

Satisfaction Levels of Customers with online Banking Sectors in Nepal

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Abstract

This study delves into the satisfaction levels of customers within the online banking sector in Nepal, focusing on accessibility, reliability, ease of use, and security of e-banking services. Employing a survey research design supplemented with questionnaires and semi-structured interviews, data were collected from 60 individuals, utilizing convenience sampling for its efficiency and accessibility. The primary aim was to understand consumer responses to the e-banking services offered by commercial banks in Nepal.

The study's methodology involved distributing questionnaires digitally via email, ensuring the confidentiality of responses and active engagement with respondents. The collected data were meticulously reviewed and analyzed using MS Excel, employing both qualitative and quantitative research methods for a comprehensive analysis.

The findings show the critical significance of accessibility in online banking services. Dependability emerged as another key factor, with users valuing the accuracy of information, regular updates, and comprehensive details about products and services. Moreover, the ease of use was identified as crucial for customer satisfaction, with users emphasizing comprehensible language and user-friendly interfaces. Security measures also played a pivotal role in shaping customer satisfaction. Users prioritize digital security measures, particularly confidentiality assurances for transactions conducted on the bank's website.

Language: English

Key Words: Accessibility, dependability, ease of use, digital security, customer satisfaction

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CHAPTER 1

INTRODUCTION

1.1 Background of the study

The advent of internet communication marked a significant milestone, originating with the first email sent in 1972, revolutionizing the speed of information transmission globally (Partridge, 2008). This transformative development, facilitated by Information and Communication Technologies (ICTs), has reshaped business practices and customer interactions for organizations. ICTs have not only introduced new products and market opportunities but have also led to the creation of business-centric information systems supporting managerial processes like planning, control, and coordination. The banking sector, in particular, has witnessed a surge in the importance of ICTs, as financial institutions strive to enhance competitiveness, expand customer bases, cut transaction costs, and elevate the quality and promptness of services. Internet banking, a powerful channel in this context, offers benefits such as cost reduction, improved competitiveness, enhanced customer communication, and efficient customer relationship management (Musiime & Ramadhan, 2011).

Recent years have witnessed rapid advancements in information technology, notably the internet, impacting various industries, including banking. Banks harness these technologies to boost operational efficiency, intensify business activities, and provide cost-effective customer services. The evolution of electronic service delivery channels, encompassing electronic payment and banking, has enabled customers to access financial information and conduct transactions without physically visiting a bank. Banks, in turn, benefit from cost reductions and increased competitiveness through these channels, retaining web-based customers who can access banking services from any location. Internet banking further opens avenues for banks to expand their market by attracting new customers among existing internet users (Chavan, 2013).

In today's competitive business landscape, where organizations vie for customers, customer satisfaction emerges as a crucial differentiator and a key component of business strategy (Jordaan & Badenhorst, 2022). To comprehend the economic challenges facing

banks, it is valuable to view them as specialized firms, subject to the principles of microeconomics. Banks not only differ in the services they offer but also in how and by whom these services are provided (Diener & Špaček, 2021). Customer dissatisfaction with banking services has been a pervasive issue, with international internet users exhibiting similar preferences and behaviors across nations. Researchers have explored customer preferences in e-banking and examined the evolution and success factors of e-delivery channels in the banking sector (Perwej, 2019).

The roots of modern online banking can be traced back to the early 1980s, with distance banking services using electronic media (Naveenbarathi & Priyaganth, 2018). The term "online" gained popularity in the late '80s, referring to the use of terminals, keyboards, and TVs or monitors to access banking systems via phone lines. The UK's first home online banking service, Home link, was established by the Bank of Scotland in 1983, utilizing the Prestel view link system. Subsequently, online banking services expanded, with Stanford Federal Credit Union pioneering internet banking for all members in October 1994. Today, internet-only banks differentiate themselves by offering competitive interest rates and extensive online banking features, without traditional brick-and-mortar branches (Diener & Špaček, 2021).

The banking sector in Nepal, which commenced in 1937 with the establishment of Nepal Bank Ltd, has evolved to encompass 20 commercial banks, 17 development banks, 17 finance companies, and 57 microfinance companies (Investopaper, 2023). Despite being a late adopter of information technology, Nepalese private banks have embraced electronic banking and payment services in response to competitive pressures. NABIL Bank introduced credit cards in 1990, heralding a wave of service innovations. Himalayan Bank pioneered ATM cards in 1995, while Kumari Bank initiated internet banking in 2001, and Laxmi Bank introduced mobile banking in 2004. Presently, most financial institutions in Nepal offer ATM facilities, internet banking, and SMS banking. However, electronic payment services, including mobile payments, remain relatively new and underdeveloped. The gradual shift towards technology-mediated mediums like electronic payment and electronic banking reflects the evolving landscape of the Nepalese financial sector, driven by the imperative to stay competitive in the market (Rai, 2023).

1.2 Aim of the study.

This study will examine the correlation between customer satisfaction and various factors within the Nepalese online banking sector. The study aims to assess the impact of accessibility, ease of use, dependability, and digital security on customer satisfaction levels. It will investigate the extent to which these variables contribute to overall customer satisfaction within the online banking context in Nepal. The thesis will also explore potential strategies for improving customer satisfaction by enhancing these aspects of online banking services.

1.2 Aim of the study

The primary aim of the study is to analyze customer satisfaction of e-banking services in Nepal. The other purposes of this study are as follows:

- Determine customer satisfaction with the accessibility of e-banking services in Nepal.
- Assess the reliability and trustworthiness of online banking services in Nepal.
- Evaluate customer perceptions of the ease of use of e-banking platforms.
- Measure customer confidence in the security of online banking services.

1.3 Research questions

Despite the rapid expansion of the Nepalese financial sector, electronic banking (e-banking) remains in its early stages. Although banks are making substantial investments in technology, their success in e-banking activities is not yet fully realized. It is crucial for banks to understand the current landscape and challenges of e-banking to ensure profitability. In this context, the study will explore the following questions:

- How satisfied are the customers with the accessibility of e-banking services?
- How reliable or dependable are the online banking services?
- How easy do customers perceive the platforms are to use?
- How satisfied are customers with security of online services?
- How should the online banking services be improved?

1.4 Delimitations of the study

- The study employs a convenience sampling method and a non-probability sampling method, rather than using a more comprehensive sampling approach.
- Due to constraints in time and resources, the study is limited to using a restricted set of analytical tools.
- While it would be ideal to capture the opinions of all customers of major banks in Nepal, the study deemed this impractical due to limitations in time and resources. Instead, the sample consists only of 60 customers of Nepalese banks who use online banking, providing a specific and manageable focus for the research.

1.5 Structure of the report

This thesis consists of six chapters. In the first chapter, the topic is introduced by explaining the importance of studying customer satisfaction with online banking in Nepal. The research questions and objectives were laid out to guide the study.

Moving on to the second chapter, an overview of the banking sector in Nepal is provided, including a discussion on the history of banking in Nepal and the development of online banking in the country. Additionally, a review of previous studies related to online banking from Nepal is presented.

In the third chapter, the focus is on the satisfaction of online banking services. This included an exploration of the meaning of online banking, the benefits it offers to customers and banks, the key attributes of online banking platforms, an overview of customer satisfaction models, and a review of international studies related to online banking satisfaction.

In the fourth chapter, the methodology employed in the study is explained. This included a discussion of the methods used for data collection and analysis, providing insights into the reliability of the findings.

Following this, in the fifth chapter, the analysis and results of the study were presented. The collected data was showcased, and an explanation of what it reveals about customer satisfaction in Nepal's online banking sector was provided.

Lastly, in the concluding chapter, the discussions, conclusion and implications of the findings are discussed. This involved exploring what the results mean for online banks in Nepal and suggesting strategies for improvement. The study was summarized, key conclusions were highlighted, and suggestions for improving the efficiency of online banking were proposed.

CHAPTER 2

BANKING SECTOR IN NEPAL

This chapter aims to examine the evolution and contemporary environment of the banking sector in Nepal, shedding light on its historical journey, present state, and future

prospects. It delves the banking history of Nepal tracing its origins and significant milestones. Furthermore, this chapter explores the dynamic field of online banking within the Nepalese context, analyzing its development trajectory, challenges, and opportunities. Additionally, it presents previous studies conducted in Nepal that delve into the realm of online banking and customer satisfaction, providing valuable insights and perspectives into this crucial aspect of banking services in the country.

2.1 History of banking in Nepal

The inception of banking in Nepal traces its roots back to the early 20th century. Nepal, once a closed economy with minimal international trade and no presence of foreign banking, witnessed a significant shift in the 1950s when it began opening up to the global arena. During this period, the establishment of Nepal Bank Limited in 1937 marked the pioneering step towards offering banking services to the local population. Subsequent to Nepal's engagement with the global economy, foreign banks commenced their operations within the country. Notably, the State Bank of India became the first foreign bank to inaugurate a branch in Nepal in 1956, paving the way for other international banks like Standard Chartered Bank and Bank of Ceylon to follow suit (Kalika, 2019).

A pivotal moment in Nepal's banking history occurred in 1966 with the establishment of the Nepal Rastra Bank (NRB) as the central regulatory authority (Joshi, 2021). Tasked with overseeing the banking sector and currency issuance, NRB played a crucial role in shaping Nepal's modern banking landscape. In the 1970s, the government opted for bank nationalization, aiming to foster economic growth and reduce foreign bank dominance. However, this move failed to yield the anticipated outcomes, and the banking sector remained underdeveloped. The subsequent decade saw a shift towards liberalization, permitting the entry of private banks. Nepal Arab Bank, founded in 1984, emerged as the inaugural private bank, followed by Nepal Grindlays Bank and Himalayan Bank, significantly contributing to the sector's evolution (Joshi, 2021).

The 1990s witnessed sweeping economic reforms, including banking sector liberalization, foreign investment deregulation, and state-owned enterprise privatization. This period saw the emergence of several private banks such as Nepal Investment Bank and Nepal Bangladesh Bank, further enriching Nepal's banking environment. Presently, Nepal boasts

a strong banking sector regulated by the Nepal Rastra Bank, ensuring adherence to stringent standards for operational safety and security. The sector's growth trajectory shows Nepal's remarkable economic progress and development throughout the past century (Singh & Paykuryal, 2021).

2.2 Online banking development in Nepal

The origin of online banking in Nepal coincided with the global proliferation of internet technology. In the early 2000s, pioneering banks in Nepal began introducing rudimentary online banking platforms, offering basic services such as balance inquiries and fund transfers (Khatri & Upadhyay-Dhungel, 2013). However, the adoption remained low due to infrastructure constraints, limited internet penetration, and apprehensions regarding security and reliability. The development of online banking in Nepal can be delineated into distinct phases, each characterized by technological advancements, regulatory reforms, and shifting consumer behavior (Ghimire, 2022).

In early 2000s, banks introduced basic online banking services, focusing on enhancing convenience for customers. However, adoption remained tepid due to infrastructural limitations and lack of awareness. With improvements in internet infrastructure and growing digital literacy, online banking gained momentum in late 2000s. Banks diversified their service offerings, introducing features such as bill payments, mobile top-ups, and online account opening. Moreover, regulatory reforms aimed at promoting digital financial inclusion contributed to the expansion of online banking services (Mastran, 2021).

The past decade witnessed a rapid proliferation of online banking in Nepal, propelled by advancements in technology and changing consumer preferences. Banks invested in robust digital platforms, offering a seamless and secure banking experience across multiple channels, including web and mobile applications (Ghimire, 2022). Moreover, the emergence of fintech startups and collaborations between banks and technology firms accelerated innovation in the online banking space, leading to the introduction of advanced features such as biometric authentication, digital wallets, and peer-to-peer payments (Khatri & Upadhyay-Dhungel, 2013).

As of today, online banking has become an integral part of Nepal's financial ecosystem,

with virtually all major banks offering comprehensive digital banking solutions. Customers can access a wide range of services, including account management, fund transfers, bill payments, loan applications, and investment management, from the comfort of their homes or on the go through mobile devices. Furthermore, the COVID-19 pandemic acted as a catalyst for digital transformation in the banking sector, prompting accelerated adoption of online banking services due to social distancing measures and hygiene concerns (Tamang, Bhaskar & Chatterjee, 2021).

Despite the significant progress, online banking in Nepal faces several challenges that warrant attention. Limited internet connectivity and power outages in remote areas hinder access to online banking services for a significant portion of the population (Khatri & Upadhyay-Dhungel, 2013). Cybersecurity threats, including phishing attacks, malware, and data breaches, pose risks to the integrity and confidentiality of online banking transactions, eroding consumer trust. A considerable segment of the population, particularly in rural areas and among the elderly, lacks the necessary digital skills to navigate online banking platforms effectively. Moreover, compliance with regulatory requirements, including data protection laws and anti-money laundering measures, adds complexity and costs to online banking operations (Mastran, 2021).

2.3 Review of previous studies from Nepal

Gautam and Sah (2023) explored the relationship and impact of online banking service practices on e-customer satisfaction and loyalty in Nepal. Additionally, it examined the mediating role of e-satisfaction in the relationship between online banking service practices and e-loyalty. The study utilized the E-S-QUAL model to assess online banking service quality (OBSQL) across five dimensions: e-customer service, organization's website, website efficiency, user-friendliness, and security/privacy. Employing a quantitative research approach, a structured questionnaire was administered through primary data collection via stratified random sampling. Out of 475 distributed questionnaires, 384 usable responses were obtained and analyzed using SPSS and AMOS. Exploratory factor analysis confirmed the dimensions of online banking service quality, while structural equation modeling was used to estimate parameters and structure. Findings indicated that website efficiency and e-customer service were highly influential

dimensions of online banking service practices, followed by user-friendliness, security/privacy, and the organization's website. E-customer satisfaction significantly influenced e-customer loyalty, with e-satisfaction mediating the relationship between online banking services and e-customer loyalty.

