastic cards is being supplanted by the chip-based, more secure EMV card. Nepal Arab Bank Limited (now NABIL Bank) was the first commercial bank in Nepal to issue plastic credit cards in 1990.

4. Point-of-Sale and Automated Teller Machine

In addition to withdrawing cash, an ATM can be used to pay expenses. In 1995, Himalayan Bank Limited made it available in Nepal for the first time. Every day, more ATMs are being installed.

After the introduction of SCT in 2001, an integrated network of shared ATMs was developed. This network facilitates ATM interoperability by supporting multiple device types and implementing standards. In addition, the VISA network enables the use of a card from one bank at an ATM belonging to a different bank.

5. Branchless Banking

Thanks to this relatively new electronic banking service, it is now simpler to communicate with those who live in remote areas without access to bank branches. Customers can access their bank accounts, transfer money to other accounts, withdraw cash from their accounts, and make purchases via the Point of Transaction (POT) machine that a bank or its branchless banking agent provides.

Biometrics and plastic branchless banking credentials may be used to access the service. The most common biometric authentication method utilizes fingerprints.

6. Mobile Wallets

This is the newest and most popular e-banking service in Nepal. This enables users without a bank account to maintain funds on their mobile devices. This is a payment method for both goods and services. This product offers users the option to transfer funds from their bank accounts. Due to this offering, customers without bank accounts have been able to receive financial services. As Nepal has a high rate of mobile device adoption and its topography makes it difficult to construct banks and bank offices, this could be an excellent instrument for financial inclusion.

Due to the efforts of IT companies, QR-code-based banking services have acquired popularity worldwide. Nabil Bank has launched a QR (Quick Response) Code Payment Service in conjunction with UnionPay International.

2.2 Technology Acceptance Model

The Technology Acceptance Model (TAM) is a theoretical construct formulated by Fred Davis in 1986, which has gained widespread application in comprehending and forecasting user adoption of information technology. The concept suggests that the utilization of a system by an individual is contingent upon their perception of its usefulness and ease of use. Davis (1989) suggests that

the Technology Acceptance Model (TAM) offers a comprehensive framework for examining the factors that influence customers' decisions to adopt or reject digital banking services within the context of commercial banks.

2.2.1 Perceived Usefulness:

This pertains to the degree of conviction an individual holds regarding the potential of a particular system to enhance their job performance. Regarding digital banking, the aforementioned statement can be construed as the degree to which a patron perceives that utilizing digital banking amenities will yield advantages, such as time and energy conservation, transactional convenience, and improved financial management. Numerous scholarly investigations have substantiated the affirmative correlation between perceived usefulness and intention to utilize digital banking services (Safeena, Date, & Kammani, 2013).

2.2.2 Perceived Ease of Use:

This pertains to the extent of an individual's conviction regarding the ease of utilizing a particular system. Within the realm of digital banking, it can be posited that a customer's perception of the ease of use of digital banking services is positively correlated with their propensity to utilize said services. The level of user-friendliness may pertain to the ease with which users can navigate the interface, the lucidity of the instructions provided, or the simplicity of acquiring proficiency in utilizing the service. According to Koenig-Lewis, Palmer, and Moll (2010), there exists a significant association between perceived ease of use and the adoption of digital banking services.

2.2.3 Attitude Toward Using:

As per the Technology Acceptance Model (TAM), the attitudes of users toward system usage are influenced by two key factors, namely perceived usefulness and perceived ease of use. Lee & C (2009) suggest that customers' positive attitude toward digital banking is influenced by its perceived usefulness and ease of use, ultimately impacting their intention to adopt it.

2.2.4 Behavioral Intention to Use:

This refers to the level of intentionality that an individual has toward utilizing a specific system. Within the realm of digital banking, the aforementioned phrase pertains to a patron's expressed desire to utilize digital banking amenities for their financial requirements. Shaikh and Karjaluoto (2015) posit that the Technology Acceptance Model (TAM) suggests that the inclination to utilize technology is impacted by both the individual's attitude toward its use and their perception of its usefulness.

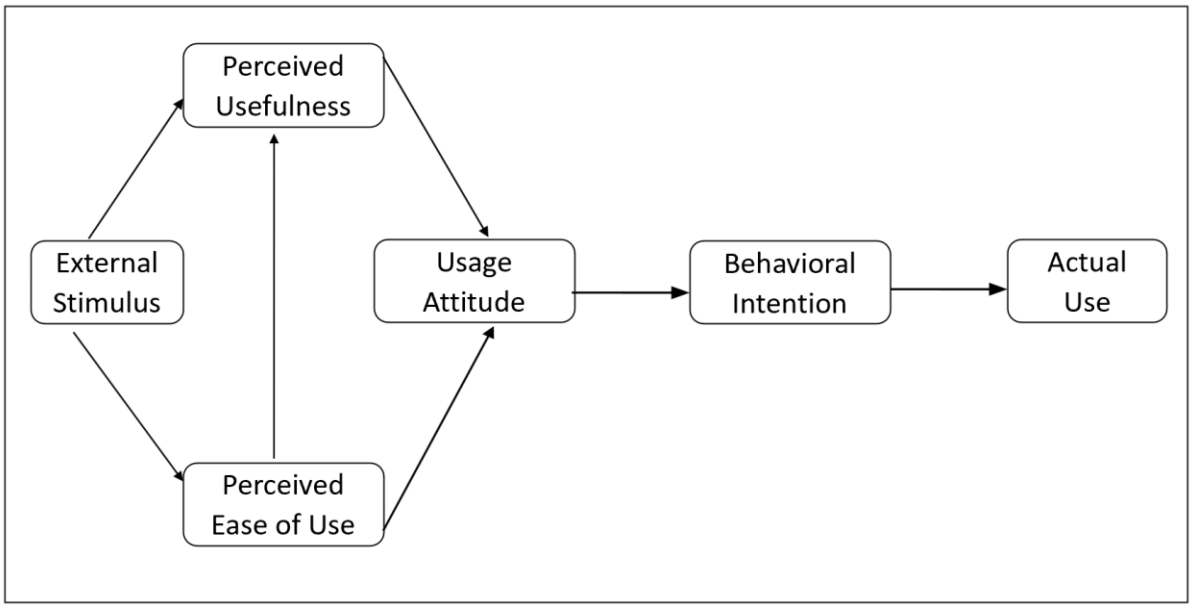

Figure 1: Technology Acceptance Model

(Source: Adapted from (Davis F. , 1993).

This study endeavors to investigate the influence of perceived usefulness and perceived ease of use on the adoption of digital banking services by customers, utilizing the Technology Acceptance Model (TAM) as a theoretical framework. The investigation aims to offer significant insights to commercial banks on enhancing their digital banking services and strategies, thereby promoting digital banking adoption, by comprehending how these two factors impact customers' attitudes and intentions.

2.3 Previous studies on Internet banking applied TAM

The Previous studies demonstrate the versatility and robustness of the TAM in studying digital banking adoption. They affirm the importance of PU and PEU while also highlighting the role of additional factors such as trust, perceived risk, and quality of internet connection. Here are some previous research references on the technology acceptance of digital banking solutions are follows:

Authors	Major Findings
(Kabeer, 2013)	examined the factors that affect Pakistani university students' desire to use Internet banking services. The study's theoretical approach, which was modified from the Technology Acceptance Model (TAM), used four independent factors. The study's conclusions demonstrated that convenience, perceived credibility, and perceived value greatly influenced students' willingness to utilize Internet banking.
(Emmanuel, 2011)	studied the effects that Internet banking has on Cal Bank, Unibank, and Prudential Bank as they relate to the Ghanaian banking market. The findings of the study indicate that the future of Internet banking in Ghana offers a great deal of promise, but that it is also facing several challenges. These challenges include problems with internet connectivity, the high cost of implementation, perceived user readiness, and security concerns for customers.
(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 61.3 %, while its ease of use scored 51.6%. The study does, however, suggest in the Midwest 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 their use of Internet banking services.
(Chandio S. , 2011)	Research factors can be used to determine how user acceptance of online banking information systems in Pakistan is influenced by constructing and analyzing an amalgamated model of the causes and effects of people's views on OBIS acceptance. This can be done to determine how study factors influence user acceptance of online banking information systems in Pakistan. The TAM alone is insufficient to describe people's acceptable 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 into 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.
(Abu-Assi, 2014)	Examined the elements that affect Jordanian internet-accessible clients' adoption of e-banking. The study's conclusions demonstrate that the 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.
(Gilaninia, 2011)	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
(Awamleh, Evans, & Mahate, 2003)	To sustain operational efficiency, gaining a competitive advantage is one of the primary factors that encourage banks to adopt new technologies of operation. Utilizing new technologies can provide banks with a competitive edge in terms of market share, customer satisfaction, and overall business performance.
(Zhou, 2012)	conducted research using TAM to understand Internet banking acceptance in Malaysia. The findings of their research indicate that the primary factors influencing the adoption of digital banking are perceived usefulness and perceived ease of use.
(Luarn & Lin, 2005)	applied TAM to understand mobile banking adoption in Taiwan. Their findings confirmed that besides perceived usefulness and perceived ease of use, perceived credibility significantly influenced mobile banking adoption.
(Chitungo & Munongo, 2013)	The study utilized the Technology Acceptance Model (TAM) to investigate the adoption of mobile banking services in Zimbabwe. The research revealed that perceived usefulness and perceived ease of use are pivotal factors in determining the success of a given system. Additionally, the study emphasized the significance of social influence and facilitating conditions in this regard.
(Al-Jabri & Sohail, 2012)	A research endeavor was undertaken in Saudi Arabia utilizing the Technology Acceptance Model (TAM) as a framework to examine the uptake of mobile banking. The findings validated the significance of perceived usefulness and perceived ease of

	use, while also underscoring the noteworthy influence of social influence.
(Wang, Lin, & Luarn, 2006)	used an extended TAM to examine mobile banking adoption in Taiwan. The research revealed that the perceived usefulness and perceived ease of use were noteworthy predictors of the behavioral intention to utilize mobile banking. Additionally, perceived self-efficacy and perceived financial cost were also found to have an impact.

The preceding research studies on the adoption of digital banking reveal the primary takeaways as follows:

1. The significance of perceived usefulness and perceived ease of use has been recognized as crucial factors in the adoption of banking technology in diverse countries and banking systems. This suggests that the adoption of banking technology by customers is contingent upon their perception of its utility and ease of use.
2. The adoption of banking technology is significantly influenced by the perceived credibility, security, and trust in its system of security and trust. To attract a larger user base, financial institutions must prioritize the establishment of secure and reliable systems.
3. The significance of compatibility and technology in modern times cannot be overstated. The concept of self-efficacy concerning technology usage involves compatibility, which pertains to the degree of alignment between the technology and the users' pre-existing lifestyles and requirements. The term "technology self-efficacy" pertains to an individual's confidence in their capacity to proficiently operate technological tools.

4. The impact of social factors on the adoption of mobile banking has been investigated, revealing that social influence, defined as the impact of others' opinions on an individual's behavior, is a significant determinant.
5. The adoption of technology may be hindered by regional and contextual factors such as limited internet connectivity and high implementation expenses.
6. implementation of novel technologies can confer a competitive advantage to banks, resulting in increased market share, enhanced customer satisfaction, and improved overall business performance.

2.4 Factors Affecting the Adoption of Digital Banking.

The adoption of digital banking has gained significant momentum in recent years, driven by advancements in technology and changes in consumer preferences. Various factors influence customers' decisions to adopt digital banking services. Understanding these factors is crucial for banks and policymakers in developing strategies to promote digital banking adoption.

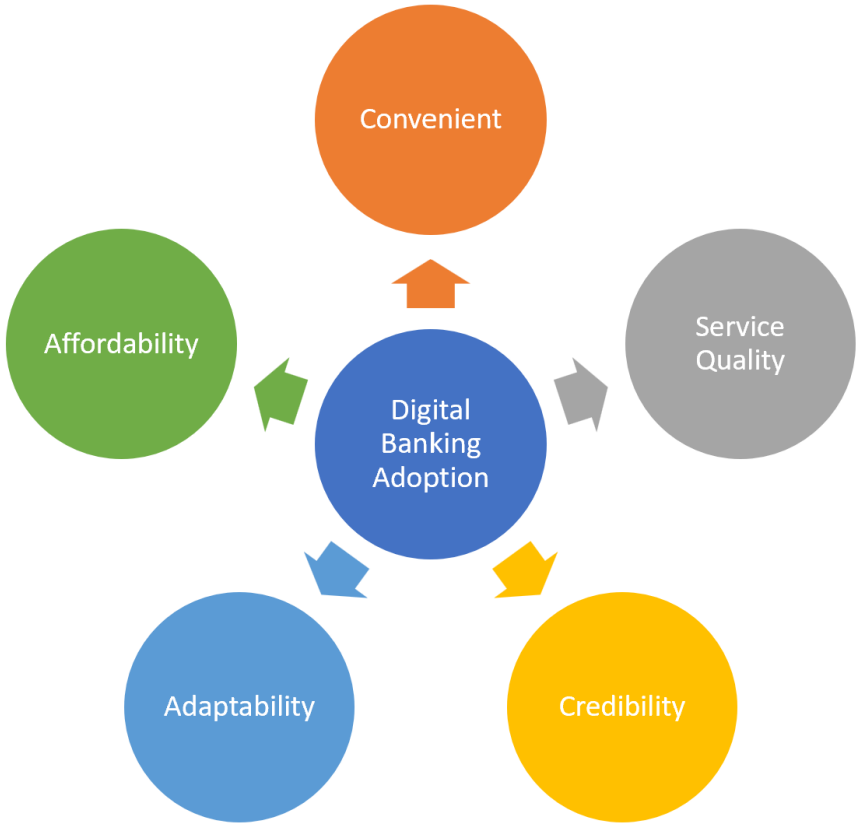

Figure 2: Digital Banking Adoption Factors

2.4.1 Convenient

Numerous studies have identified convenience as a significant determinant of adoption, as evidenced by Lichenstein's research in 2006. Several research studies have demonstrated that the primary motivators for utilizing Internet banking services are the advantages of time-saving and 24/7 accessibility to one's accounts. Hosein (2010) has established a correlation between the augmented utilization of the Internet in the workplace and the widespread adoption of online banking.

2.4.2 Analysis of Service Quality

The provision of top-notch services to customers is of utmost importance in the realm of online banking. There exist a multitude of factors that contribute to the provision of internet services of superior quality. Several factors that influence the user experience include the speed of delivery, usability, dependability, enjoyment, privacy, security, and

control over the service (Suh & Han, 2002). The perception of customers regarding the duration of service processing tends to be overestimated due to their preoccupation with the promptness of service delivery. Efficient time management is a crucial factor in the provision of services, particularly for customers who utilize online banking services, as they prioritize time-saving measures.

2.4.3 Credibility

The determination of utilizing online banking services may be impacted by factors such as security, privacy, trustworthiness, and risk. The proliferation of Internet banking activity has led to an escalation in security apprehensions among both consumers and financial institutions. Chandio (2011) suggests that the enhancement of account security and fraud prevention measures is instrumental in bolstering customers' trust in online banking information systems. According to Katsikas (2005), it can be inferred that digital business enterprises are required to enhance their customers' confidence and trust, or they must devise advanced technologies that incorporate strong security features to safeguard the privacy and security of digital business transactions. The paramount aspect of Internet banking is privacy, as consumers must experience a sense of safety and security with their personal information. As per Chandio (2011), there are concerns among certain individuals regarding the potential security risks, criminal behavior, loss of data, and harm to brand reputation that may arise from the utilization of information technology. Chandio (2011) asserts that in the context of online banking and commerce, trust plays a crucial role, particularly in terms of being open to vulnerability and maintaining optimistic expectations regarding the actions of the other party. As per Katsikas (2005) assertion, the incorporation of trust is imperative in electronic transactions to enable internet-based digital enterprises to rival conventional commerce. Due to the trustworthiness of the bank, customers are likely to experience a sense of ease when transmitting personal and financial data via the Internet. Singh (2012) posits that individuals are likely to feel at ease transmitting personal and financial data to financial institutions via the Internet due to the level of trust they have in them. The confidence of consumers in online banking pertains to their conviction that digital transactions will fulfill their anticipated outcomes.

Factors that may be taken into account include the user's perception of system security, the reputation of the service provider, the possibility of privacy breaches, and the risks associated with online banking. As per Katsikas (2005) assertions, the security of e-commerce necessitates the assurance of privacy, availability, integrity, veracity, and non-repudiation.

2.4.4 Adaptability

According to Lichenstein's (2006) findings, the adoption decision is influenced by personal traits such as adaptability, technical self-efficacy, and understanding of online banking applications. These factors have been identified as significant determinants of the adoption decision. Ramsay identified the significance of exerting control over service delivery while acknowledging the potential influence of habit.

2.4.5 Affordability

Affordability is a critical determinant of the adoption of digital banking services. There are two distinct cost components associated with Internet banking, namely the conventional Internet usage charges and the fees levied by the bank for providing Internet banking services. There are two advantageous factors in their favor. The availability of internet connectivity is deemed essential for conducting online banking transactions. Consequently, a prevailing notion exists that the expenses associated with internet usage are exorbitant. Additionally, there is a limited number of financial institution charges for conducting online banking transactions.