Rai (2023) explored customers' perceptions regarding service quality and satisfaction in the field of online banking, as well as to examine the correlation between service quality and customer satisfaction in Nepal. To accomplish this, a sample of 70 customers was randomly chosen as participants from five banks situated in Khotang district. The survey questionnaire encompassed 21 inquiries across four dimensions of service quality: reliability, security, convenience, and ease of use. Customer satisfaction was evaluated using a Likert scale. The descriptive statistics generated through SPSS revealed that customers' satisfaction with online banking services is notably high. Furthermore, the hypothesis testing indicates that reliability, security, convenience, and ease of use are significantly correlated with customer satisfaction in the context of online banking.

Lamsal (2022) investigated the influence of service quality and customer satisfaction on consumer loyalty within the realm of internet banking, focusing on the Nawalpur district. The study was grounded on several dimensions of service quality, namely ease of use, efficiency, security, reliability, and responsiveness. Additionally, it aimed to identify the factors influencing service quality and underscored the significance of service quality in the context of online banking. Utilizing a quantitative research design, the study enlisted participants who were customers of banks utilizing internet services. The sample size for this study was set at 172 participants. A closed questionnaire, employing a 5-point Likert scale, was employed to assess the phenomenon under scrutiny. The findings of this study revealed a significant positive correlation between service quality, customer satisfaction, and customer loyalty among internet banking users in the Nawalpur district. Consequently, it is recommended that the banking sector in Nawalpur prioritize all dimensions of e-service quality and customer satisfaction to foster consumer loyalty effectively.

Gaudel (2021) explored the satisfaction levels of users concerning e-banking services in the context of Nepal. The research population comprised customers from various banks in Nepal who have prior experience with e-banking. Data collection primarily relied on

primary sources, with questionnaires exclusively distributed to individuals with e-banking experience. These questionnaires were disseminated through Google Docs using social networking platforms. A total of 150 online questionnaires were sent out, resulting in 98 responses recorded in Google Docs. Cross-tabulation was employed to analyze the relationship between respondents' demographic variables and their preferences. Additionally, correlation analysis was conducted to examine the impact of website attributes on customer satisfaction in the e-tailing business and to ascertain the significance of each factor on overall customer response. The findings revealed that e-banking plays a crucial role in motivating e-consumers to utilize e-banking services. Furthermore, it was observed that factors like e-banking security and personalization significantly influence customer satisfaction within the Nepalese e-banking sector. However, no significant correlation was found between e-banking performance expectancy, responsiveness, and reliability, and customer satisfaction in the Nepalese e-banking domain.

Pradhan (2019) conducted an analysis to assess the level of customer satisfaction and their inclination towards e-banking services provided by Nepal SBI Bank. The study involved 75 respondents from the bank. Upon scrutinizing the questionnaire results, the researcher deduced that customers utilizing e-banking services expressed satisfaction regarding various aspects such as e-banking products, perceived ease of use, website design, security and privacy, perceived cost, responsiveness, and computer self-efficacy. However, the analysis revealed a significant lack of awareness among many customers, particularly adult citizens of SBI Bank, regarding e-banking services. Consequently, the researcher recommends implementing substantial measures to enhance awareness through publicity and advertisement campaigns. Moreover, it is suggested that the bank should educate customers about the utilization and advantages of e-banking services.

Banstola (2007) conducted research to explore the potential and challenges of e-banking in Nepal. The findings indicated a gradual shift of financial institutions from physical branches to electronic banking (e-banking). Among electronic delivery channels, ATMs emerged as the most popular choice for banking services in Nepal, while internet banking facilities were utilized by only a small percentage of customers. Notably, Nepalese financial institutions have not encountered electronic fraud or risks thus far. Although

banks have basic security measures such as firewalls and power surge protection, some banks lack regular website backup and e-banking policies. The utilization of e-banking by Nepalese banks primarily focuses on internal convenience and customer retention. Cost analysis in many Nepalese banks appears inadequate or underutilized due to limited business transactions or insufficient resources. While no significant correlation was observed between the use of e-banking and demographic factors such as gender, marital status, or salary, a significant association was found with age and education levels of customers.

2.4 Key findings from previous studies

The studies on e-banking services in Nepal have revealed a wealth of insights. These include the significant impact of website efficiency and e-customer service on e-customer satisfaction and loyalty, with e-satisfaction playing a mediating role in this relationship. Additionally, high levels of customer satisfaction have been noted, particularly concerning reliability, security, convenience, and ease of use of online banking services. There is also a clear positive correlation observed between service quality, customer satisfaction, and consumer loyalty, indicating the importance of focusing on all dimensions of e-service quality to foster loyalty effectively. Furthermore, factors such as e-banking security and personalization have been identified as significant drivers of customer satisfaction. Moreover, the studies emphasize the necessity of enhancing customer awareness regarding e-banking services to ensure their widespread adoption and acceptance. Lastly, there is evidence of a gradual shift towards e-banking in Nepal, with ATMs emerging as the preferred electronic delivery channel, highlighting the need for improved security measures and cost analysis in e-banking operations within the country.

CHAPTER 3

SATISFACTION OF ONLINE BANKING SERVICES

This chapter explores the world of online banking, investigating its mechanisms and the satisfaction it offers. Additionally, the chapter will examine different sides of online banking services and assess their influence on customer satisfaction.

3.1 Online Banking

Online banking refers to the automated provision of both traditional and new banking products and services directly to customers through electronic, interactive communication channels (Gaudel, 2021). This encompasses systems that allow financial institution customers, whether individuals or businesses, to access accounts, conduct transactions, or obtain information on financial products and services via public or private networks, including the internet. Electronic banking entails banks delivering information and services to customers via various platforms, usable with different terminal devices such as PCs and mobile phones equipped with browsers or desktop software, telephones, or digital televisions (Jain, 2013).

Ovia (2001) argues that online banking is a product of e-commerce within the banking and financial services sector. It encompasses services like balance inquiries, cheque book requests, stop payment instructions, balance transfers, account openings, and other traditional banking services in the business-to-consumer domain. Banks also facilitate payment services on behalf of customers who shop on various e-commerce platforms. Online banking is a comprehensive term that encompasses all technological initiatives within the banking industry, leveraging electronic channels such as telephones, mobile phones, and the internet for the delivery of banking services and products. The concept and scope of e-banking are still evolving, breaking away from the constraints of traditional branch banking (Narteh, 2014).

The adoption of online banking has greatly diminished the need for paper money. These systems encompass various retail payment mechanisms, including Automated Teller Machine (ATM) networks, point-of-sale systems, and interbank payment systems. E-banking involves the exchange of banking products and services through electronic delivery channels. It has existed for some time, initially through automated teller machines and telephone transactions. Online banking serves as an overarching term for conducting banking transactions electronically, without the need to visit a physical bank

branch. Various terms are used to describe electronic banking, such as personal computer (PC) banking, Internet banking, virtual banking, online banking and mobile banking. Various electronic banking channels are available to meet the needs of banking customers. Among these, ATM, point-of-sale (POS), mobile banking, and internet banking are the most widespread and will be explored in brief below.

Table 1: Overview of e-banking channels

Service	Description	Citation
ATM	A device enabling cash withdrawals, balance inquiries, and additional services without visiting a bank branch.	Nigatu, Belete & Habtie, 2023
Internet banking	Secure online platform for financial transactions, including balance inquiries and fund transfers, accessible through a bank's website.	Gaudel, 2021
POS	Sales transaction point with a terminal facilitating payment processing and receipt generation.	Cote, 2015
Mobile banking	Conducting banking transactions via mobile devices, offering various services like balance checks, payments, and credit applications.	Bećirović, Bajramović & Ljajić, 2011
EFT	Facilitates quick fund transfers between branches of different banks electronically.	Jain, 2013
Telephone banking	Allows customers to perform transactions remotely via phone, including balance inquiries, fund transfers, and bill payments.	Jain, 2013

3.2 Benefits of online banking

Online banking has become an integral part of modern banking systems, offering numerous benefits to both financial institutions and customers. Its importance extends beyond convenience, impacting various aspects of banking operations and customer experiences.

Convenience and Accessibility

Online banking offers unparalleled convenience, enabling customers to access their accounts and conduct transactions at any time and from anywhere. Whether it's checking balances, transferring funds, or paying bills, customers can manage their finances conveniently from the comfort of their homes or while on the go. This accessibility eliminates the need to visit physical bank branches, saving time and effort for both

customers and banks (Guma & Giuma, 2022). Moreover, online banking breaks down geographical barriers and provides access to banking services for individuals who may have limited mobility or live in remote areas. Through digital channels, customers can easily engage with their bank regardless of their location, ensuring that banking services are accessible to all (Mastran, 2021).

Cost-effectiveness and Efficiency

Shifting transactions to digital platforms not only reduces overhead costs for banks but also improves efficiency and streamlines banking processes. By automating routine transactions and reducing processing times, online banking offers a faster and more convenient option for managing finances (Kumar, Ariharan & Immanuvel, 2016). Additionally, this cost-saving benefit is often passed on to customers through lower or no fees for online transactions, making online banking a more affordable choice (Guma & Giuma, 2022).

Control, Flexibility and Security

Online banking provides customers with enhanced control and flexibility in managing their finances while ensuring robust security measures to protect sensitive information. Through intuitive digital interfaces, customers can track spending, set up alerts, and customize preferences (Guma & Giuma, 2022). Banks invest heavily in advanced encryption techniques, multi-factor authentication, and fraud detection systems to safeguard against cyber threats and unauthorized access, instilling confidence in customers regarding the safety of their financial data (Fang & Quintos, 2023).

Financial Inclusion and Innovation

Online banking not only promotes financial inclusion by providing access to banking services for underserved populations but also drives innovation in the financial sector. Digital banking platforms serve as a convenient alternative for individuals with limited access to physical bank branches, ensuring inclusivity in the financial system (Thapa, 2020). Moreover, the digitalization of banking services fosters innovation by enabling the development of new financial products and services. Banks leverage technology to offer innovative solutions such as mobile banking apps, digital wallets, peer-to-peer payments,

and robo-advisors, thereby enhancing the overall banking experience for customers and maintaining competitiveness in the market (Naveenbarathi & Priyaganth, 2018).

3.3 Attributes of online banking

Joseph et al. (1999) investigated the impact of the internet on the provision of banking services. Their study identified six key aspects of e-banking service quality, including convenience and precision, handling of feedback and complaints, effectiveness, management of queues, accessibility, and customization. Yang and Jun (2002) redefined traditional service quality dimensions within the context of online services and proposed a tool comprising seven online service dimensions: reliability, access, ease of use, personalization, security, credibility, and responsiveness. They also highlighted a significant positive correlation between overall service quality and satisfaction. It is argued that for any service or technology to succeed, it must be adopted and accepted by users. This study has identified the major four attributes of e-banking, which are discussed below.

3.3.1 Accessibility

Accessibility in online banking is the practice of ensuring that digital banking platforms are designed and developed to be usable and easily navigable by customers (Mehendran, Thangathurai & Navanesan, 2018). It encompasses a range of considerations, including web accessibility standards, inclusive design principles, and compatibility with assistive technologies. Web accessibility specifically focuses on making websites and web applications perceivable, understandable, navigable, and interactable for users. This involves adhering to guidelines such as the Web Content Accessibility Guidelines (WCAG) to ensure that online banking interfaces are accessible to all users, regardless of their disabilities or limitations (Addous, Zalisham & Basir, 2016).

Inclusive design principles play a crucial role in creating online banking interfaces that are usable by the widest possible audience. By considering factors such as visual, auditory, motor, and cognitive impairments during the design process, banks can create interfaces that accommodate diverse user needs and preferences (Persson et. al., 2015). This approach not only benefits individuals with disabilities but also enhances the overall user

experience for all customers. Clear navigation, intuitive interfaces, and flexible design elements contribute to a more user-friendly online banking experience. Compatibility with assistive technologies is another key aspect of accessibility in online banking. Banks must ensure that their digital platforms are compatible with assistive technologies such as screen readers, magnifiers, alternative input devices, and voice recognition software. This enables users with disabilities to access and interact with online banking services effectively, empowering them to manage their finances independently (Persson et. al., 2015).

The advantages of accessibility in online banking are manifold. By making digital banking accessible to individuals, banks can expand their customer base and reach a larger demographic. Moreover, ensuring accessibility helps banks comply with legal requirements and regulations, such as the Americans with Disabilities Act (ADA) in the United States. Accessible design features also enhance the overall user experience, leading to increased satisfaction among customers. When online banking platforms are easy to use and navigate, customers are more likely to trust the bank with their financial needs and develop a positive perception of the brand (Reddy & Megharaja, 2021).

3.3.2 Dependability

Dependability refers to the reliability and trustworthiness of the digital banking platform and services provided by financial institutions. It encompasses various factors that contribute to the consistent and secure operation of online banking systems, ensuring that customers can access their accounts, perform transactions, and manage their finances without encountering disruptions or security concerns. Key factors influencing dependability in online banking include system availability, data security, transaction processing speed, customer support responsiveness, and resilience against cyber threats (Gautam & Sah, 2023).

System availability is a critical aspect of dependability, as customers rely on online banking platforms to be accessible whenever they need to conduct financial transactions or access account information (Musiime & Ramadhan, 2011). Downtime or system outages can severely inconvenience customers and erode trust in the bank's digital services. Therefore, banks must invest in robust infrastructure and redundancy measures to

minimize the risk of service interruptions and ensure high availability of online banking systems (Shah, 2011).