2.5 Advantages of Digital Banking in Commercial Bank

Internet banking provides numerous benefits for both banks and their customers.

2.5.1 Bank Benefits

I. Save Time and Cost - It is convenient in the sense that it saves money, effort, time, and all other resources that are required to accomplish a transaction. Through the use of the internet, banking services can be accessed briskly, without difficulty, and at any time.

Internet banking has lower overhead costs than conventional banking does because there is no need to keep as many employees on staff and there are fewer physical locations that need to be maintained (Emmanuel, 2011).

II. Efficiency- Banks may be able to improve their efficiency even more by providing their customers with an Internet connection. Because customers can take care of their own needs online, there is no requirement for customer service representatives. As a result, the bank may reduce its expenses by reducing the number of employees it employs, the amount of space it dedicates to branches, and the amount it spends on consumable goods like paper, ink, and other types of stationery. As a direct consequence of this, the system is almost entirely free of paper (Hosein, 2010).

III. Enhance products and Services - Internet banks can provide consumers with innovative goods and services as well as very alluring incentives thanks to the decreased operating expenses.

IV. 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. The person doesn't need 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 satisfaction 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).

V. 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 the 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.

VI. Image- If a bank offers Internet access, it gives the impression that it is more cutting-edge and technologically sophisticated. Access to Internet banking, even if one does not wish to use it, gives one the impression that their bank is cutting edge.

VII. 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 are not physically present 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

VIII. Heighten competition between banks – It enables clients to select from the top banks' goods and to enter new markets.

2.5.2 Customer's benefits

Chavan (2013), suggests some advantages of Internet banking for customers as follows:

I. 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).

II. Time and comfort improvements - 24 hours a day, transactions can be completed without having to visit the bank in person.

III. Continuous and quick access to information – Businesses will have easier availability to information because they may check on several transactions at once.

IV. 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.

V. Lower expenses- This relates to the price associated with obtaining and using various financial services and products. Compared to branch banking, internet banking has lower transaction costs.

VI. Convenience - Anywhere consumers choose, including their home or office, they can conduct all their financial transactions. Consumers can quickly and affordably access

banks through banks. In circumstances where e-banking has been adopted, the convenience of working banking outside of branch official operating hours has proven to be crucial (Kwashie, 2012).

VII. Quickness - Because the medium responds quickly, customers can put off completing a fund transfer or other services until the very last second.

VIII. 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 computers. This will improve financial management.

2.6 Conceptual Framework

A framework for study provides a basis for determining objectives and their significance, while also being influenced by the perspectives and scholarly contributions of others. A conceptual framework can aid in elucidating the underlying reasoning for a research study's selection of methodology. It may also facilitate our understanding and application of the ideas espoused by individuals who have executed analogous actions. The framework may be analogized to a cartographic representation that provides guidance and direction. The present conceptual framework was developed based on the guidance provided by the literature review. The mentioned literature is heavily incorporated into the model. The present investigation focuses on various attributes of Digital Banking, namely accessibility, dependability, convenience, privacy, and security, with their role as precursors to the acceptance of electronic banking.

The following study framework model is suggested concerning the above-mentioned literature review to close the research gaps. The following theoretical framework, which is shown in Figure 3, is suggested for the literature review to close the research gaps.

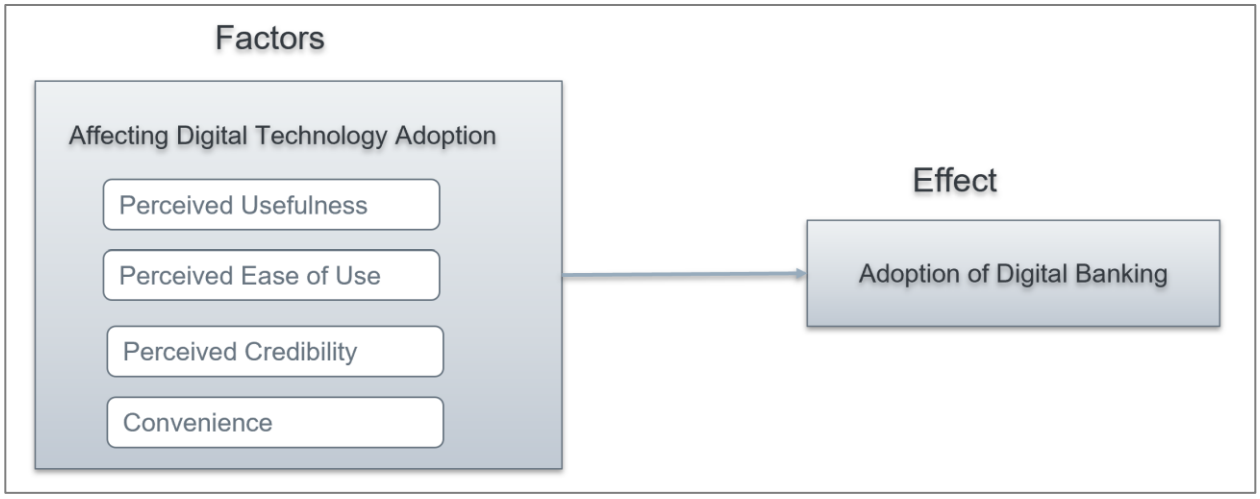

Figure 3: Theoretical Framework of Study

(Source: Kamutuezu, E. U. (2016). The Adoption of Digital Banking in Namibia)

The link between the factors 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, these factors are affecting the adoption of digital banking.

2.6.1 Major Components in the Adoption of Digital Banking

Digital banking is the output or result of four factors, usefulness, usability, credibility, and convenience all have an impact on the adoption of digital banking. The final aspects will affect users' decisions regarding whether to utilize digital banking and will influence their decision. In summary, respondents strongly agreed with the results that all four factors are crucial to the use and uptake of digital banking. The factors are known as a repressor in a statistical context, which represents inputs or causes i.e. potential reason for the variation. However, there are various dimensions of digital banking services but this study considered usefulness, ease of use, convenience, and credibility as the major attributes of digital banking services.

2.6.2 Perceived Usefulness

Perceived usefulness is considered to be the primary factor influencing user acceptance of a system. The perceived usefulness of a system is influenced by various factors such as its efficiency, efficacy, and overall advantages in enhancing user performance. The central tenet of the Technology Acceptance Model (TAM) posits that the utilization of technology is

contingent upon its acceptance, which is predicated on two cognitive criteria: perceived usefulness and perceived ease of use. Therefore, it pertains to the extent to which an individual believes that incorporating technology would improve the caliber of their work. Consequently, the propensity of users to embrace technology is positively correlated with its perceived value.

2.6.3 Perceived Ease of Use

The perceived ease of use of a technological process display and its accessibility are positively correlated. Davis' Technology Acceptance Model (TAM), initially introduced in 1986, posits that users' evaluations of a system's usability represent a critical factor in determining their willingness to adopt it. Davis conceptualized ease of use as the extent to which consumers perceive a particular technology as capable of reducing their cognitive or physical workload. In essence, individuals are more inclined to utilize a system if they perceive it to possess a user-friendly interface. The Technology Acceptance Model (TAM) posits that an individual's adoption of technology is contingent upon two cognitive factors, namely, perceived usefulness (PU) and perceived ease of use (PEOU), which in turn mediate their actual usage of the technology.

2.6.4 Perceived Credibility

Perceived Credibility refers to the degree of trustworthiness attributed to an individual's statements, even in unforeseen circumstances. The perceived credibility of a service provider significantly influences consumer acceptance before enrollment, as individuals tend to avoid service providers that they perceive as lacking credibility. The concept of credibility pertains to the level of trust and awareness that a user possesses concerning the potential hazards that may arise from utilizing an electronic program that is devoid of any associated risks. These risks may encompass a range of factors such as financial, health-related, functional, social, temporal, opportunity-related, and informational risks. The components of trustworthiness are deemed to be security and privacy, both of which are of paramount importance.

2.6.5 Convenience

The term used to represent the level of "customer's inclination towards the adoption of a new information system" is known as convenience (CONV). It is purported that there exists a noteworthy impact on the implementation of information systems. The adoption of e-banking services by consumers is influenced by several factors, such as technology, security, convenience, familiarity with new technologies, and prior personal banking experience. The convenience of digital banking services seems to prioritize the temporal and physical exertion required to carry out transactions, with time efficiency and round-the-clock availability emerging as the most notable advantages. As individuals become increasingly aware of their discretionary time and recreational pursuits, the user-friendly attributes of electronic banking will be increasingly appreciated. A significant number of individuals perceive time as a precious commodity and exhibit reluctance toward allocating additional time to carry out banking activities. Therefore, the probability of adoption is high.

Chapter 3

3. Research Methods - Introduction

The financial industry has undergone a significant transformation with the advent of digital banking, which has introduced a novel approach to conducting banking transactions and services. The growth of digital banking has emerged as a crucial topic for both academia and industry, given its significance in shaping the future of commercial banks and their adoption by customers. The significance of comprehending the determinants that stimulate the adoption of digital banking has escalated in light of technological progress and shifts in consumer conduct.

The predominant research approach utilized in investigations on the adoption of digital banking involves quantitative methodologies, with a marked inclination towards the utilization of survey research design. Commonly, these investigations employ established frameworks, including the Technology Acceptance Model (TAM).

3.1 Research Design

In investigating the adoption of digital banking by customers of commercial banks, the research design will be anchored in quantitative descriptive-method design (Creswell & Clark, 2017). The quantitative will involve a survey research design. Surveys will be administered to a large and diverse sample of banking customers to obtain a broad understanding of their attitudes, perceptions, and behaviors toward digital banking adoption. The survey questionnaire will be designed based on constructs from the Technology Acceptance Model (TAM) and other relevant literature. Constructs will include perceived usefulness, perceived ease of use, trust, security concerns, and demographic factors.

The questionnaire will be distributed online to ensure a wide geographical reach and a diverse sample of respondents. The collected data will be analyzed using statistical software, with techniques including descriptive statistics analysis and examining the relationships between factors (Hair, Black, Babin, & Anderson, 2017).

3.1.1 Research Description

The research will employ a quantitative methodology using questionnaires to gather data from a substantial sample of commercial bank customers. The factors to be investigated include perceived usefulness, perceived ease of use, trust, security, and the influence of demographic factors such as age, education,

3.1.2 Sampling Technique:

A probability sampling technique, such as stratified random sampling, will be employed to select participants for the survey. The population will consist of customers of commercial banks who have experience using banking services, and the sample will be drawn from different geographic regions to ensure diversity. The sample size will be 200 using appropriate statistical calculations to ensure sufficient power and representativeness.

3.1.3 Data Collection:

Primary data will be collected through a structured questionnaire administered to the selected participants. The questionnaire will be distributed either online. Adequate measures will be taken to ensure the confidentiality and anonymity of the respondents. The data collection process will be carefully managed to minimize non-response bias and maximize the response rate.

3.1.4 Data Analysis:

The collected data will be analyzed using appropriate statistical techniques. Descriptive statistics analysis will be used to summarize the demographic characteristics of the respondents. statistics and analysis will be employed to examine the relationships between factors. And Statistical software will be used for data analysis.

3.1.5 Interpretation of Findings:

The interpretation of findings will involve a comprehensive analysis of the results obtained from the data analysis process. The findings will be interpreted to the research objectives and research questions and will be discussed in the context of existing literature and theoretical frameworks.

Chapter 4

4. Analysis And Results - Introduction

The analysis and results section of the study on digital banking adoption by customers of commercial banks presents the findings derived from the data collected and analyzed. This section provides a comprehensive overview of the research outcomes, highlighting the key findings and their implications. The analysis and results section is crucial as it answers the research questions, and draws meaningful conclusions based on findings.

The study utilized random sampling techniques in the selection of participants. The survey was conducted among bank customers and stakeholders, who constituted the target population. To expedite and streamline data collection, the survey was disseminated electronically through email. The employment of this particular distribution approach facilitated a smooth process of survey response management and retrieval. The response rate for this study was 100%, with all 200 participants providing data. In a similar vein, the researcher employed a strategic methodology to augment the response rate, which involved dispatching reminders to select individuals.

4.1Demographic Analysis

The demographic analysis in the study on digital banking adoption by customers of commercial banks provides insights into the characteristics of the participants. This analysis helps understand the composition of the sample and enables the examination of potential variations in digital banking adoption across different demographic groups. Demographic factors commonly analyzed include age, gender, education level, income, and designation.

This section presents a summary of the demographic characteristics of the respondents and contains graphs, tables, and statical data such as averages and percentages listed in Table 1. The data was collected through surveys administered to customers of commercial banks.

Table 1: Demographic characteristic, Source Survey Data (2023)

Variable	Classification	Frequency	Percentage
Gender	Male	129	64.50%
	Female	71	35.50%
	Total	200	100%
Age Group	18-25 years	46	23.20%
	26-40 years	123	61.60%
	Above 40 years	31	15.30%
	Total	200	100%
Education	SLC	26	12.90%
	Plus 2	60	30.00%
	Bachelor	82	40.80%
	Masters	32	16.10%
	Above	1	0.30%
	Total	200	100%
Job Level	Sr. Manager	21	10.60%
	Mid Manager	76	38.20%
	Officer	71	35.50%
	Junior	32	15.80%
	Total	200	100%

Starting with gender, we see a majority are male, representing about 64.5% or 129 individuals. The remaining 35.5%, or 71 individuals, are female. So, we've got a few more men than women in our sample.

Now, when we look at age groups, the largest chunk of our population is in the 26-40 years range. This group accounts for 61.6%, which is about 123 people. The youngest age bracket, the 18-25-

year-olds, consists of 46 people, making up 23.2% of our population. Those who are above 40 years old represent 15.3% or 31 people in our sample.

Next up is education. The highest degree earned by most of our population is a Bachelor's degree, held by 40.8% or 82 people. 30% or 60 people completed up to a Plus 2 level of education, while about 12.9% or 26 people have an education level up to SLC. Those with a Master's degree make up 16.1% or 32 people. Interestingly, we have one individual, representing 0.3% of our population, who has an education level above a Master's degree.

Lastly, let's discuss job levels. The biggest group here is mid-level managers, comprising 38.2% or 76 people of our sample. Officers make up 35.5% or 71 people, while senior managers and juniors represent 10.6% (21 people) and 15.8% (32 people) respectively.

4.1.1 Frequency Analysis on Respondent

The targeted sample is the customer of the Bank, so in the case of digital banking facilities usage among the 200 respondents surveyed, the frequency analysis reveals that 100% of the respondents use digital banking facilities. This suggests that digital banking has complete penetration in the surveyed group, indicating a universal adoption of this technology among the respondents.

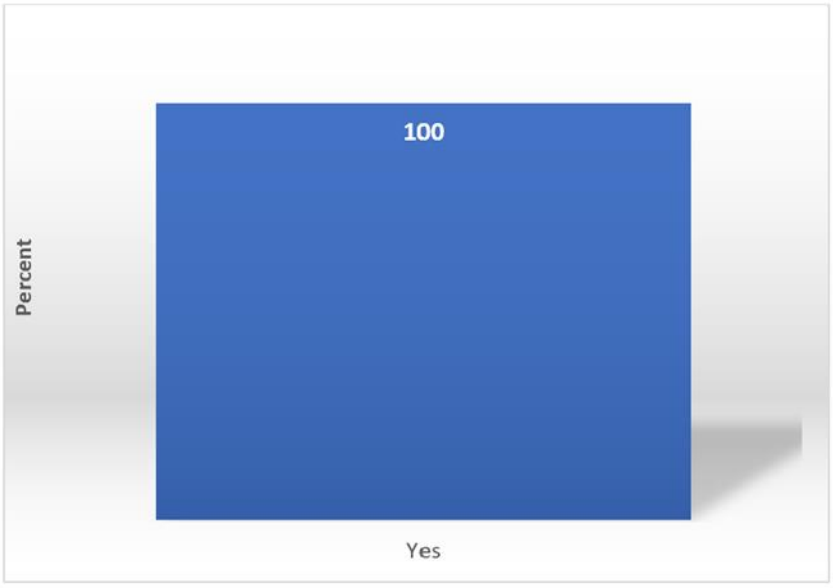

Figure 4: Customer of Banks, Source Survey Data (2023)

4.1.2 Bank Selection

All of these banks offer pretty much the same digital services, and different commercial banks among our group of 200 respondents are using their digital services.