Data security is another crucial factor that influences the dependability of online banking. Customers entrust banks with sensitive personal and financial information when using digital banking services, and it is imperative that this data is protected from unauthorized access, theft, or tampering. Banks must implement robust security measures, such as encryption, multi-factor authentication, and intrusion detection systems, to safeguard customer data and maintain the trust of their clientele (Musiime & Ramadhan, 2011).

Transaction processing speed also plays a significant role in the dependability of online banking services. Customers expect their transactions to be processed promptly and accurately, without delays or errors. Slow transaction processing times or technical glitches can frustrate customers and undermine their confidence in the bank's ability to handle their financial transactions efficiently (Abualsauod & Othman, 2020).

Responsive customer support is essential for addressing any issues or concerns that customers may encounter while using online banking services. Whether it's assistance with account access, resolving transaction discrepancies, or reporting suspicious activity, customers expect timely and effective support from their financial institution. A lack of responsiveness or inadequate customer support can lead to dissatisfaction and may prompt customers to seek alternative banking options (Gautam & Sah, 2023).

3.3.3 Ease of Use

Ease of use is a crucial criterion that plays a significant role in attracting users to online banking services. When designing and delivering online banking platforms, ensuring ease of use is essential for providing a seamless and enjoyable user experience (Al-Sharafi et al., 2017). Several factors contribute to ease of use in online banking, including intuitive navigation, clear layout and design, concise instructions, and responsive functionality. The success of online banking hinges on its ability to meet users' needs effectively and efficiently. By prioritizing ease of use, financial institutions can ensure that users can easily access their accounts, perform transactions, and manage their finances without encountering unnecessary complexity or confusion. Intuitive navigation and user-friendly interfaces make it easier for customers to find the information they need and complete

tasks quickly, enhancing their overall satisfaction with the online banking experience (Dianat et. al., 2019).

In addition to facilitating user interaction with the platform, a user-friendly online banking interface can reduce the likelihood of errors and frustration, leading to a smoother and more enjoyable banking experience. Customers appreciate platforms that are straightforward and intuitive, as they require less effort and cognitive load to navigate and use effectively. Customers are more likely to continue using online banking services that are easy to use and navigate, as they provide a convenient and hassle-free way to manage their finances. By prioritizing ease of use, financial institutions can foster trust and loyalty among their customer base, ultimately leading to higher levels of satisfaction and long-term relationships (Susanto et. al., 2023).

3.3.4 Digital security

Digital security refers to the measures and protocols implemented to protect digital assets, information, and systems from unauthorized access, manipulation, or theft. In the context of online banking, digital security is paramount to safeguarding customers' sensitive financial data and ensuring the integrity and confidentiality of transactions conducted over digital channels (Omariba, Masese & Wanyembi, 2012).

In online banking, digital security measures are essential for protecting customers' personal and financial information from cyber threats such as hacking, phishing, malware attacks, and identity theft. Robust authentication methods, such as multi-factor authentication and biometric verification, help verify the identity of users and prevent unauthorized access to accounts. Encryption techniques are employed to secure data transmitted between the customer's device and the banking server, ensuring that sensitive information remains confidential and cannot be intercepted or tampered with by malicious actors (Fang & Quintos, 2023).

Digital security also plays a critical role in maintaining the trust and confidence of customers in online banking services (Zhang et. al., 2023). When customers entrust their financial information to a bank's digital platform, they expect that their data will be adequately protected from security breaches and unauthorized access. A robust digital security infrastructure helps instill confidence in customers by demonstrating the bank's

commitment to safeguarding their sensitive information and providing a secure environment for conducting financial transactions online (Fang & Quintos, 2023).

Moreover, the perceived level of digital security directly impacts customer satisfaction with online banking services. Customers are more likely to feel satisfied and confident in using online banking platforms that employ strong digital security measures to protect their data and transactions. Conversely, concerns about security vulnerabilities or instances of data breaches can erode trust and satisfaction among customers, leading them to seek alternative banking options that offer greater assurance of digital security (Zhang et. al., 2023).

3.4 Definition of customer satisfaction

Customer satisfaction is a multifaceted concept that includes the overall experience and perception of customers regarding a product or service. It goes beyond mere satisfaction with the product itself to include various aspects of the customer's interaction with the brand, such as the quality of customer service, the ease of use of the product or service, and the value proposition offered. Customer satisfaction is influenced by factors such as product performance, reliability, convenience, and the extent to which it meets or exceeds customer expectations (Kotler & Keller, 2016).

Moreover, customer satisfaction is closely linked to customer loyalty and retention. Satisfied customers are more likely to become repeat customers and advocates for the brand, leading to increased customer lifetime value and positive word-of-mouth referrals (Reichheld, 2003). On the other hand, dissatisfied customers are prone to switch to competitors and may share their negative experiences with others, potentially damaging the brand's reputation and market competitiveness (Fornell et al., 1996).

In today's digital age, where customers have access to a plethora of choices and platforms to voice their opinions, monitoring and managing customer satisfaction have become imperative for businesses. Companies employ various methods such as surveys, feedback forms, online reviews, and social media monitoring to gauge customer satisfaction levels and identify areas for improvement. By continuously striving to enhance the customer experience and address customer concerns, businesses can foster long-term relationships with their customers and drive sustainable growth and profitability (Kotler & Keller, 2016).

3.5 Customer satisfaction in the context of online banking

In the context of online banking, customer satisfaction refers to the level of contentment and fulfillment that customers derive from their interactions with digital banking platforms and services. Achieving high levels of customer satisfaction is essential for banks to retain existing customers, attract new ones, and build long-term relationships that drive loyalty and profitability (Shah, 2011).

Customer satisfaction in online banking is influenced by various factors, including usability, reliability, security, responsiveness, and convenience. A user-friendly interface that is intuitive and easy to navigate enhances the overall customer experience, while reliable and secure digital banking platforms instill confidence and trust in customers. Prompt and responsive customer support further contributes to customer satisfaction by addressing queries and concerns in a timely and effective manner. Additionally, the convenience of accessing banking services anytime, anywhere through digital channels enhances customer satisfaction by offering flexibility and convenience (Sambaombe & Phiri, 2022).

3.6 Measuring customer satisfaction

Several models and frameworks have been developed to understand and measure customer satisfaction in depth.

3.6.1 American Customer Satisfaction Index (ACSI)

The ACSI assesses customer satisfaction by considering three key components: customer expectations, perceived quality, and perceived value. Customer expectations encompass the anticipation or preconceived notions that customers have regarding the service they are about to receive. In the context of online banking, customers expect a seamless, intuitive, and hassle-free experience when interacting with the bank's digital platforms. They anticipate ease of use, responsiveness, reliability, security, and overall functionality (Morgeson et. al., 2023).

Perceived quality refers to customers' subjective assessment of the service received based on their actual experience. It encompasses various aspects such as the speed and efficiency of transaction processing, the availability of customer support, the accuracy of

account information, and the reliability of the digital platform. A seamless and reliable online banking experience enhances perceived quality and contributes to higher levels of customer satisfaction (Malik, 2012).

Perceived value is the customer's assessment of the benefits received from the service relative to the cost or effort expended. It is the perceived benefit-to-cost ratio of using the online banking service. Customers evaluate whether they are getting good value for their money in terms of the services offered by the bank. Perceived value includes factors such as the availability of innovative features, personalized financial insights, convenience, and the overall utility of the service (Malik, 2012).

For example, if a bank provides innovative features such as budgeting tools or personalized financial insights, customers may perceive higher value from using the online banking platform, leading to increased satisfaction. Moreover, if the bank offers these features while meeting or exceeding customer expectations in terms of ease of use, responsiveness, and reliability, the perceived quality of the service improves, further enhancing customer satisfaction (Joshi, 2021).

3.6.2 SERVQUAL Model

The SERVQUAL model measures service quality across five dimensions: reliability, responsiveness, assurance, empathy, and tangibles (Parasuraman, Zeithaml & Berry, 1988). Reliability refers to the bank's ability to consistently deliver services accurately and dependably. In the context of online banking, reliability entails the bank's digital platform functioning smoothly and without errors or interruptions. Customers expect their online transactions to be processed accurately and in a timely manner, without experiencing system outages or technical glitches (Thapa, 2020). If a customer encounters frequent system outages, errors, or delays when conducting transactions online, it creates a perception of unreliability, leading to dissatisfaction. Conversely, if the bank's online banking platform is responsive, with quick loading times, minimal downtime, and accurate transaction processing, customers perceive higher reliability and satisfaction (Islam & Ahamed, 2023).

Responsiveness

Responsiveness refers to the bank's ability to address customer needs promptly and efficiently. In online banking, responsiveness entails providing timely assistance and support to customers when they encounter issues or have queries regarding their accounts or transactions (Islam & Ahamed, 2023). Customers expect quick responses to their inquiries and prompt resolution of any problems they may encounter while using the online banking platform. If customers receive timely assistance from customer support representatives and their issues are addressed promptly, it enhances their perception of responsiveness and overall satisfaction. Conversely, if customers experience delays or receive inadequate support, it leads to dissatisfaction and may result in negative perceptions of the bank's responsiveness (Parasuraman, Zeithaml & Berry, 1988).

Assurance

Assurance involves the competence, courtesy, and credibility of bank employees and the trustworthiness of the bank itself. In the context of online banking, assurance encompasses customers' confidence in the security and integrity of the digital platform and their interactions with bank employees. Customers expect knowledgeable and courteous assistance from customer support representatives and assurance that their personal and financial information is protected from unauthorized access or misuse (Yesmin et. al., 2023). If customers receive prompt and knowledgeable assistance from customer support representatives when encountering issues with online banking, it enhances their perception of assurance and overall satisfaction. Conversely, if customers feel that their security or privacy is compromised or if they receive inadequate assistance, it leads to dissatisfaction and erodes trust in the bank's assurance (Joseph, McClure & Joseph, 1999).

Empathy

Empathy refers to the bank's ability to understand and care for customers' needs and concerns (Yesmin et. al., 2023). In online banking, empathy entails demonstrating a genuine understanding of customers' individual circumstances and providing personalized assistance and support. Customers expect banks to empathize with their financial goals and challenges and to tailor their services accordingly. If customers feel understood and

supported by the bank, it enhances their perception of empathy and overall satisfaction. Conversely, if customers feel that their needs are not adequately understood or addressed, it leads to dissatisfaction and diminishes their trust in the bank's ability to empathize (Sharma, 2016).

Tangibles

Tangibles refer to the physical facilities, equipment, and appearance of personnel associated with the service delivery (Sharma, 2016). In the context of online banking, tangibles encompass the design, layout, and functionality of the bank's digital platform, as well as the professionalism and accessibility of customer support representatives. Customers expect the online banking platform to have an intuitive and user-friendly interface, with clear instructions and easy navigation. Additionally, they expect customer support representatives to be courteous, knowledgeable, and accessible when needed. Positive perceptions of tangibles contribute to overall satisfaction with the online banking experience, while negative perceptions may lead to dissatisfaction and erode trust in the bank's ability to deliver quality service (Islam & Ahamed, 2023).

3.6.3 Kano Model

The Kano model, a valuable tool for understanding customer preferences, delineates customer requirements into three distinct categories: basic, performance, and excitement factors (Lin et. al., 2010). Each category plays a pivotal role in shaping customer satisfaction and loyalty in online banking.

Basic Factors

Basic factors represent fundamental requirements that customers expect as standard from online banking platforms. These requirements form the foundation of customer satisfaction and are non-negotiable in the eyes of users. For instance, customers demand online banking platforms to be secure, reliable, and free from vulnerabilities. Security breaches or system failures not only compromise customers' financial data but also erode trust in the bank's services, resulting in dissatisfaction. Therefore, meeting these basic requirements is imperative for establishing a solid foundation of trust and satisfaction among customers (Lin et. al., 2010).

Performance Factors

Performance factors encompass attributes that directly influence customer satisfaction by enhancing the usability and efficiency of online banking platforms. These factors contribute to the overall user experience and play a crucial role in shaping customers' perceptions of service quality. For example, ease of use and responsiveness are key performance factors that significantly impact satisfaction (Shahin et. al., 2012). A mobile banking app with intuitive navigation and quick transaction processing enhances user satisfaction and promotes positive perceptions of the bank's digital services. By prioritizing performance factors, banks can ensure that their online banking platforms meet the evolving needs and expectations of customers, thereby fostering greater satisfaction and loyalty (Rotar & Kozar, 2017).

Excitement Factors

Excitement factors comprise unexpected features or innovations that delight customers and differentiate a bank's online banking services from competitors. These factors go beyond customers' basic expectations and evoke feelings of delight, surprise, and satisfaction. For instance, introducing innovative features like peer-to-peer money transfer via social media platforms can create excitement and enhance satisfaction among users. By continuously innovating and introducing novel features, banks can exceed customers' expectations and create memorable experiences that foster loyalty and advocacy (Rotar & Kozar, 2017).

The Kano model provides valuable insights into customer preferences and satisfaction in online banking. By understanding and addressing the three categories—basic, performance, and excitement factors—banks can tailor their digital services to meet the diverse needs and expectations of customers, thereby enhancing satisfaction, loyalty, and competitiveness in the dynamic landscape of online banking (Kermanshachi, Nipa & Nadiri, 2023).

3.6.4 Net Promoter Score (NPS)

The Net Promoter Score (NPS) is a metric used to gauge customer loyalty and likelihood of recommending the services of an organization to others. It operates on a scale from 0

to 10, where customers are categorized into promoters, passives, and detractors based on their responses (Dawes, 2023).

Promoters

Promoters are customers who give a rating of 9 or 10 on the NPS scale. These customers are highly satisfied with the bank's online banking services and are likely to recommend them to others. Promoters are considered loyal advocates who contribute positively to the bank's reputation and growth. Their recommendations can attract new customers and enhance the bank's market presence (Baquero, 2022).