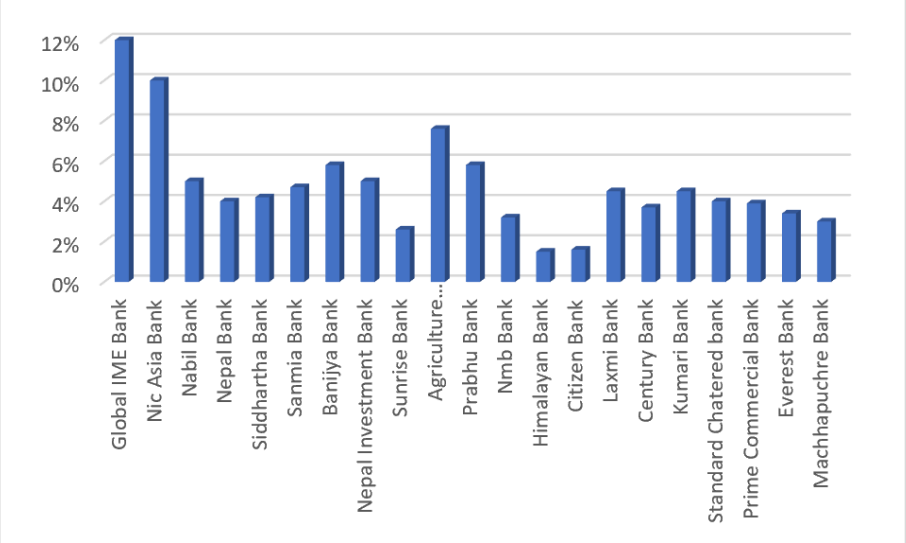

Figure 5: Bank Selection, Source Survey Data (2023)

Global IME Bank is the favorite, with 12.00% of respondents banking with them. That's 24 people in our group. Coming in as a close second, we have Nic Asia Bank, with 10.00% of respondents, or 20 people, choosing to bank with them. It gets a bit more evenly spread after that. Nabil Bank and Nepal Investment Bank each have 5.00% of our respondents, that's 10 people banking with each of them. Banijya Bank and Prabhu Bank are also favorites, each with 5.80% or 12 people. The Agriculture Development Bank is doing a bit better, serving 7.60% or 15 of our respondents. Nepal Bank, Siddhartha Bank, Sanmia Bank, Laxmi Bank, and Kumari Bank all have between 4.00% to 4.70% of our respondents, which equals about 8 to 9 people for each.

A few of our banks serve less than 4% of our group. This includes Sunrise Bank, Nmb Bank, Century Bank, Standard Chartered Bank, Prime Commercial Bank, Everest Bank, and Machhapuchre Bank, which each serve between 2.60% and 3.90% of our respondents. That's between 5 to 8 people for each bank. Then, we have the Himalayan Bank and Citizen Bank each

serving the smallest groups - 1.50% and 1.60% respectively. That's about 3 people banking with each.

Despite the digital services being the same across the bank, it's interesting to see the differences in how many people use each bank. It seems that Global IME Bank and Nic Asia Bank are the most popular among our respondents.

Table 2: List of Commercial Banks in Nepal, Source Survey Data (2023)

Commercial Banks	Frequency	Percentage
Global IME Bank	24	12.00%
Nic Asia Bank	20	10.00%
Nabil Bank	10	5.00%
Nepal Bank	8	4.00%
Siddhartha Bank	8	4.20%
Sanima Bank	9	4.70%
Banijya Bank	12	5.80%
Nepal Investment Bank	10	5.00%
Sunrise Bank	5	2.60%
Agriculture Development Bank	15	7.60%
Prabhu Bank	12	5.80%
NMB Bank	6	3.20%
Himalayan Bank	3	1.50%
Citizen Bank	3	1.60%
Laxmi Bank	9	4.50%
Century Bank	7	3.70%
Kumari Bank	9	4.50%
Standard Chartered Bank	8	4.00%
Prime Commercial Bank	8	3.90%
Everest Bank	7	3.40%
Machhapuchre Bank	6	3.00%
Total	200	100%

4.1.3 Use of Internet

From the Table, it's clear that the majority of our 200 respondents are daily internet users. A whopping 90.6% of them, or 181 people, are online every day. That's nearly everybody. Then we have a smaller group of 15 people who check in with the internet once a week. That represents about 7.4% of our total respondents, so not a huge group, but still a significant number of people. Getting even more occasional with their internet use, we have one individual who hops online

every fortnight. That's only 0.5% of our group, so a pretty rare occurrence. Lastly, we have a tiny group of 3 people, making up 1.6% of respondents, who use the internet once a month.

So the vast majority of our respondents are daily internet users, and then we have a few small groups who use it less frequently. It's fascinating to see how integral the internet has become in our daily lives.

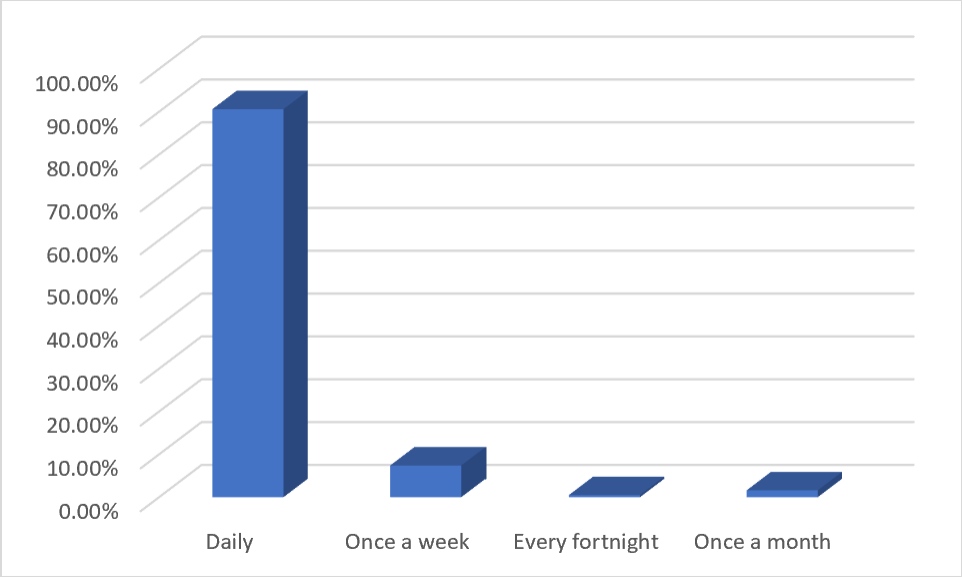

Figure 6: Use of Internet, Source Survey Data (2023)

Table 3: Uses of the Internet, Source Survey Data (2023)

Classification	Frequency	Percentage
Daily	181	90.60%
Once a week	15	7.40%
Every fortnight	1	0.50%
Once a month	3	1.60%
Total	200	100%

4.1.4 Frequency of using the Internet for Banking

From the Table, data is a bit more evenly spread out. We've got 18.7% of respondents, or 37 people, who use the Internet for banking every single day. They're getting the most out of those online services. The biggest chunk of our group, 44.5% or 89 people, log in to do some banking

once a week. So, they're not checking in as often as the daily users, but still pretty regularly. Then we've got two groups that are the same size. Both every-fortnight users and once-a-month users make up 18.4% of the total, and that's 37 people in each group. They're not checking their accounts quite as often, but still using those online services to stay on top of their banking.

Table 4: Uses of the Internet for Banking purpose, Source Survey Data (2023)

Classification	Frequency	Percentage
Daily	37	18.70%
Once a week	89	44.50%
Every fortnight	37	18.40%
Once a month	37	18.40%
Total	200	100%

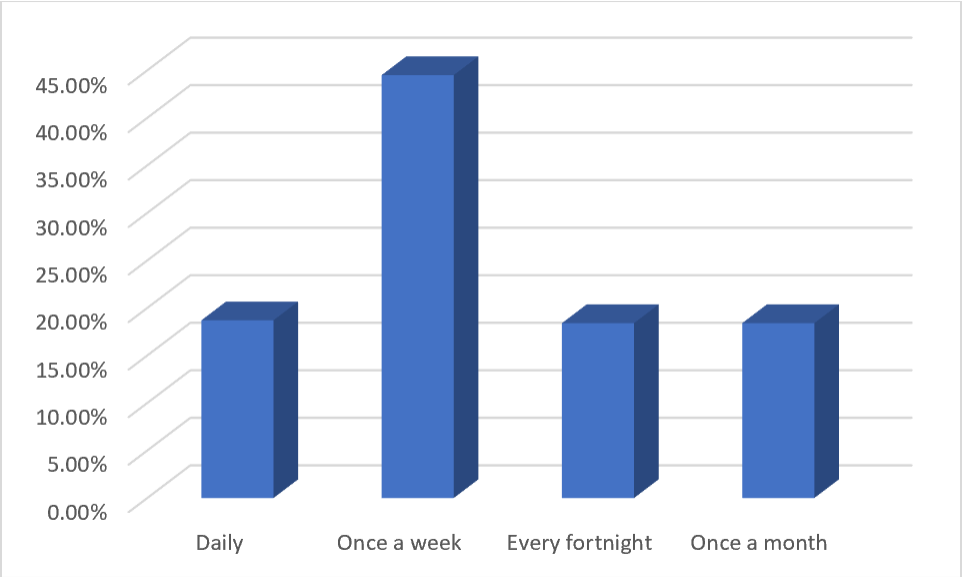

Figure 7:Uses of the Internet for Banking Purposes, Source Survey Data (2023)

4.1.5 How long have you been using banking services on the Internet?

From the Table below, we have 13.4% of respondents, or 27 people, who have been banking online for 1 to 6 months. They're just getting started, but it's great to see them taking advantage of these services. Moving on to a bit more experienced group, we have 20.3% of our respondents, equating to 41 people, who have been using the internet for banking for 7 to 12 months.

Now, the vast majority of our group are Internet banking veterans. A huge 66.3% of them, or 133 people, have been using the Internet for banking for more than a year.

Table 5: Duration of using the Internet for banking Purposes, Source Survey Data (2023)

Classification	Frequency	Percentage
1 to 6 months	27	13.40%
7 to 12 months	41	20.30%
More than 1 year	133	66.30%
Total	200	100%

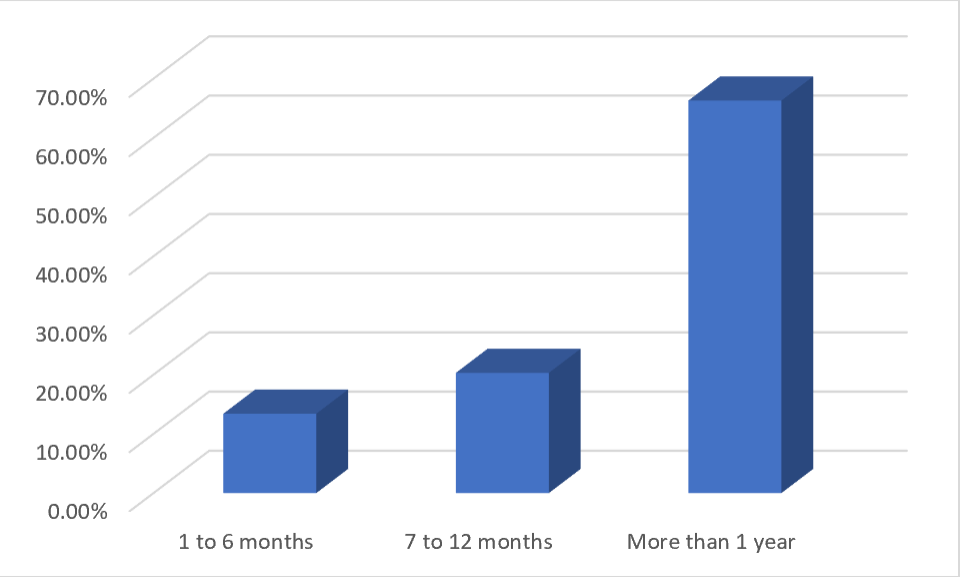

Figure 8: Duration of using the Internet for banking purposes, Source Survey Data (2023)

4.2 Descriptive Analysis

The descriptive analysis involves calculating measures such as mean, standard deviation, maximum, and minimum values for each question. This analysis helps to summarize and understand the distribution and variability of the responses from the 200 sample size. To perform the descriptive analysis, Excel has been used as statistical software to calculate these measures for 30 questions.

The descriptive analysis examines the relationship between independent factors, including Perceived Usefulness, Perceived Ease of Use, Perceived Credibility, and Convenience, and the dependent factor, the adoption of digital banking. These factors were measured using a five-point

Likert scale, with 1 representing "Strongly Disagree", “Disagree”, “Neutral”, and “Agree” denoted 2,3,4 respectively, and 5 representing "Strongly Agree."

The specific factors used in the study for the following majors,

I. Perceived Usefulness: This factor measures customers' perception of the usefulness of digital banking services.
II. Perceived Ease of Use: This factor captures customers' perception of the ease of using digital banking services.
III. Perceived Credibility: This factor assesses customers' perception of the credibility of digital banking services.
IV. Convenience: This factor reflects customers' perception of the convenience provided by digital banking services.
V. The dependent factor in the study is the Adoption of Digital Banking, which represents customers' actual adoption behavior towards digital banking services.

To assess the inclination towards agreement or disagreement with the statements, mean values were calculated for each factor. A mean number that is below 3 shows that respondents are inclined to disagree with the claims, whereas a mean value that is equal to or above 3 says that respondents are inclined to agree with the statements, the study aims to provide insights into customers' perceptions and their likelihood of adopting digital banking services.

4.3 Analysis Of Survey

Each factor Perceived Usefulness -PU, Perceived Ease of Use -PEOU, Credibility -PCRED, Convenience -CONV to use digital banking, and Adoption -ADOP is shown in the following table:

Table 6: Descriptive analysis of the survey, Source Survey Data (2023)

Variables	N	Minimum	Maximum	Mean	Std. Deviation
PU	200	1	5	4.19	0.72
PEOU	200	1	5	4.17	0.74
PCRED	200	1	5	4.17	0.74
CONV	200	1	5	4.25	0.72
ADOP	200	1	5	4.19	0.7

For each of these factors, we have a sample size of 200, so that means we have 200 data points for each one. For the PU factor, the values here range from a minimum of 1 to a maximum of 5. On average, or the mean, the score for PU is around 4.19, with a standard deviation of 0.72. This tells us that most scores are fairly high and close to the mean, but there's some variance, though not too wide.

Moving on to PEOU, again we have a range from 1 to 5. The average here is slightly lower than PU at 4.17, but not by much. The standard deviation is slightly higher at 0.74, suggesting a bit more spread in the data.

PCRED has the same range, mean, and standard deviation as PEOU, indicating a similar distribution of values among respondents.

Next up is CONV, which also has values ranging from 1 to 5. The mean score for CONV is slightly higher at 4.25, with a standard deviation of 0.72, again suggesting a reasonable amount of variance around the mean.

About ADOP, values are between 1 and 5, with an average score of 4.19. The standard deviation is the smallest here at 0.70, indicating that the scores are fairly tightly clustered around the mean.

all these factors have fairly high average scores, ranging from 4.17 to 4.25, with a moderate amount of variation around these means. This suggests that the respondents tend to rate these aspects quite highly with a reasonable amount of consensus.

4.3.1 Perceived Usefulness

With all statical values, PU1 relates to the speed of transactions using digital banking. Out of our 200 respondents, the ratings range from a minimum of 1 to a maximum of 5. The average score here is 4.21, which suggests that most users find digital banking makes their transactions much faster. However, with a standard deviation of 1.08, there's a decent amount of variation in the responses. Moving on to PU2, this focuses on the time-saving aspect of digital banking. The average score for this item is slightly lower at 4.02, but still quite high. The standard deviation is a bit lower too at 0.83, indicating a bit less variability in responses. Next, we have PU3, which concerns the improvement of banking performance due to digital banking. The mean rating for

this is 4.27, which is slightly higher than our previous items, and the standard deviation is 0.89. PU4 is about the control over transactions that digital banking provides. It's got an average score of 4.18, suggesting a positive perception among respondents. The standard deviation here is 0.83, showing moderate variability. PU5 involves the expectations of users about the services offered by their bank. The mean score is 4.19, showing a positive perception, and the standard deviation of 1.03 indicates a considerable variability in responses. Lastly, PU6 relates to the overall usefulness of digital banking services. The average rating is quite high at 4.22, indicating a positive view and the standard deviation is 0.88, suggesting a reasonable level of variation in the responses. Most users have a positive perception of the usefulness of digital banking, with all factors averaging over 4 out of 5. However, there's some variability in responses, suggesting that while most people find it useful, experiences and opinions do differ.

Table 7: Perceived Usefulness, Source Survey Data (2023)

Code	Variables	N	Min	Max	Mean	S.D.
PU1	The use of digital banking makes my transactions very fast.	200	1	5	4.21	1.08
PU2	The use of digital banking is saving time	200	1	5	4.02	0.83
PU3	Using the digital banking information system improves my performance of banking activities	200	1	5	4.27	0.89
PU4	The use of digital banking gives me control over my transaction	200	1	5	4.18	0.83
PU5	My bank offers all the services i expect	200	1	5	4.19	1.03
PU6	I find digital banking services useful	200	1	5	4.22	0.88

4.3.2 Perceived Ease of Use

the respondent's response on the perception of the ease of use of digital banking services. Firstly, we have the factor PEOU1, which relates to how easy it would be for respondents to learn to operate the digital banking system. In our group of 200 respondents, the average score is 4.29 out of 5, which is pretty high, suggesting that most believe it would be easy for them to learn. But with a standard deviation of 0.99, we can see a fair amount of variance in the responses. Moving on to PEOU2, this statement asks if respondents would find it easy to get the digital banking system to handle their banking needs. The average score is a little lower here at 4.1 but still

suggests that most people agree it would be easy. The standard deviation is a bit lower too, at 0.86, indicating a slightly less spread in the responses. Next, we have PEOU3. This is about whether respondents believe their interaction with the digital banking system would be clear and understandable. The mean score for this statement is 4.24, and with a standard deviation of 1.05, it indicates a decent spread in opinions. PEOU4 is about the flexibility of the digital banking system. It scored an average of 4.16, suggesting that most users find it flexible. The standard deviation of 0.87 indicates a moderate level of variance in responses. For PEOU5, which is about how easy it would be for users to become skilled at using the digital banking system, the average score is 4.23. The standard deviation is 0.89, indicating a reasonable level of variation in the responses. Finally, PEOU6 simply asks if respondents would find the digital banking system easy to use. The average score here is 4.16, again indicating a positive view, and the standard deviation is 0.88, showing a moderate level of variability in responses. In response to the factor, respondents generally perceive the digital banking system as easy to use, with all averages above 4. However, there is some variability in responses, highlighting differing experiences and perceptions among users.