Passives

Passives are customers who give a rating of 7 or 8 on the NPS scale. While they are generally satisfied with the bank's online banking services, they are not as enthusiastic as promoters. Passives are less likely to actively recommend the bank to others but are also less likely to speak negatively about it. While they may continue to use the bank's services, they are not as engaged or loyal as promoters (Dawes, 2023).

Detractors

Detractors are customers who give a rating of 0 to 6 on the NPS scale. These customers are dissatisfied with the bank's online banking services and are unlikely to recommend them to others. Detractors may actively voice their dissatisfaction to others, potentially harming the bank's reputation and deterring prospective customers. Addressing the concerns of detractors is crucial for mitigating negative word-of-mouth and improving overall customer satisfaction (Baquero, 2022).

By calculating the NPS and analyzing the distribution of promoters, passives, and detractors, banks can gain valuable insights into customer sentiment and identify areas for improvement. For example, a high proportion of promoters indicates strong customer satisfaction and loyalty, while a significant number of detractors signals underlying issues that need to be addressed. Banks can use this feedback to implement targeted strategies for enhancing the online banking experience, fostering customer satisfaction, and building long-term loyalty (Baquero, 2022).

3.6.5 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a widely recognized framework developed to understand and predict individuals' acceptance and usage of technology. It was initially proposed by Fred Davis in the late 1980s and has since undergone various iterations and adaptations to accommodate the evolving landscape of technology and user behavior. TAM essentially seeks to explain the factors that influence users' decision-making processes when adopting a new technology or system (Aziz et. al., 2020).

TAM is based on the premise that perceived usefulness (PU) and perceived ease of use (PEOU) are critical determinants of an individual's intention to use a particular technology, which in turn influences actual usage behavior. Here's a breakdown of these key components:

Perceived Usefulness (PU)

This refers to the user's subjective perception of how adopting a particular technology will enhance their performance or facilitate the achievement of their goals. In other words, users assess whether the technology will be beneficial in terms of improving productivity, efficiency, or effectiveness in carrying out tasks (Venkatesh, 2015).

Perceived Ease of Use (PEOU)

This relates to the user's perception of the effort required to learn and use the technology. It encompasses factors such as the system's complexity, the ease of navigation, the intuitiveness of the interface, and the availability of adequate support and documentation. A technology that is perceived as easy to use is more likely to be adopted by users (Venkatesh, 2015).

TAM posits that PU and PEOU collectively influence an individual's attitude toward using the technology, which subsequently shapes their intention to use it. Moreover, external variables such as social influence, facilitating conditions, and perceived behavioral control can also impact the acceptance and usage of technology (Venkatesh, 2015). Social influence refers to the influence of peers, colleagues, or other social networks on an individual's decision to adopt a technology. For instance, if a user perceives that their colleagues are successfully using a particular banking app for online transactions, they

may be more inclined to adopt it themselves (Aziz et. al., 2020).

Facilitating conditions encompass the availability of resources, support, and infrastructure necessary for using the technology. In the context of online banking, facilitating conditions could include factors such as internet connectivity, access to devices like smartphones or computers, and the availability of customer support services (Aziz et. al., 2020). Perceived behavioral control refers to the user's perception of their ability to successfully use the technology, taking into account factors such as their skills, knowledge, and past experiences. If a user feels confident in their ability to navigate the online banking platform and carry out transactions securely, they are more likely to adopt and continue using it (Ventakesh, 2015).

3.7 Review of international studies

Addai et. al. (2015) delved into the impact of electronic banking (e-banking) service delivery on customer satisfaction in Ghana. A purposive non-probability sampling method was employed to select a sample size of 150 e-banking customers from Trust Bank Ghana Limited, Ecobank Ghana Limited, and Barclays Bank Ghana Limited (with 50 customers from each bank). Primary data was analyzed using SPSS Statistics version 21. Multiple regression analysis was conducted to assess the influence of e-banking service delivery on customer satisfaction across the selected banks. The findings of this study established a positive correlation between customer satisfaction and the availability, reliability, and convenience of e-banking services.

Ansebo and Gaywala (2022) assessed service quality in electronic banking to enhance customer satisfaction and explored various dimensions of service quality in relation to customer expectations. Given the significance of electronic banking services, this study focused on seven key dimensions essential for providing this service: reliability, ease of use, privacy and security, accessibility, efficiency, responsiveness, and cycle time. The study comprised 381 customers who use electronic banking. Through simple regression analysis, the findings indicated that electronic banking services have an impact on achieving customer e-satisfaction. Moreover, the results demonstrated a statistically significant influence of overall service quality dimensions on electronic banking customer satisfaction.

Ayinaddis, Taye and Yirsaw (2023) explored the influence of electronic banking (e-Banking) service quality on customer satisfaction within Ethiopia's emerging banking landscape. Data was gathered through a structured questionnaire administered to 385 participants selected via convenience sampling. Quantitative data analysis involved employing frequencies, percentage distributions, group modes, standard deviations, Chi-square correlations, and multinomial logistic regression. Results highlighted the significant impact of responsiveness, reliability, security and privacy, speed, and convenience on customer satisfaction. Additionally, customer satisfaction with electronic banking service quality significantly influenced customer loyalty. Conversely, factors such as system availability, ease of use, and service charges showed no statistically significant impact on customer satisfaction.

Banu, Mohamed and Parayitam (2019) investigated customer satisfaction in the realm of online banking within the Indian context, building upon the Technology Acceptance Model (TAM) and the Decomposed Theory of Planned Behavior (DTPB). Utilizing data gathered from 750 respondents across both public and private sector banks, a mediated model was tested employing hierarchical regression analysis. The findings supported the notion that perceived usefulness functions as a partial mediator in the relationship between various independent variables—such as awareness of online banking services, security, Internet proficiency, self-confidence, adoption intention, trust, ease of use—and the dependent variable, namely customer satisfaction. The implications of these findings for both research and managerial practice are discussed.

Halim et. al. (2023) investigated the determinants affecting customer satisfaction with e-banking services among university students in Malaysia. Employing a standardized questionnaire, the research adopted a cross-sectional approach to gather data from 87 students located in Selangor, Malaysia. Results revealed that reliability, security, and perceived usefulness are positively linked to customer satisfaction with e-banking services. These findings suggest that customers are drawn to banks offering swift online transactions through easily accessible portals, while also perceiving the system's usefulness in maintaining their usage. Furthermore, customers emphasize the importance of website security systems, expressing concerns about the privacy of personal information and the safety of financial transactions during e-banking activities.

Kousika and Ramya (2020) explored customer satisfaction concerning online banking transactional services in Coimbatore city. The analysis involved 120 respondents, with statistical tools such as simple percentage analysis and ranking analysis utilized. The findings suggest that online banking offers customers greater convenience and flexibility.

Reddy and Megharaja (2021) explored the correlation between various dimensions of e-banking service quality and customer satisfaction in order to identify which dimension might exert the most significant impact on customer satisfaction. Data were collected through a survey administered to clients of banks operating within the Lebanese banking sector. E-banking has emerged as a crucial banking service that, if implemented effectively, can enhance customer satisfaction and provide banks with a competitive edge. The findings suggest that understanding the relative importance of different service quality dimensions can assist the banking industry in prioritizing areas that are most satisfying to customers.

Riquelme, Mekkaoui and Rios (2009) conducted a study was to determine the customer service and online attributes that predict overall satisfaction and to assess whether satisfied customers utilize more online banking features compared to less satisfied ones. The study sample was drawn from a prominent bank in Kuwait, situated in the Middle East. Data analysis involved multiple regression and discriminant analyses. Results indicate that satisfaction can be enhanced by improving aspects such as courtesy, content, timeliness, and the range of products and services offered, with the latter being the most significant factor influencing internet banking satisfaction. The majority of customers in the sample reported being satisfied or very satisfied with the service and online systems attributes.

Sambaombe and Phiri (2022) examined the impact of online banking on customer satisfaction in commercial banks, with a focus on Stanbic Bank, using the Theory of Reasoned Action (TRA) as a framework. Conducted at Stanbic Bank's headquarters in Lusaka district, the research employed a cross-sectional study design targeting bank customer, resulting in a sample size of 196. Stratified Sampling was utilized, with respondents selected through circular systematic random sampling, and data collected via a questionnaire. Kendall's tau-b correlation analysis was used to assess the relationship between online banking and customer satisfaction, revealing a weak positive

correlation. Binary logistic regression analysis was conducted to determine the influence of online banking on customer satisfaction, indicating that factors such as being male, having secondary education or below, negative behavioral beliefs, negative attitudes, negative behavioral intentions, and non-usage of online banking were associated with reduced customer satisfaction.

Shah (2011) aimed to investigate the key factors influencing online customers' satisfaction with the overall service quality provided by their banks. It also sought to evaluate the significance of these factors within the context of online (Internet) banking. As a result, the study's findings indicate the importance of bank management in elevating satisfaction levels and strengthening the relationship between banks and their customers. This, in turn, assists in retaining customers and expanding the overall customer base.

3.8 Summary of literature review

The following table summarizes key findings from various studies on electronic banking (e-banking) and customer satisfaction.

Table 2: Summary of literature

Study	Summary
Addai et al. (2015)	Explored the impact of e-banking service delivery on customer satisfaction in Ghana, finding a positive correlation between customer satisfaction and the availability, reliability, and convenience of e-banking services.
Ansebo & Gaywala (2022)	Assessed service quality in electronic banking to enhance customer satisfaction, identifying seven key dimensions: reliability, ease of use, privacy and security, accessibility, efficiency, responsiveness, and cycle time. Found that electronic banking services impact achieving customer e-satisfaction significantly.
Ayinaddis, Taye & Yirsaw (2023)	Explored the influence of e-Banking service quality on customer satisfaction in Ethiopia, revealing the significant impact of responsiveness, reliability, security and privacy, speed, and convenience on customer satisfaction. Additionally, customer satisfaction with e-banking service quality significantly influenced customer loyalty.
Banu, Mohamed & Parayitam (2019)	Investigated customer satisfaction in online banking within the Indian context, revealing perceived usefulness as a partial mediator between various independent variables and customer satisfaction.
Halim et al. (2023)	Investigated determinants affecting customer satisfaction with e-banking services among university students in Malaysia, finding positive associations with reliability, security, and perceived usefulness.

Kousika & Ramya (2020)	Explored customer satisfaction with online banking transactional services in Coimbatore city, suggesting that online banking offers greater convenience and flexibility.
Reddy & Megharaja (2021)	Explored the correlation between e-banking service quality dimensions and customer satisfaction, indicating that understanding the relative importance of different service quality dimensions can assist the banking industry in prioritizing areas that are most satisfying to customers.
Riquelme, Mekkaoui & Rios (2009)	Determined customer service and online attributes predicting overall satisfaction and assessed if satisfied customers utilize more online banking features compared to less satisfied ones. Found satisfaction can be enhanced by improving courtesy, content, timeliness, and the range of products and services offered.
Sambaombe & Phiri (2022)	Examined the impact of online banking on customer satisfaction in commercial banks, revealing a weak positive correlation between online banking and customer satisfaction.
Shah (2011)	Investigated key factors influencing online customers' satisfaction with overall service quality provided by their banks and evaluated the significance of these factors within the context of online banking. Found that bank management plays a crucial role in elevating satisfaction levels and fortifying the relationship between banks and their customers.
Gautam & Sah (2023)	Explored the relationship and impact of online banking service practices on e-customer satisfaction and loyalty in Nepal, revealing website efficiency and e-customer service as highly influential dimensions. Additionally, e-customer satisfaction significantly influenced e-customer loyalty, with e-satisfaction mediating the relationship between online banking services and e-customer loyalty.
Rai (2023)	Explored customers' perceptions regarding service quality and satisfaction in online banking in Nepal, finding notably high satisfaction levels with online banking services. Also, determined a significant positive correlation between reliability, security, convenience, and ease of use with customer satisfaction.
Lamsal (2022)	Investigated the influence of service quality and customer satisfaction on consumer loyalty within internet banking in the Nawalpur district, finding significant positive correlations between service quality, customer satisfaction, and customer loyalty among internet banking users.
Gaudel (2021)	Explored the satisfaction levels of users concerning e-banking services in Nepal, finding e-banking significantly motivating e-consumers to utilize e-banking services. Additionally, factors like e-banking security and personalization significantly influenced customer satisfaction within the Nepalese e-banking sector.
Pradhan (2019)	Assessed the level of customer satisfaction and their inclination towards e-banking services provided by Nepal SBI Bank, revealing high satisfaction regarding e-banking products, perceived ease of use, website design, security and privacy, perceived cost, responsiveness, and computer self-efficacy. However, the analysis also highlighted a significant lack of awareness among many customers regarding e-banking services.
Banstola (2007)	Explored the potential and challenges of e-banking in Nepal, revealing a gradual shift of financial institutions from physical branches to electronic

	banking. Noted that ATMs were the most popular choice for banking services, while internet banking facilities were utilized by only a small percentage of customers.
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These studies shed light on what factors contribute to customer satisfaction with online banking. Customers value reliability, ease of use, security, and responsiveness in the service. Convenience and usefulness are also key factors that make customers happy. The better the online banking service performs in these areas; the more satisfied customers tend to be. Security, personalization, and website functionality are crucial aspects to ensure customer satisfaction. Happy customers are more likely to stick with online banking, highlighting the importance of keeping them satisfied. Understanding customer opinions, satisfaction levels, and awareness of online banking services in Nepal helps identify areas of success and potential challenges. In conclusion, these studies emphasize the significance of factors such as service quality, convenience, security, and customer perception in ensuring customer satisfaction with online banking.