Table 8: Perceived Ease of Use, Source Survey Data (2023)

Code	Variables	N	Min	Max	Mean	S.D.
PEOU1	Learning to operate the digital banking system would be easy for me	200	1	5	4.29	0.99
PEOU2	I would find it easy to get the digital banking system to do my banking	200	1	5	4.1	0.86
PEOU3	My interaction with the digital banking system would be clear and understandable	200	1	5	4.24	1.05
PEOU4	I find the digital banking system flexible to interact with	200	1	5	4.16	0.87
PEOU5	It would be easy for me to become skillful at using the digital banking system	200	1	5	4.23	0.89
PEOU6	I would find the digital banking system easy to use	200	1	5	4.16	0.88

4.3.3 Perceived Credibility

The Factor with PCRED1 pertains to the consistency of the digital banking experience. Our 200 respondents gave this a mean score of 4.23 out of 5, which is a good sign that most users don't

notice any inconsistencies while using digital banking. However, with a standard deviation of 1.13, we can infer there's quite a bit of variation in their experiences. Next is PCRED2, which measures overall trust in digital banking. On average, this received a score of 4.07, slightly lower than our previous factor but still a high score. The standard deviation of 0.86 suggests some variability in how much users trust digital banking. PCRED3 dives into the trustworthiness of the digital banking information system. This receives a strong average rating of 4.25, suggesting that most users perceive the system as trustworthy. The standard deviation is lower at 0.85, indicating less variability in responses. We then have PCRED4, which focuses on how easily users can recover from mistakes when using the digital banking system. The average rating for this item is slightly lower at 4.02 but still signifies a positive perception. The standard deviation of 0.87 reflects a moderate level of variance. PCRED5 assesses whether the digital banking system provides clear error messages to help users fix problems. The mean score is high at 4.24, indicating users appreciate this clarity. However, the standard deviation of 0.98 shows a fair amount of variability in their responses. Lastly, PCRED6 addresses the users' confidence in using digital banking even when there's no one around to guide them. The average score of 4.19 shows that most users are confident in this situation. The standard deviation of 0.87 reveals a moderate level of variability in their responses. The findings suggest that users generally perceive digital banking as credible, with all average scores exceeding 4. However, there is a range of experiences and perceptions, as highlighted by the standard deviations.

Table 9: Perceived Credibility, Source Survey Data (2023)

Code	Variables	N	Min	Max	Mean	S.D.
PCRED1	I don’t notice any inconsistencies as I use digital banking	200	1	5	4.23	1.13
PCRED2	Overall, I trust digital banking	200	1	5	4.07	0.86
PCRED3	The digital banking information system is trustworthy	200	1	5	4.25	0.85
PCRED4	Whenever I make a mistake using the digital banking system, I recover easily and quickly	200	1	5	4.02	0.87
PCRED5	The digital banking system gives error messages that clearly tell me how to fix problems	200	1	5	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	200	1	5	4.19	0.87

4.3.4 Convenience

The factor with CONV1, the idea here is that digital banking is used due to its convenience. The respondents gave an average score of 4.34 out of 5, showing a strong agreement. However, with a standard deviation of 0.9, we can see some variability in user experiences. CONV2 explores whether digital banking allows users to accomplish tasks with as few steps as possible. The average rating for this point was slightly lower at 4.18 but still indicates a positive sentiment. The standard deviation of 0.79 suggests a moderate degree of variance. CONV3 discusses the ability to use digital banking without needing written instructions. Respondents found this to be largely true, with a high average score of 4.31. However, a standard deviation of 0.96 reveals a relatively high degree of variation in user experiences. Next, CONV4 checks whether digital banking fulfills all user expectations. The mean score here is 4.17, indicating that users generally feel that digital banking meets their expectations. However, with a standard deviation of 0.89, there's some difference in opinions. CONV5 deals with whether digital banking makes banking tasks easier to complete. With an average score of 4.29, it seems that most users agree with this statement. A standard deviation of 0.84 suggests a moderate amount of variability in responses. Finally, CONV6 measures whether digital banking provides users with more control over their banking. The average score is 4.21, suggesting that many users feel empowered by digital banking. The standard deviation of 0.89 indicates a degree of variability in their responses. Overall, the data suggests that users find digital banking to be quite convenient, with all average scores exceeding 4. However, the standard deviations highlight that there is a range of experiences and opinions.

Table 10:Convenience, Source Survey Data (2023)

Code	Variables	N	Min	Max	Mean	S.D.
CONV1	I do digital banking because it is convenient	200	1	5	4.34	0.9
CONV2	Digital banking requires the fewest steps possible to accomplish what I want to do with it	200	1	5	4.18	0.79
CONV3	I can use digital banking without written instructions	200	1	5	4.31	0.96
CONV4	Digital banking does everything I would expect it to do	200	1	5	4.17	0.89
CONV5	Digital banking makes banking easier to get done	200	1	5	4.29	0.84
CONV6	Digital banking gives me more control over my banking	200	1	5	4.21	0.89

4.3.5 Factors influencing the adoption

The factor ease of use (ADOP1) is considered a critical factor for adoption with a high average rating of 4.33 out of 5, indicating that most users find digital banking easy to use. However, a standard deviation of 1.03 suggests a noticeable range in user experiences. Trust and relationship (ADOP2) also play an important role, as reflected by an average score of 4.07. With a standard deviation of 0.86, there is a moderate variation in how much trust influences the decision to use digital banking services. Low service charge (ADOP3) scored an average of 4.22, suggesting that the cost-effectiveness of digital banking is attractive to users. A standard deviation of 0.9 indicates a fair amount of variation in opinions. Accessibility (ADOP4), or the ability to access banking services anytime, anywhere, received an average score of 4.11, pointing to its significant role in user adoption. However, an observed standard deviation of 0.82 indicates some variation in how important accessibility is to different users. The convenience (ADOP5) of digital banking resonated well with the users, as shown by an average score of 4.22. Yet, a standard deviation of 0.97 implies a notable range of user experiences. Lastly, the security of transactions (ADOP6) is deemed important by users with an average rating of 4.21, underscoring the critical role of

security in digital banking. The standard deviation of 0.89 suggests some degree of variability in the perceived importance of transaction security among users. All these factors received high mean scores, indicating they are significant in the decision to adopt digital banking. Nonetheless, the varying standard deviations hint at different levels of importance among users for these factors.

Table 11: Factors Influencing the Adoption, Source Survey Data (2023)

Code	Variables	N	Min	Max	Mean	S.D.
ADOP1	Ease of use	200	1	5	4.33	1.03
ADOP2	Trust and relationship	200	1	5	4.07	0.86
ADOP3	Low service charge	200	1	5	4.22	0.9
ADOP4	Accessibility	200	1	5	4.11	0.82
ADOP5	Convenience	200	1	5	4.22	0.97
ADOP6	Security of transaction	200	1	5	4.21	0.89

4.4 Research Findings

The adoption of digital banking services appears to be driven by their perceived usefulness, ease of use, credibility, and convenience. This underlines the importance of these factors in designing and promoting digital banking services.

I. High Internet Usage:

Most respondents (90.6%) use the Internet daily, highlighting the widespread acceptance and adoption of digital technologies.

II. Digital Banking Usage:

The frequency of using the Internet for banking purposes is mixed, with 44.5% of respondents doing it once a week, and a combined 37.1% doing it either daily or every fortnight.

III. Duration of Digital Banking Use:

Two-thirds of respondents (66.3%) have been using Internet banking for more than a year, indicating a significant level of experience and familiarity with digital banking.

IV. High Ratings on Digital Banking Aspects:

Across multiple dimensions such as perceived usefulness, perceived ease of use, perceived credibility, and convenience, users have rated their digital banking experience well above the

midpoint of the scale, with averages ranging between 4.17 and 4.25. This indicates that users find digital banking beneficial, easy to use, trustworthy, and convenient.

V. Digital Banking Adoption Factors:

Factors such as ease of use, trust and relationship, low service charge, accessibility, convenience, and security of transactions were all rated above 4 (out of 5), indicating they are important factors influencing digital banking adoption.