3.9 Research gap

This study aims to investigate the satisfaction levels of customers with online banking services in Nepalese commercial banks. While several studies have been conducted in both Nepal and abroad to investigate customer satisfaction with online banking services, there remains a gap in research focusing specifically on the variables of accessibility, dependability, ease of use, and digital security as determinants of customer satisfaction. Previous studies in Nepal, such as those by Gautam & Sah (2023) and Rai (2023), have explored aspects of service quality and satisfaction in online banking. Similarly, studies abroad, such as Addai et al. (2015) and Ansebo & Gaywala (2022), have examined the impact of e-banking service delivery and service quality dimensions on customer satisfaction. However, there is limited research that comprehensively addresses the role of accessibility, dependability, ease of use, and digital security in shaping customer satisfaction with online banking services, particularly within the context of Nepalese commercial banks.

This research contributes to the existing literature by filling the gap in understanding the relationship between accessibility, dependability, ease of use, digital security, and customer satisfaction with online banking services in Nepalese commercial banks. By

examining these variables collectively, this study offers a new perspective on the factors influencing customer satisfaction in the context of online banking in Nepal. Through the integration of the SERVQUAL and TAM model, this research provides a comprehensive understanding of the determinants shaping customer satisfaction, thus adding to the body of knowledge on online banking service quality and customer experiences.

CHAPTER 4

RESEARCH METHODOLOGY

This chapter explains the research methods that is employed to achieve the outlined objectives of the study. It delves into the research process concerning E-banking and

Customer Satisfaction within the context of Nepalese society. Consequently, this chapter furnishes details on the research design, data sources, questionnaire development, data collection procedures, population and sampling and the data analysis plan. The primary aim of this chapter is to elucidate the methodologies and procedures that is employed to attain the most precise results to meet research objectives.

4.1 Research design

A research design includes the determination and declaration of the general research approach or strategy adopted for a specific research undertaking (Sekaran, 2003). This study involved systematic research for the purpose of generating findings. It incorporated both descriptive and explanatory research methodologies. Primarily utilizing a survey research design, this study sought to understand consumer responses to the e-banking services of banks. A questionnaire with open-ended and close-ended questions is employed for data collection. This study employed both qualitative and quantitative research methods for a comprehensive analysis. The study included 6 demographic questions, 29 Likert scale questions, and 5 qualitative questions aimed at obtaining the opinions of respondents regarding online banking services in Nepal.

4.2 Nature and sources of data

The data utilized in this research was inherently primary in nature. All information was gathered directly from participants through a carefully structured questionnaire and field survey. Primary data refers to information acquired firsthand through surveys, observation, or experimentation (Kothari, 2004). It is data that has not been previously published, originating from a new or original research study and collected directly at the source, such as in marketing. In this study, primary data was employed to fulfill the research objectives and derive authentic conclusions. The primary data collection involved the use of questionnaires and open-ended interview questions.

The questionnaires in this study were self-administered, which means that individuals finished them on their own initiative without close observation (Kothari, 2004). The close-ended Likert scale questions were used to collect specific responses from respondents. A Likert scale is a type of psychometric scale commonly used in surveys and questionnaires

to measure respondents' attitudes, opinions, or perceptions towards a particular topic (Kothari, 2004). It typically consists of a series of statements or questions to which respondents indicate their level of agreement or disagreement on a predetermined scale, often ranging from "strongly agree" to "strongly disagree. However, there were open-ended questions in the last section. With no predetermined response categories, these open-ended questions allowed for more nuanced insights into respondents' attitudes and recommendations regarding internet banking.

4.3 Population and sample

Population represents the collection or aggregate of objects or the set of results from an operation (Kothari, 2004). Conversely, sample denotes representative parts of the population, chosen with the objective of investigating its properties. The target population for this study encompassed all customers of commercial banks in Nepal. The researcher utilized convenience sampling. The study collected data from 60 individuals. Convenience sampling was chosen for its advantages, such as accessibility and the rapidity with which data can be gathered. Convenience sampling is a non-probabilistic sampling method where researchers select participants based on their easy accessibility and convenience (Kothari, 2004). This approach was chosen for its practical advantages, such as quick data collection and the ease of finding willing participants.

4.4 Data collection and analysis

In this study, the primary source of data originated from questionnaires, serving as the cornerstone for the entire research. The researcher personally distributed and collected all the questionnaires, actively engaging with respondents throughout the process. Each questionnaire was carefully reviewed. To reach a diverse pool of participants, identified respondents received digital copies of the questionnaire via email and, in some instances, through Facebook Messenger. These digital channels facilitated accessibility and convenience, allowing respondents to engage with the survey at their leisure.

The distribution of questionnaires commenced on April 15, 2024, providing respondents ample time to complete them. By May 5, all responses had been collected. Respondents were explicitly instructed to provide unbiased responses, assuring the confidentiality of

their input. This instruction aimed to elicit genuine feedback, free from external influences or pressures. Upon completion of the questionnaires, the responses were meticulously extracted and organized using MS-Excel.

The key instrument employed in the study was the structured questionnaire, designed to meet the stated research objectives. Data collected from the questionnaires was analyzed using MS-Excel. The questionnaire included multiple-choice and Likert scale questions, a widely used rating scale requiring respondents to indicate their degree of agreement or disagreement with a series of statements.

The questionnaire designed for this study is included in the appendix section. The questionnaire's first part addressed respondents' demographic information, including gender, age, education, and duration of using online banking service. The second part focused on determinants of e-banking with a relationship to customer satisfaction. Independent variables such as accessibility, dependability, ease of use, and digital security were included, alongside the dependent variable of customer satisfaction. The third part comprised questions directed at respondents, collectively aiming to explore their experiences with internet banking services in Nepal.

4.5 Validity and Reliability testing

Validity refers to the extent to which a research study accurately measures or reflects the concept or phenomenon it claims to measure. In simpler terms, it asks whether the study is measuring what it intends to measure (Roberts & Priest, 2006). Various types of validity exist to ensure the accuracy and comprehensiveness of measurements. Content validity ensures that the measurement tool, such as a questionnaire or test, adequately covers the full range of the concept being measured. Criterion validity assesses whether the results of the measurement tool correlate with other established measures of the same concept, while construct validity evaluates whether the measurement tool measures the theoretical construct it claims to measure. Additionally, face validity refers to whether a measurement tool appears, on its face, to measure what it is supposed to measure. To check validity, researchers often employ a variety of methods, including expert judgment, statistical analyses, and comparison with existing measures (Bolarinwa, 2015).

Reliability, on the other hand, focuses on the consistency, stability, or repeatability of research findings or measurement results. It examines whether the same results would be obtained if the measurement were repeated under identical conditions (Bolarinwa, 2015). Several types of reliability measures are commonly used in research. Test-retest reliability assesses the consistency of results over time by administering the same measurement tool to the same group of people on two separate occasions and comparing the results. Inter-rater reliability ensures consistency across different raters or observers by assessing agreement between their ratings or observations. Internal consistency reliability measures the extent to which different items within a measurement tool are correlated with each other. Parallel-forms reliability evaluates the consistency of results obtained from different but equivalent versions of the same measurement tool. To check reliability, researchers often use statistical methods such as correlation coefficients, Cronbach's alpha, or intraclass correlation coefficients (Roberts & Priest, 2006).

Validity Assessment:

Before proceeding with reliability testing, the content validity of the questionnaire was evaluated by an expert in the field. The expert positively reviewed the questionnaire and provided feedback indicating that it adequately covers the construct of interest. His feedback was incorporated to ensure the questionnaire's comprehensiveness and relevance.

Reliability Assessment:

Following the expert's validation of content, the reliability of the questionnaire was assessed using Cronbach's alpha. Five dummy participants completed all 29 Likert-scale questions.

The participants' responses were inputted into the spreadsheet. Subsequently, the total variance of the collected responses across all questions was computed, as well as the individual variance for each question. Utilizing the following formula, Cronbach's alpha was then calculated. Please bear that both the responses obtained during this pilot study and the computations for Cronbach's Alpha are enclosed with this thesis.

$$\alpha = \left(\frac{k}{k-1} \right) \left(\frac{S^2y - \sum S^2i}{S^2y} \right)$$

Where,

$\alpha = \text{Cronbach's Alpha}$

$k = \text{number of questions}$

$S^2y = \text{total variance of the collected responses}$

$\sum S^2i = \text{sum of individual variance for each question}$

Now, calculating the Cronbach's Alpha,

$$= \left(\frac{29}{29 - 1} \right) \left(\frac{129.5 - 35.5}{129.5} \right)$$

$$= 0.752.$$

With a Cronbach's alpha of 0.752, there is a solid degree of internal consistency among the items on the scale. This indicates that the items are measuring a similar underlying construct and are contributing to the overall reliability of the measurement.

CHAPTER 5

ANALYSIS AND RESULTS

This chapter reveals the findings obtained from the study, designed to achieve its objectives. The data was analyzed using the Excel data analysis tool to perform descriptive statistics, evaluating both the primary and secondary dimensions of the research.

5.1 Demographic characteristics

This section provides an overview of the demographic profile of the respondents. The table below displays the distribution of respondents based on gender, age, education level, current residence, usage of online banking with Nepalese banks, and the duration of their online banking usage.

Table 3: Demographic characteristics of the respondents

Variable	Classification	Frequency	Percentage
Gender	Male	33	55
	Female	27	45
Total		60	100
Age	Below 18	0	0
	19-34	53	88.33
	35-54	7	11.67
	Above 55	0	0
Total		60	100
Education Level	Intermediate or below	13	21.67
	Bachelor's degree	27	45
	Master's degree or above	20	33.33
Total		60	100
Current Residence	Nepal	44	73.33
	Abroad	16	26.67
Total		60	100
Do you use online banking with a Nepalese bank?	Yes	58	96.67
	No	2	3.33
Total		60	100
Duration of using online banking	Less than a year	9	15

	1 year to 3 years	17	28.33
	More than 3 years	34	56.67
Total		60	100

(Source: Survey Data, 2024)

Table 3 presents an overview of the demographic profile of the survey participants. Under the "Gender" classification, the data reveals a fairly balanced distribution, with 33 respondents (55%) identifying as male and 27 respondents (45%) as female, accounting for a total of 60 participants. In terms of age distribution, the majority of respondents, comprising 53 individuals (88%), fall within the age range of 19 to 34 years, indicating a youthful demographic profile. There is a smaller representation of respondents in the age brackets of 35 to 54 years, with 7 individuals (12%). Notably, there were no respondents below 18 years or above 55 years of age.

Moving on to the respondents' educational backgrounds, the data highlights a diverse range of academic achievements. 13 respondents (22%) reported having an intermediate level of education or below, while 27 respondents (45%) hold a Bachelor's degree. Furthermore, 20 respondents (33%) indicated possessing a Master's degree or a higher academic qualification. Geographically, a significant proportion of the respondents, accounting for 44 individuals (73%), currently reside in Nepal, reflecting a predominant domestic presence. In contrast, 16 respondents (27%) indicated residing abroad, signifying a notable international representation within the surveyed sample.

Regarding banking habits, a vast majority of respondents, constituting 58 individuals (97%), reported actively utilizing online banking services provided by Nepalese banks. This indicates a high level of adoption and reliance on digital banking platforms within the surveyed population. Conversely, only a small minority of respondents, comprising 2 individuals (3%), reported not using online banking services. Lastly, the data sheds light on the duration of online banking usage among respondents. 9 individuals (15%) reported using online banking services for less than a year, while 17 respondents (28%) indicated a usage duration ranging from 1 to 3 years. The majority of respondents, comprising 34 individuals (56.67%), reported using online banking services for more than 3 years, highlighting a significant level of experience and familiarity with digital banking platforms.

5.2 Analysis of the survey

This section presents data on five key factors related to online banking services: accessibility, dependability, ease of use, digital security, and customer satisfaction. Each factor is assessed individually to provide insights into the overall quality and performance of online banking services.

5.2.1 Descriptive statistics

This section will present the descriptive statistics, including the sample size (N), minimum and maximum values, mean, and standard deviation, for variables such as Accessibility, Dependability, Ease of Use, Digital Security, and Customer Satisfaction, as shown in the following table.

Table 4: Descriptive statistics

Variables	N	Min	Max	Mean	SD
Accessibility	60	1	5	3.68	0.84
Dependability	60	1	5	3.52	0.93
Ease of use	60	1	5	3.61	0.88
Digital security	60	1	5	3.79	0.82
Customer satisfaction	60	1	5	3.71	0.79

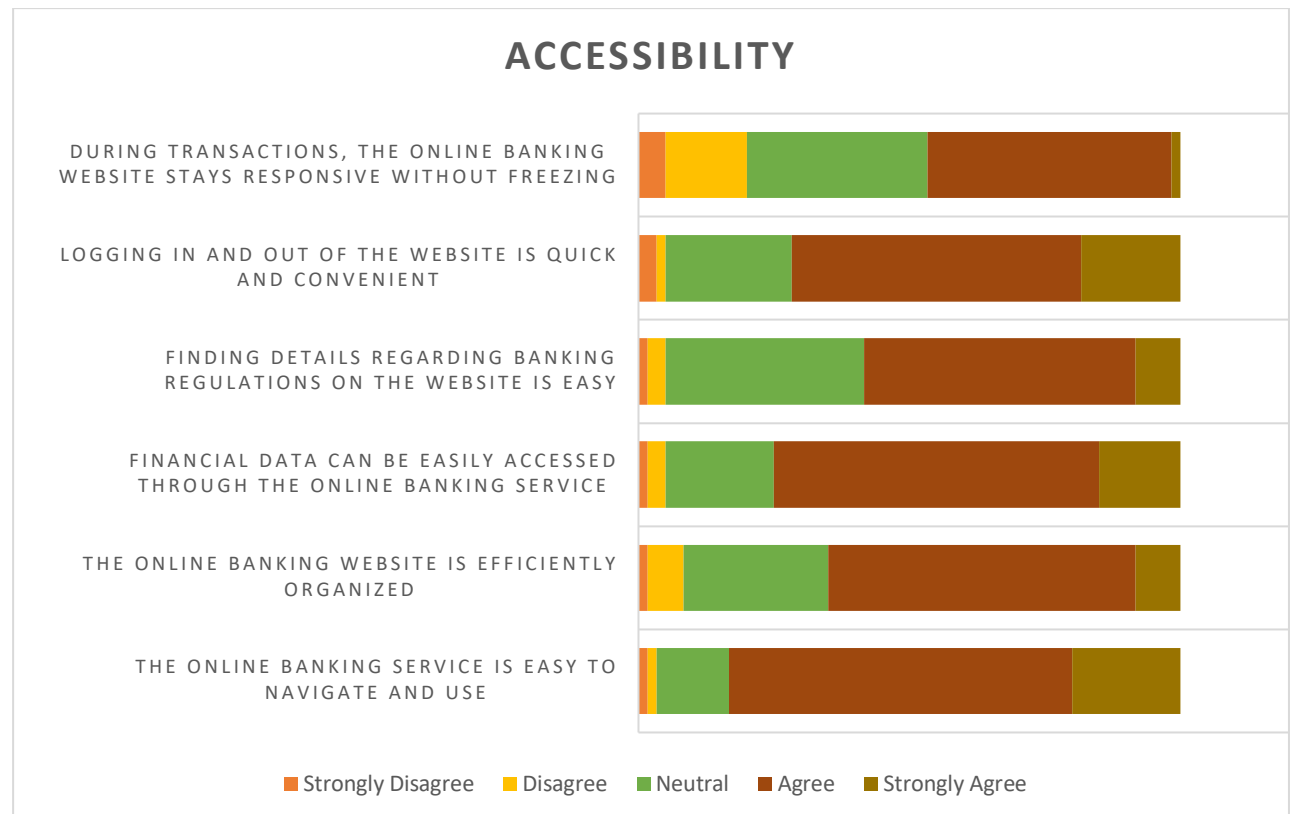
(Source: Survey Data, 2024)

Table 4 presents descriptive statistics for five key variables: Accessibility, Dependability, Ease of use, Digital security, and Customer satisfaction, each based on a sample size of 60 observations. For all variables, the range spans from 1 to 5, with 1 representing the lowest score and 5 the highest. On average, respondents rated Digital security of the online banking service the highest with a mean of 3.79, closely followed by Accessibility (mean = 3.68) and Customer satisfaction (mean = 3.71). Dependability and Ease of use received slightly lower mean scores of 3.52 and 3.61, respectively. The standard deviation values indicate the level of dispersion around the mean for each variable, with Digital security having the lowest spread (SD = 0.82) and Dependability the highest (SD = 0.93). These statistics offer insights into the perceived performance and satisfaction levels across key dimensions of the online banking service in Nepal.

5.2.2 Accessibility of online banking service

Figure 1 shows the views of the respondents regarding the accessibility of online banking services offered by Nepalese commercial banks.

Figure 1: Accessibility of online banking service



(Source: Data Survey, 2024)

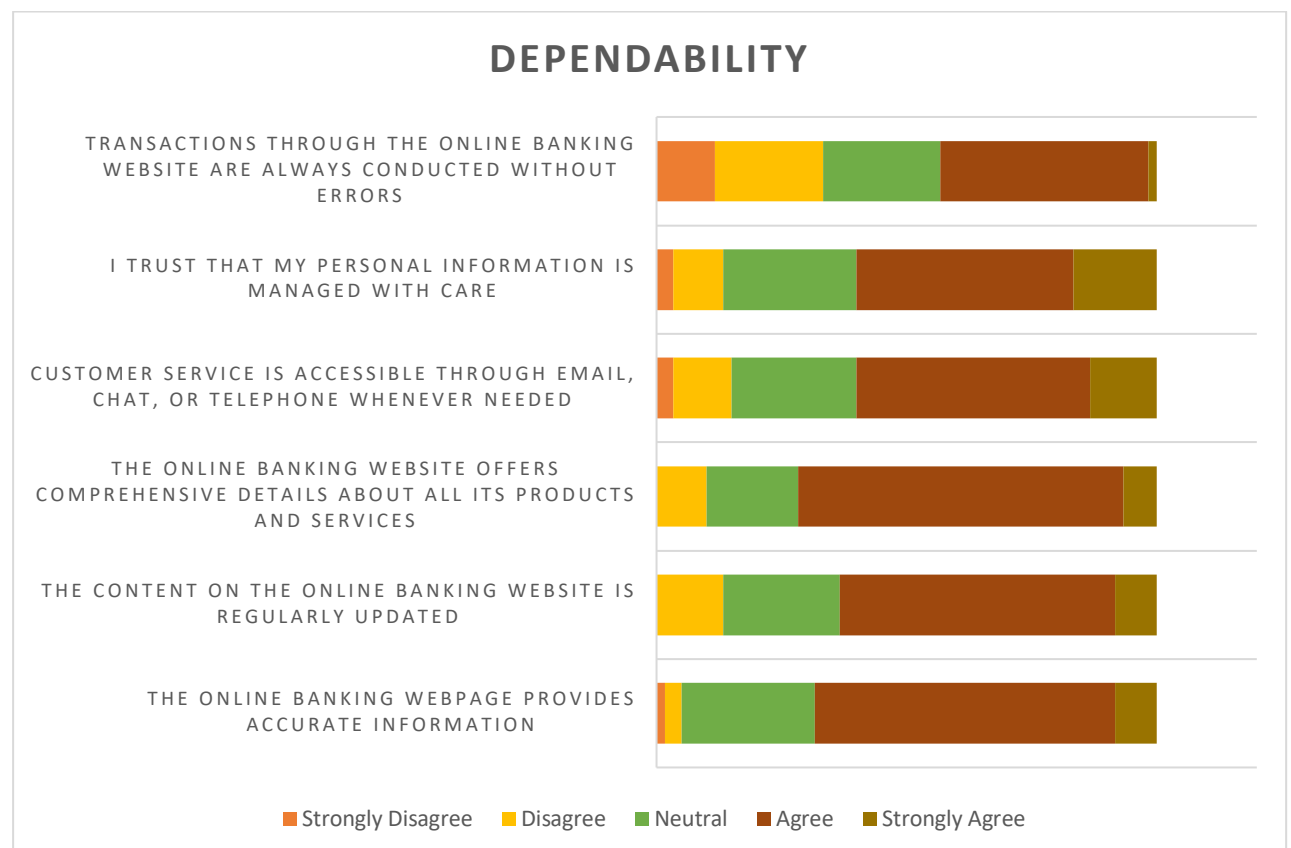
Figure 1 provides an overview of user perceptions regarding the accessibility aspects of the online banking service. The majority of respondents (83%) find the online banking service easy to navigate and use, with a significant portion (20%) strongly agreeing, indicating positive feedback on website usability. While most users (57%) agree that the website is efficiently organized, a notable percentage (15%) disagree, suggesting potential improvements in website layout. Accessing financial data through the service is deemed straightforward by a significant majority (80%) of users, indicating high satisfaction with data accessibility. However, finding banking regulations appears challenging for a notable portion of respondents (42% disagree or strongly disagree), suggesting a need for clearer communication on regulatory matters.

Although a majority of users (72%) find logging in and out of the website convenient, there is still a notable percentage (22%) who find it less so, indicating room for streamlining login processes. Furthermore, while many users (47%) find the website responsive during transactions, a notable proportion (20%) disagree or strongly disagree, indicating potential issues that need addressing to ensure a smoother user experience, particularly during critical transactional moments.

5.2.3 Dependability of online banking service

Figure 2 shows the views of the respondents regarding the dependability of online banking services offered by Nepalese commercial banks.

Figure 2: Dependability of online banking service



(Source: Data Survey, 2024)

Figure 2 provides an overview of user perceptions regarding the dependability aspects of the online banking service. The majority of respondents (68%) express confidence in the accuracy of information provided on the online banking webpage, indicating a high level of trust in the reliability of the presented content. While most users (55%) agree that the

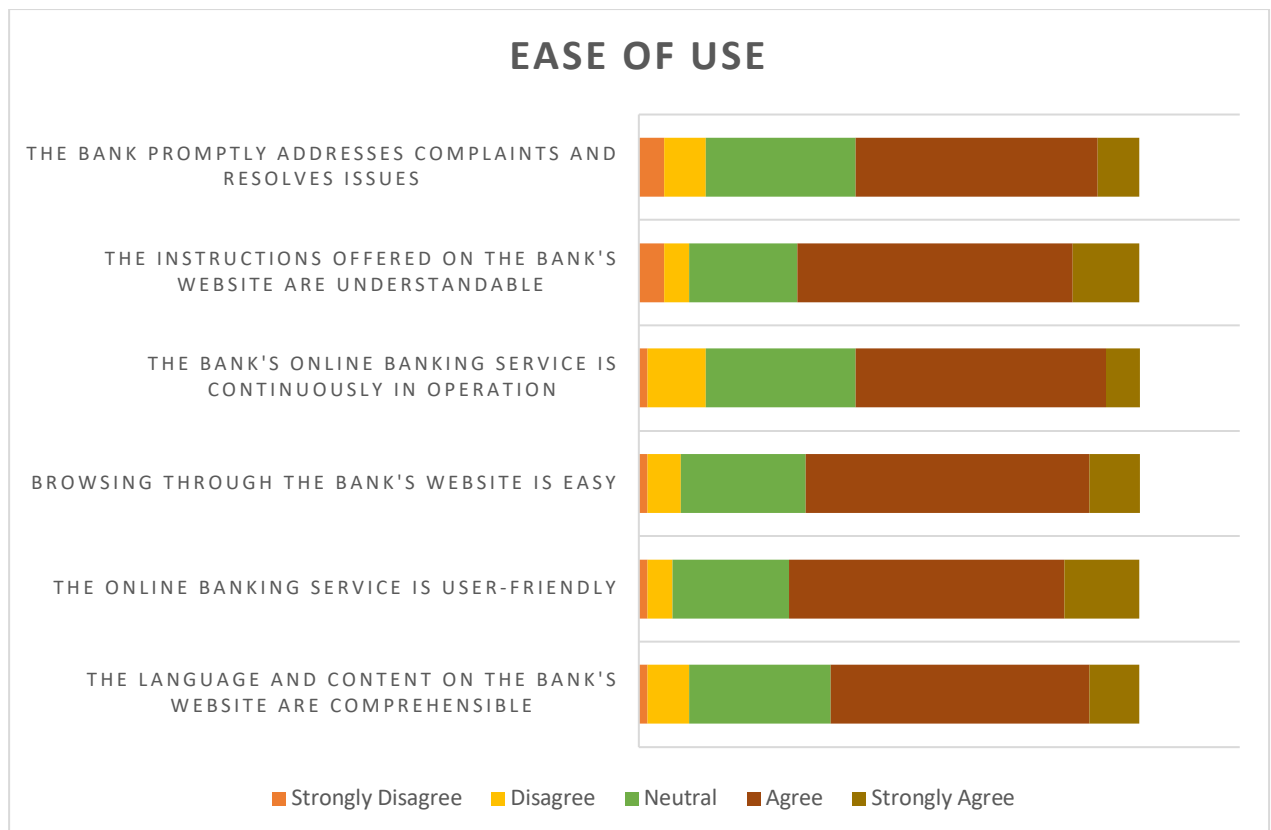
website's content is regularly updated, a notable percentage (13%) disagree, suggesting a need for more frequent updates to ensure users are well-informed. A majority (65%) agree that the website offers comprehensive details about all its products and services, reflecting satisfaction with the breadth of information available.

However, there are opportunities for improvement in customer service accessibility, as only a portion (47%) agree that support is readily available through email, chat, or telephone whenever needed. Additionally, while most respondents (60%) trust that their personal information is managed with care, a notable percentage (12%) express concerns, indicating the importance of reinforcing data privacy measures. Furthermore, while many users (42%) believe transactions on the website are error-free, a significant proportion (22%) disagree, suggesting areas for improvement in transaction reliability and accuracy.

5.2.4 Ease of use of online banking service

Figure 3 shows the views of the respondents regarding the ease of use of online banking services offered by Nepalese commercial banks.

Figure 3: Ease of Use of online banking service



(Source: Data Survey, 2024)

Figure 3 offers insights into the ease of use of the bank's online service, as perceived by users. Firstly, a significant majority (62%) either agree or strongly agree that the language and content on the bank's website are comprehensible, indicating that users generally find the information easy to understand. Similarly, a majority (57%) agree or strongly agree that the online banking service is user-friendly, suggesting that users find the platform intuitive and easy to navigate. Additionally, browsing through the bank's website is considered easy by a majority (57%) of respondents, further underscoring the positive user experience in terms of website usability. Regarding operational reliability, while a majority (57%) agree or strongly agree that the bank's online service is continuously in operation, there is still a notable percentage (13%) who either disagree or strongly disagree, indicating potential concerns about service availability.