Chapter 5

5. Discussion, Conclusions, and Suggestions

This chapter consists of discussion, conclusions, and implications. The findings are from the literature review, data analysis, and presentation.

5.1 Discussion:

The adoption of digital banking services in Nepal has become increasingly prevalent in recent years, transforming the way customers interact with their banks and manage their finances. This study aims to explore the factors influencing digital banking adoption by customers of commercial banks, providing valuable insights for both researchers and practitioners in the field. The discussion below presents the key findings of the study.

5.1.1 Perceived Usefulness and Ease of Use:

the study finds that customers' perception of the usefulness and ease of use of digital banking services significantly influences their adoption behavior. When customers perceive digital banking as useful and easy to use, they are more likely to adopt these services. This finding aligns with previous research highlighting the importance of perceived utility and convenience in technology adoption (Ndubisi, Boateng, & Hossain, 2022).

5.1.2 Trust and Perceived Credibility:

The study reveals that trust and perceived credibility play crucial roles in digital banking adoption. Customers who trust their banks and perceive digital banking services as credible are more inclined to adopt them. Building trust and credibility through transparent communication, robust security measures, and reliable customer support can enhance customers' willingness to adopt digital banking (Nguyen & Le, 2021).

5.1.3 Convenience and Accessibility:

The study highlights the significance of convenience and accessibility in driving digital banking adoption. Customers appreciate the convenience offered by digital banking, including the ability

to conduct transactions anytime and anywhere. The accessibility and flexibility provided by digital banking platforms make them appealing alternatives to traditional banking methods (Ali, Alam, & Rahman, 2021).

5.2 Conclusion

The study on digital banking adoption by customers of commercial banks provides valuable insights into the factors influencing the acceptance and adoption of digital banking services. Through an integrated model that combines the Technology Acceptance Model (TAM) with trust and perceived risk, the study offers a comprehensive understanding of user behavior and sheds light on strategies to promote digital banking adoption.

The findings of this study contribute to the existing body of knowledge on digital banking adoption and provide several key insights. The integrated model, combining TAM with trust and perceived risk, offers a comprehensive understanding of the factors that influence user acceptance and adoption of digital banking services. The research emphasizes the importance of several factors, including perceived usefulness, perceived ease of use, trust, and perceived risk, in influencing customers' attitudes and intentions to the adoption of digital banking.

The findings indicate that perceived usefulness and perceived ease of use are significant factors that influence the adoption of digital banking. Customers who perceive digital banking services as useful and easy to use are more likely to adopt them. Additionally, the study emphasizes the importance of trust in digital banking, as it significantly influences user acceptance. Building trust by implementing robust security measures, transparent communication, and reliable customer support is crucial for encouraging customers to adopt digital banking services.

Furthermore, a perceived risk emerges as a significant factor that affects user acceptance of digital banking. Customers' concerns regarding data security, privacy, and potential financial risks can hinder their willingness to adopt digital banking services. Commercial banks need to address these perceived risks through effective communication, strong security measures, and clear information on privacy policies to alleviate customers' concerns and enhance their confidence in using digital banking platforms.

5.3 Limitations of Study

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

1. Several factors impact Internet banking. The scope of this study is limited to the current state of affairs and the efficacy of electronic banking in Nepal's banking sector.
2. The study has been done with a limited volume of population sample and the findings of the study cannot be fully generalized, as a more rigorous study.
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 use Internet banking and non-users excluding mobile phone users.
5. The study focused on customers of Internet banking services provided by Commercial banks in Nepal. The Commercial Bank's selection criteria are explained in the Research Methodology chapter.

5.4 Suggestions for the Study

The study on digital banking adoption by customers of commercial banks has important implications for understanding user acceptance of digital banking services. The main purpose of this research is to develop a new model that integrates the Technology Acceptance Model (TAM) with trust and perceived risk to comprehensively examine user acceptance of digital banking adoption. By incorporating these additional factors, the study aims to provide a more comprehensive understanding of the factors that influence customers' acceptance and adoption of digital banking services.

1. Enhanced Understanding of User Acceptance:

The new model developed in this study, integrating TAM with trust and perceived risk, offers a more comprehensive understanding of the factors influencing user acceptance of digital banking

services. By considering the interplay of perceived usefulness, perceived ease of use, trust, and perceived risk, the model provides insights into the complexities of user acceptance and adoption behavior.

2. Improved Design and Development of Digital Banking Services:

The findings of the study can inform the design and development of digital banking services that are more aligned with users' needs and expectations. By understanding the factors that influence user acceptance, commercial banks can enhance the user experience, address concerns related to trust and perceived risk, and develop more user-friendly digital banking platforms.

3. Building Trust in Digital Banking:

The study highlights the role of trust in user acceptance of digital banking services. Commercial banks can leverage these findings to build trust among customers by implementing strong security measures, transparent communication about data privacy, and reliable customer support. Establishing trust is essential for promoting user acceptance and encouraging customers to adopt digital banking services.

4. Policy Implications:

Policymakers can use the study's findings to inform regulatory frameworks and policies that foster trust, security, and consumer protection in the digital banking sector. These policies can ensure standardized practices, data protection regulations, and guidelines that enhance user acceptance and safeguard customers' interests.

The suggestion of this study contributes to the understanding of user acceptance of digital banking services by integrating TAM with trust and perceived risk. By incorporating these factors into the model, commercial banks, policymakers, and researchers can enhance their strategies, regulations, and theoretical frameworks to foster a more favorable environment for digital banking adoption.

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7. Appendices

My name is Credit Singh, a student of Digital Business and Management at NOVIA University of Applied Science

I'm excited to be a part of this thesis, about the Adoption of Digital Technologies by Customers as a Digital Banking. The goal of this interview is to find out How widely is digital banking used in Nepalese commercial banks? How do digital banking aspects interact? In the Commercial Bank of Nepal, what factors affect digital banking adoption? The focus of the interview will be more on the factors that affect digital banking adoption.

The interview will take approximately 5 minutes to complete and consists of a series of multiple-choice, open-ended questions, and measured using a five-point Likert scale, with 1 representing "Strongly Disagree" and 5 representing "Strongly Agree. Your responses will be treated with strict confidentiality, and all data collected will be used for research purposes only. Please rest assured that your anonymity will be maintained, and your personal information will not be disclosed in any way that could identify you or your organization.

Your participation in this research study will make a significant contribution to the advancement of knowledge in the field of digital banking adoption. The results of this study will be shared with you upon completion, allowing you to gain insights into customers' perspectives and potentially inform your organization's strategies and decision-making processes.

Thank you very much for considering my request. I genuinely appreciate your time and willingness to participate in this important research endeavor. Your valuable input will undoubtedly contribute to the success of my thesis report and the overall advancement of knowledge in the field of digital banking adoption.

Sincerely,

Credit Singh

Credit.singh@novia.edu.fi

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. Level(Single Choice)
    a. Senior Most
    b. Mid Manager
    c. Officer
    d. Junior
5. Do you have a digital technology application? (Yes\No Question)
    a. Yes
    b. No
6. Which bank are you Using?

_____

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

Five-point Likert scale, with 1 representing "Strongly Disagree" to 5 representing "Strongly Agree"

S.NO	Questions	1	2	3	4	5
A.	Perceived Usefulness					
1	The use of Digital banking makes my transactions very fast					
2	The use of Digital banking is saving time					
3	Using the digital banking information system improves my performance of banking activities					
4	The use of Digital banking gives me control over my transaction					
5	My bank offers all the services I Expect					
6	I find Digital banking services useful					
B	Perceived Ease of Use					
1	Learning to operate the Digital banking system would be easy for me					

2	I would find it easy to get the digital banking system to do my banking					
3	My interaction with the Digital banking system would be clear and understandable					
4	find the Digital banking system flexible to interact					
5	It would be easy for me to become skillful at using the Internet banking system					
6	I would find the Digital banking system easy to use					
C	Perceived Credibility					
1	I don't notice any inconsistencies as I use digital banking					
2	Overall, I trust digital banking					
3	The digital banking information system is trustworthy					
4	Whenever I make a mistake using the Digital banking system, I recover easily and quickly					
5	The Digital banking system gives error messages that tell me how to fix problems					
6	I am confident about using digital banking even if there is no one around to show me how to do it					
D	Convenience					
1	I do Digital banking because it is convenient					
2	Digital banking requires the fewest steps possible to accomplish what I want to do with it					
3	I can use Digital banking without written instructions					
4	Digital banking does everything I would expect it to do					
5	Digital banking makes banking easier to get done					
6	Digital banking gives me more control over my banking					
E	Adoption					
1	Ease of use					
2	Trust and relationship					
3	Low service charge					
4	Accessibility					
5	Convenience					
6	Security of transaction					