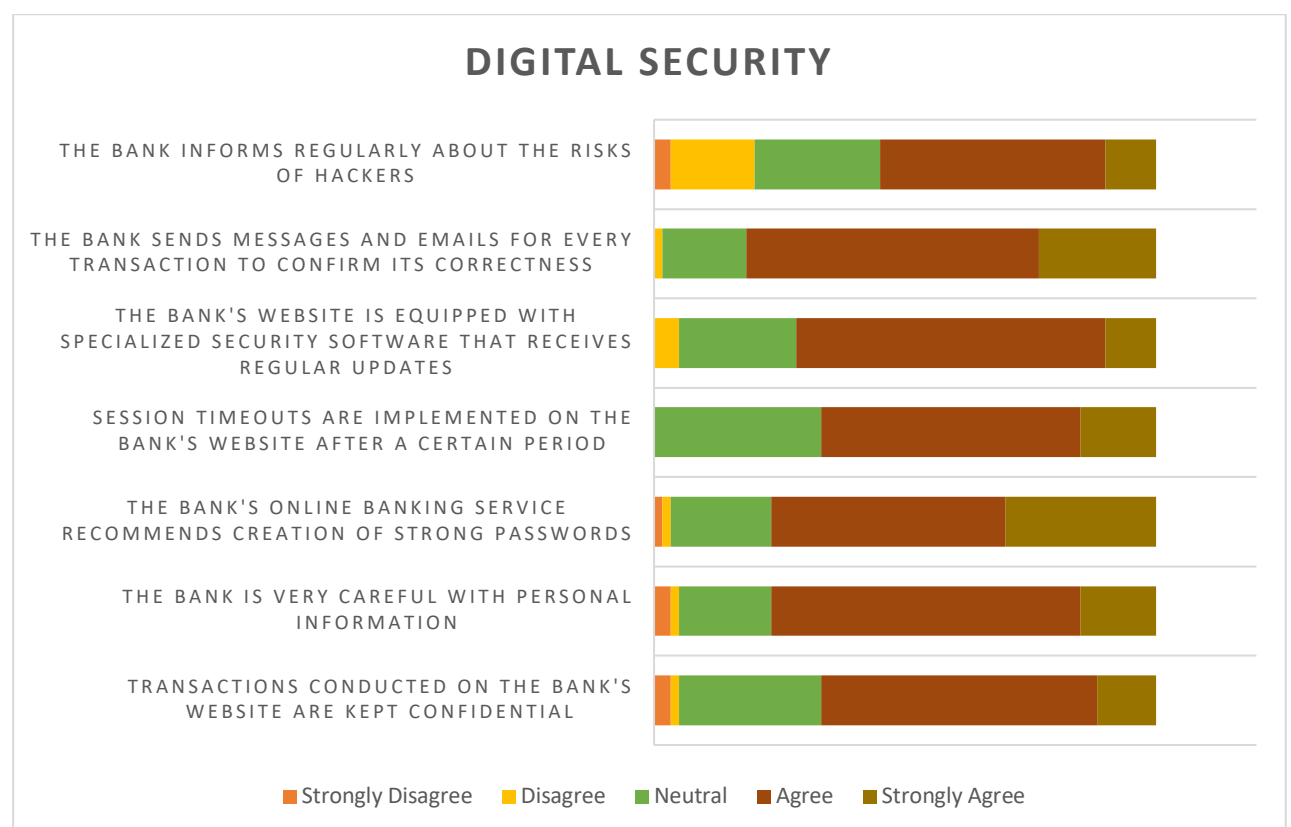
Furthermore, a majority (55%) agree or strongly agree that the instructions offered on the bank's website are understandable, demonstrating clarity in guiding users through various processes. Lastly, while a majority (53%) agree or strongly agree that the bank promptly addresses complaints and resolves issues, there is still room for improvement as a notable

percentage (13%) express dissatisfaction. In summary, while there are strengths such as comprehensibility of content and user-friendliness, there are also areas for improvement, particularly in ensuring continuous service operation and enhancing customer support effectiveness, as highlighted by the user responses.

5.2.5 Digital security of online banking service

Figure 4 shows the views of the respondents regarding the digital security of online banking services offered by Nepalese commercial banks.

Figure 4: Digital security of online banking service



(Source: Data Survey, 2024)

Figure 4 provides insights into various digital security measures and practices associated with the bank's online services, as perceived by users. Firstly, a majority (58%) agree or strongly agree that transactions conducted on the bank's website are kept confidential, indicating trust in the security of sensitive information. Moreover, a significant percentage (77%) agree or strongly agree that the bank is very careful with personal information, highlighting users' confidence in the bank's commitment to data privacy. Additionally,

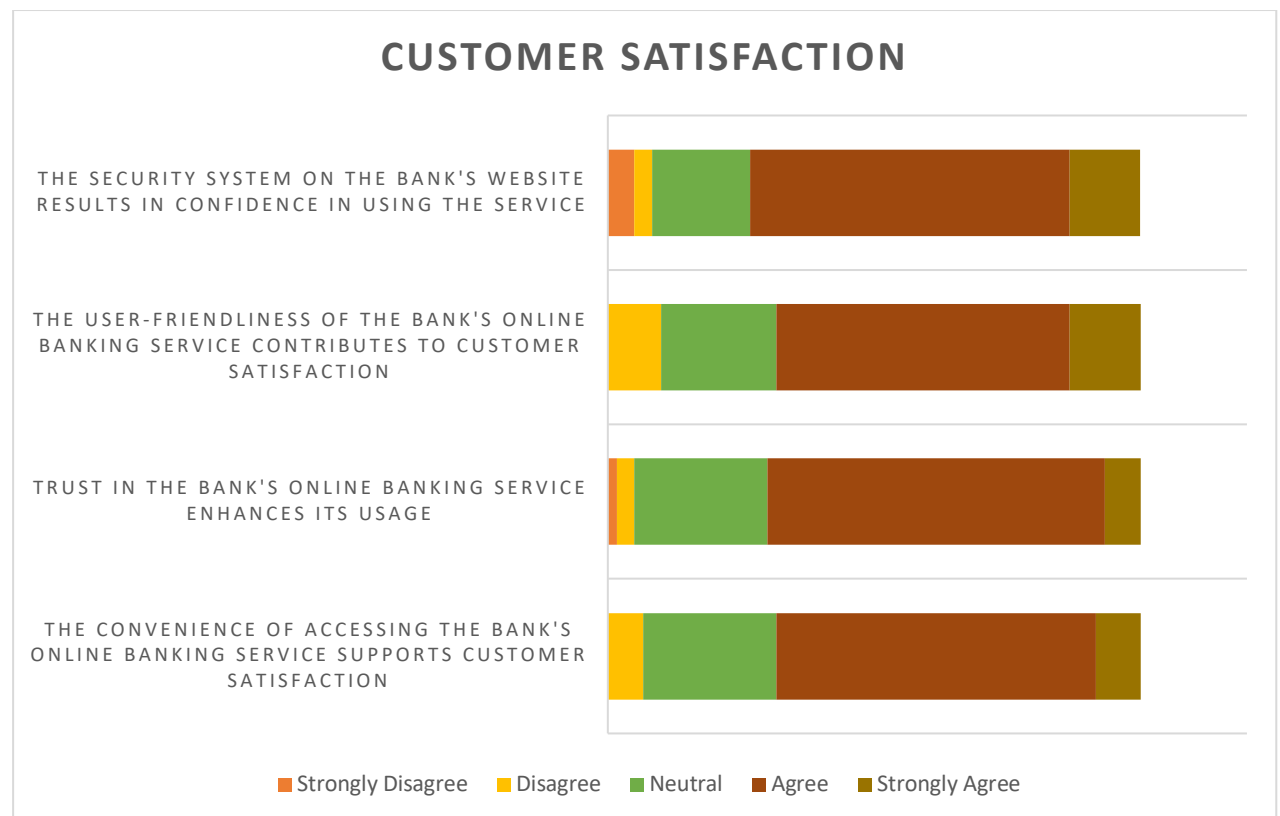
while a majority (62%) agree or strongly agree that the bank's online banking service recommends the creation of strong passwords, there is room for improvement as some respondents (3%) express disagreement.

Furthermore, session timeouts, an essential security feature, are implemented on the bank's website according to a majority (52%) of respondents, ensuring enhanced security by automatically logging users out after a certain period of inactivity. The majority (62%) also agree or strongly agree that the bank's website is equipped with specialized security software that receives regular updates, indicating confidence in the bank's proactive approach to safeguarding against emerging threats. Moreover, most respondents (58%) agree or strongly agree that the bank sends messages and emails for every transaction to confirm its correctness, enhancing transparency and security. Finally, while a significant percentage (33%) agree or strongly agree that the bank informs regularly about the risks of hackers, there is still room for improvement, as some respondents (13%) express disagreement.

5.2.6 Customer satisfaction of online banking service

Figure 5 shows the views of the respondents regarding the digital security of online banking services offered by Nepalese commercial banks.

Figure 5: Customer satisfaction of online banking service



(Source: Data Survey, 2024)

Figure 5 provides insights into various aspects influencing user satisfaction and usage of the bank's online banking service. Firstly, a significant majority of respondents (68%) either agree or strongly agree that the convenience of accessing the bank's online banking service supports customer satisfaction, indicating that easy accessibility plays a crucial role in users' overall satisfaction levels. Moreover, a majority (64%) agree or strongly agree that trust in the bank's online banking service enhances its usage, suggesting that perceived reliability and security positively influence user engagement with the service.

Additionally, while a majority (58%) agree or strongly agree that the user-friendliness of the bank's online banking service contributes to customer satisfaction, there is room for improvement, as some respondents (10%) express disagreement. Furthermore, the majority (75%) agree or strongly agree that the security system on the bank's website results in confidence in using the service, highlighting the importance of robust security measures in building user trust and confidence. In summary, while there are notable strengths such as convenience and trust, there are also areas for improvement,

particularly in enhancing user-friendliness, to ensure optimal satisfaction and usage of the online banking service.

5.2.7 Analysis of qualitative data

The research also incorporated qualitative data, where participants were asked a series of questions regarding their experiences with internet banking in Nepal. Here's a systematic presentation of the qualitative findings:

1. Experience with internet banking in Nepal

Responses varied, with some describing the experience as convenient, efficient, satisfactory, and secure. Users highlighted benefits such as fast and safe transactions, reduced chances of theft, and easy accessibility.

2. The most convenient or useful features or aspects of internet banking

Users found features like fund transfers, bill payments, and access to account information particularly convenient. Additional aspects such as automatic logout, QR code scanning, and transaction reminders were also appreciated.

3. Difficulties encountered while using internet banking in Nepal

Challenges included internet connectivity issues, network outages, and slow processing times. Users reported experiencing technical glitches, transaction errors, and difficulties navigating through functions. Concerns about security breaches and slow customer service response times were raised.

4. Suggestions for improving the internet banking services offered in Nepal

Suggestions for improvement included enhancing security measures, improving user interfaces, and providing better customer service. Users emphasized the need for smoother transactions, faster response times to reported issues, and accessibility improvements.

5. Likelihood of recommending internet banking services in Nepal

Despite challenges, users expressed a willingness to recommend internet banking services due to their convenience and accessibility. Many highlighted the importance of internet

banking in modern-day transactions, particularly in a country like Nepal with limited traditional banking access.

The qualitative results provided valuable insights into users' perceptions and experiences regarding internet banking in Nepal. While acknowledging the benefits, users also highlighted significant challenges and suggested improvements. Despite these challenges, there's a strong willingness to recommend internet banking services, showing its importance in modern-day financial transactions. Addressing the highlighted concerns and implementing suggested improvements could further enhance user satisfaction and adoption of internet banking services in Nepal, contributing to the country's financial modernization and accessibility.

5.3 Research Findings

This section provides insights into the demographic characteristics, descriptive statistics, and user experiences of internet banking in Nepal. The demographic analysis reveals a diverse sample population, while descriptive statistics highlight strengths and areas for improvement in accessibility, dependability, ease of use, digital security, and customer satisfaction. Furthermore, qualitative data shed light on the convenience, challenges, and recommendations for enhancing internet banking services.

Demographic statistics

- The sampled population showed a fairly balanced gender distribution, with 55% male and 45% female respondents. A youthful demographic is evident, with 88% falling within the age range of 19 to 34 years.
- Educationally, the sample is diverse, with 22% having an intermediate level of education or below, 45% holding a Bachelor's degree, and 33% possessing a Master's degree or higher. Geographically, 73% reside in Nepal, while 27% are located abroad.
- Remarkably, 97% of respondents actively use online banking services, with a majority (57%) having more than 3 years of experience.

Descriptive statistics

- Descriptive statistics showed that Digital security scored the highest with a mean of 3.79, closely followed by Accessibility (mean = 3.68) and Customer satisfaction (mean = 3.71), indicating their strong performance among the sampled online banking users in Nepal.
- However, Dependability and Ease of use received slightly lower mean scores of 3.52 and 3.61 respectively, suggesting areas where improvement may be needed to enhance user experience and satisfaction.

Accessibility

- Respondents largely found the online banking service accessible and user-friendly, with 83% expressing ease of navigation. However, 15% disagreed on the website's efficiency in organization, suggesting room for improvement.
- While 80% found accessing financial data straightforward, 42% struggled with locating banking regulations, indicating a need for clearer communication. Additionally, while 72% found logging in convenient, 22% encounter difficulties, emphasizing the importance of streamlining processes.
- Similarly, while 47% found the website responsive during transactions, 20% experience issues, highlighting the need for performance optimization.

Dependability

- 68% of the respondents expressed confidence in the accuracy of information provided on the webpage, and 13% suggest a need for more frequent updates.
- Additionally, while 65% find the website comprehensive, concerns about customer service accessibility (47%) and transaction reliability (22%) indicate areas for improvement in ensuring user satisfaction and trust.

Ease of Use

- With 62% of the respondents finding the website's language and content comprehensible and 57% considering it user-friendly, there's a positive indication of ease of use.

- However, concerns about operational reliability are evident, with 13% expressing dissatisfaction with service availability. This suggests a need for improvement in ensuring uninterrupted service and enhancing customer support effectiveness.

Digital Security

- 58% of the respondents expressed trust in transaction confidentiality and 77% showed confidence in the bank's handling of personal data. Thus, it implies that there's a strong indication of user satisfaction with data privacy measures.
- While 62% acknowledge the promotion of strong passwords and 52% confirm the implementation of session timeouts for enhanced security, there's room for improvement in educating users about hacker risks, as 13% disagree with the bank's efforts in this area.

Customer Satisfaction

- 68% of respondents agree that convenience contributes to satisfaction, while 64% associate trust with increased usage.
- Although 58% acknowledge the service's user-friendliness, 10% express disagreement, indicating room for improvement.
- Furthermore, 75% attribute confidence in using the service to the security system, emphasizing the importance of strong security measures.

Findings from qualitative data

The findings from qualitative data showed valuable insights into the perceptions and experiences of individuals regarding internet banking in Nepal, focusing particularly on convenience, challenges, improvements, and recommendations. Overall, there is a positive sentiment towards internet banking, highlighting its convenience, security, and time-saving benefits. However, several challenges and areas for improvement were also identified.

Convenience and Benefits

- Users appreciate the convenience and efficiency of internet banking, describing it as fast, easy to use, and secure.

- Specific features such as fund transfers, bill payments, and access to account information from anywhere are highly valued.
- Internet banking is seen as a way to reduce the risk of theft and offers connectivity for various transactions with banks, vendors, and utility services.

Challenges and Concerns

- Connectivity issues, network outages, and slow processing times were identified as significant challenges, particularly in rural areas with limited internet access.
- Technical glitches, errors during transactions, and slow response times from customer service were reported as frustrating experiences.
- Some respondents expressed concerns about security breaches, fraud, and the need for better data protection measures.

Recommendations for Improvement

- Enhancements in security procedures and smoother user interfaces were suggested to improve the overall experience.
- Respondents also emphasized the importance of better customer service, faster response times to reported issues, and improved accessibility of online banking services.
- Suggestions included the use of advanced technology, regular updates to banking systems, and offering services in local languages to increase accessibility.

Likelihood of Recommendation

- Despite the challenges, many respondents expressed a willingness to recommend internet banking services to others due to its convenience and accessibility, particularly in a country like Nepal where traditional banking services may be less accessible.

CHAPTER 6

DISCUSSION, CONCLUSION AND SUGGESTIONS

This chapter is dedicated to discussing the findings, drawing conclusions, and exploring their implications. Over recent years, there has been a noticeable rise in the adoption of online banking services in Nepal, reshaping how customers engage with their banks and handle their finances. This study aims to investigate the satisfaction levels of customers with respect to the online banking services provided by Nepalese commercial banks, providing valuable insights for researchers and practitioners in the field.

6.1 Discussion

The discussion below highlights the main findings of the study.

6.1.1 Accessibility of online banking service

The findings from the study emphasize the critical importance of accessibility in online banking services. Users prioritize platforms that are easy to navigate and use, with straightforward access to financial data. Additionally, a convenient login process is essential for user satisfaction. Furthermore, it is crucial for the website to be responsive during transactions, ensuring a seamless user experience. These aspects collectively show the significance of prioritizing accessibility features to enhance the overall usability and effectiveness of online banking services. These findings are consistent with previous research conducted by Ansebo and Gaywala (2022), Shah (2011), and Addai et al. (2015), indicating a common understanding of user perceptions of online banking accessibility across multiple studies.

6.1.2 Dependability of online banking service

The findings suggest that dependability is crucial in online banking services. Users prioritize the accuracy of information provided on the webpage, regular updates to the website's content, and comprehensive details about products and services. Additionally, users expect support to be readily available whenever needed and trust that their personal information is managed with care. Ensuring error-free transactions on the website is also essential for building user trust and confidence in the online banking platform. These aspects collectively show the importance of prioritizing dependability features to enhance user satisfaction and trust in online banking services.

The findings of this study align with previous research conducted by Rai (2023), Lamsal (2022), Addai et al. (2015), Ansebo and Gaywala (2022), Ayinaddis, Taye, and Yirsaw (2023), and Halim et al. (2023), indicating a consistent understanding of the importance of dependability in online banking services across multiple studies. However, they contrast with the findings of Gaudel (2021), which reported no significant correlation between e-banking performance expectancy, responsiveness, reliability, and customer satisfaction in the Nepalese e-banking domain.

6.1.3 Ease of use of online banking service

The findings suggest that the ease of use of online banking services is essential for customer satisfaction. Users prioritize comprehensible language and content on the website, along with perceiving the online banking service as user-friendly. Continuous service availability is also essential for maintaining user trust and satisfaction. Additionally, users value clear instructions on the website to guide them through various processes. Promptly addressing complaints and resolving issues further contributes to a positive user experience. These aspects collectively show the importance of prioritizing ease of use features to enhance customer satisfaction and trust in online banking services. The findings of this study are consistent with previous research conducted by Riquelme, Mekkaoui, and Rios (2009), Halim et al. (2023), Banu, Mohamed, and Parayitam (2019), Ayinaddis, Taye, and Yirsaw (2023), Ansebo and Gaywala (2022), Addai et al. (2015), Pradhan (2019), Lamsal (2022), and Rai (2023).

6.1.4 Digital security of online banking service

The findings suggest that various digital security measures associated with the bank's online services are crucial for customer satisfaction. Users prioritize the assurance of confidentiality for transactions conducted on the bank's website. Additionally, the recommendation for the creation of strong passwords is valued by users, along with the implementation of session timeouts to enhance security. Users also appreciate the bank's proactive approach to security, including the use of specialized security software on the website and the practice of sending messages and emails for every transaction to confirm its correctness. The findings align with previous research conducted by Gautam and Sah

(2023), Rai (2023), Lamsal (2022), Gaudel (2021), Pradhan (2019), Ansebo and Gaywala (2022), Ayinaddis, Taye, and Yirsaw (2023), and Banu, Mohamed, and Parayitam (2019).

6.2 Conclusion

This study into customer satisfaction levels with online banking services offered by Nepalese commercial banks yields valuable insights into the factors influencing customer contentment. By utilizing a model that integrates the SERVQUAL model with the TAM model, the study delivers a comprehensive understanding of the determinants shaping customer satisfaction.

From the comprehensive analysis of our study, several key conclusions can be drawn regarding the accessibility, dependability, ease of use, digital security, and overall customer satisfaction with online banking services. Respondents generally found the online banking service accessible and user-friendly, with a majority expressing ease of navigation. However, there were notable concerns regarding the efficiency of website organization, suggesting areas for improvement. While accessing financial data was straightforward for most users, challenges in locating banking regulations and encountering difficulties during login processes underscore the importance of clearer communication and streamlining procedures. Similarly, concerns about website responsiveness during transactions highlight the need for performance optimization to ensure a smoother user experience.

Confidence in the accuracy of information provided on the webpage was expressed by a majority of respondents, indicating a level of trust in the reliability of the content. However, concerns about the frequency of website updates and issues related to customer service accessibility and transaction reliability suggest areas for improvement to enhance user satisfaction and trust. Positive indications of ease of use were observed, with a majority of respondents finding the website's language and content comprehensible and considering it user-friendly. However, concerns about operational reliability and interruptions in service availability emphasize the need for improvement in ensuring uninterrupted service and enhancing customer support effectiveness.

A significant level of trust in transaction confidentiality and the bank's handling of personal data was evident among respondents, suggesting satisfaction with data privacy

measures. While efforts to promote strong passwords and implement session timeouts for enhanced security were acknowledged, there is room for improvement in educating users about hacker risks and strengthening security measures. Convenience, trust, and security emerged as significant factors contributing to customer satisfaction with online banking services. While a majority of respondents associate convenience and trust with increased usage and confidence in using the service with the security system, there are areas for improvement, particularly in enhancing user-friendliness and addressing concerns about service interruptions and security risks.

Qualitative insights further corroborate the positive sentiment towards internet banking, highlighting its convenience, security, and time-saving benefits. However, challenges such as connectivity issues, technical glitches, and concerns about security breaches were identified, suggesting areas for improvement in security procedures, user interfaces, and customer service responsiveness. Enhancements in security procedures, smoother user interfaces, better customer service, and improved accessibility of online banking services were suggested to enhance the overall user experience. Advanced technology, regular updates to banking systems, and offering services in local languages were recommended to increase accessibility and user satisfaction.

6.3 Suggestions

The following are some suggestions to enhance customer satisfaction with online banking services provided by Nepalese commercial banks:

- **Improve Website Organization:** Address concerns regarding the efficiency of website organization to enhance user experience and ease of navigation. Consider redesigning website layouts and structures to make them more intuitive and user-friendly.
- **Enhance Communication on Regulatory Matters:** Provide clearer communication on banking regulations to assist users in accessing relevant information easily. This could involve creating dedicated sections or pages on the website specifically addressing regulatory queries and updates.
- **Streamline Login Processes:** Simplify and streamline login processes to reduce user frustrations and improve overall accessibility. Consider implementing single

sign-on solutions or alternative authentication methods to enhance user convenience.

- **Ensure Continuous Service Availability:** Invest in optimizing website performance to ensure continuous service availability during peak times and critical transactional moments. Address concerns regarding website responsiveness to improve overall user experience.
- **Enhance Website Content Updates:** Increase the frequency of website updates to ensure that the information provided remains accurate and up-to-date. Regularly review and revise website content to reflect any changes in services, policies, or regulations.
- **Strengthen Customer Service Accessibility:** Improve accessibility and responsiveness of customer service channels to address user queries and concerns promptly. Invest in training and resources to enhance customer service effectiveness and efficiency.
- **Educate Users on Security Measures:** Educate users about the importance of strong passwords and encourage regular updates to enhance account security. Provide clear instructions and guidance on security best practices to help users protect their personal information.
- **Invest in Advanced Security Technology:** Implement advanced security technology, such as encryption protocols and intrusion detection systems, to strengthen cybersecurity measures. Regularly update security software to address emerging threats and vulnerabilities.
- **Increase Transparency and Communication:** Enhance transparency by sending messages and emails for every transaction to confirm its correctness, fostering trust and confidence among users. Regularly inform users about the risks of hackers and provide tips for protecting their accounts and personal information.
- **Focus on User-Friendly Design:** Continuously improve user interfaces and design elements to enhance ease of use and accessibility for all users. Conduct usability testing and gather feedback to identify areas for improvement and refinement in website design.

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APPENDIX

My name is Basanti Limbu, and I am a student of MBA (Digital Business and Management) at Novia University of Applied Science, Finland conducting research on: 'Satisfaction levels of customers within online banking sector in Nepal'. I hereby request you to fill in this form. Information offered will be treated confidentially and used for the purpose of this research only. The findings of the research will ultimately contribute to a better

understanding of customer needs and preferences in online banking services, leading to potential enhancements in the banking sector. Appreciation is offered as you aid in the creation of new knowledge to benefit both academia and the industry.

Part 1:

General Information (Please tick the correct alternative)

1. Gender

- a. Male []
- b. Female []

2. Age (in years)

- a. Below 18 []
- b. 19-34 []
- c. 35-54 []
- d. Above 55 []

3. Highest education level

- a. Intermediate or below []
- b. Bachelor's degree []
- c. Master's degree or above []

4. Current residence

- a. Nepal []
- b. Abroad []

5. Do you use online banking with a Nepalese bank?

- a. Yes []
- b. No []

6. Duration of using online banking service

- a. Less than a year []
- b. 1 year to 3 years []
- c. More than 3 years []

Part 2:

Please tick the most appropriate option of the following statements on the basis of your experience

SN	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Accessibility of online banking service:						
A1	The online banking service is easy to navigate and use					
A2	The online banking website is efficiently organized					
A3	Financial data can be easily accessed through the online banking service					
A4	Finding details regarding banking regulations on the website is easy					
A5	Logging in and out of the website is quick and convenient					
A6	During transactions, the online banking website stays responsive without freezing					
Dependability of online banking service:						
D1	The online banking webpage provides accurate information					
D2	The content on the online banking website is regularly updated					
D3	The online banking website offers comprehensive details about all its products and services					
D4	Customer service is accessible through email, chat, or telephone whenever needed					
D5	I trust that my personal information is managed with care					
D6	Transactions through the online banking website are always conducted without errors					
Ease of use of online banking service:						
E1	The language and content on the bank's website are comprehensible					
E2	The online banking service is user-friendly					
E3	Browsing through the bank's website is easy					

E4	The bank's online banking service is continuously in operation					
E5	The instructions offered on the bank's website are understandable					
E6	The bank promptly addresses complaints and resolves issues					
Digital security of online banking service:						
DS1	Transactions conducted on the bank's website are kept confidential					
DS2	The bank is very careful with personal information					
DS3	The bank's online banking service recommends creation of strong passwords					
DS4	Session timeouts are implemented on the bank's website after a certain period					
DS5	The bank's website is equipped with specialized security software that receives regular updates					
DS6	The bank sends messages and emails for every transaction to confirm its correctness					
DS7	The bank informs regularly about the risks of hackers					
Customer satisfaction with online banking service:						
CS1	The convenience of accessing the bank's online banking service supports customer satisfaction					
CS2	Trust in the bank's online banking service enhances its usage					
CS3	The user-friendliness of the bank's online banking service contributes to customer satisfaction					
CS4	The security system on the bank's website results in confidence in using the service					

Part 3:

Please answer the following questions in brief

1. How would you describe your overall experience with internet banking in Nepal?

.....

2. What specific features or aspects of internet banking do you find most convenient or useful?

.....

3. Can you share any challenges or difficulties you have encountered while using internet banking in Nepal?

.....

4. What improvements or enhancements would you like to see in the internet banking services offered in Nepal?

.....

5. Overall, how likely are you to recommend internet banking services in Nepal to others based on your experiences?

.....